A STUDY IN CROSS-CULTURAL TRANSMISSION OF NATURAL PHILOSOPHY: THE *KENKON BENSETSU*

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Dissertação apresentada para cumprimento dos requisitos necessários à obtenção do grau de Doutor em História dos Descobrimentos e da Expansão Portuguesa, realizada sob a orientação científica do Professor João Paulo Oliveira e Costa e Professor Henrique José Sampaio Soares de Sousa Leitão

DECLARAÇÕES

Declaro que esta tese é o resultado da minha investigação pessoal e independente. O seu conteúdo é original e todas as fontes consultadas estão devidamente mencionadas no texto, nas notas e na bibliografia.

O candidato,

José Miguel Duarte Leite Pinto dos Santos

Lisboa, 17 de Março de 2012

Declaro que esta Dissertação se encontra em condições de ser apresentada a provas públicas.

O orientador,

Professor Doutor João Paulo Oliveira e Costa

Lisboa, 17 de Março de 2012

To OLF

ACKNOWLEDGEMENTS

Things have their root and their branches. Even if the root of a tree remains unseen it is not its least important part. It is the root that gives stability to the tree, keeps it connected to the earth and thus maintains it alive. To know the root of things, Zengzi tells us, it is to be near the Way, or the right path. At the root of this work, not seen but essential to its successful conclusion, are many people to whom I'm most grateful and to whom I owe in justice the following acknowledgements.

Two well known Portuguese historians are responsible for getting this work underway and nurturing it to completion. One is João Paulo Oliveira e Costa, who since we first met over one dozen years ago, has gently but constantly encouraged me to give the next step in the completion of this work. Under his careful guidance I have avoided many mistakes and have discovered not a few new perspectives about Japan and its history. The other is Henrique Leitão who, besides having given me a sense of urgency without which this thesis would never have been accomplished, has untiringly provided me with clues, ideas and bibliography concerning the history of natural philosophy and astronomy. To them I must add also Hiraoka Ryuji. His comments to the translation of the *Kenkon Bensetsu* have helped me to greatly improve it, and his challenging observations concerning the *Nanban* School of learning in Japan during the seventeenth century have helped me to better articulate the thesis here presented.

Many other people have aided me in this enterprise in multifarious ways. Given the impossibility of mentioning them all I would like to single some to whom I am especially indebted. Asami Masakazu, Hashimoto Keiji, Alvaro Kanashiro, Nakajima Takayuki, Narisada Kaoru, Obara Satoru and Ueno Tadashi have helped me to understand the history, the philosophy, the history of philosophy and the philosophy of life of Japan and of the Japanese. Julia Inoue, Richard Kedzior, Keiko Kishida, and Silvia Eccles have helped me improve the English during the several stages of this project. Librarians at various libraries have helped in the location of manuscripts, in securing their copies and in obtaining access to the vast bibliography consulted. I wish to make special reference to the staff of the Hiroshima University Central Library. My wife Miyuki has helped me decipher difficult calligraphy of some Japanese manuscripts,

and has leafed through multivolume dictionaries to find the definition for uncommon words of the *Kenkon Bensetsu*. My daughters Irene and Clara have helped with the digitalization of the figures and the transcription of some of the Chinese passages. To all of them I wish to express my heartfelt thanks.

Finally I wish to express my gratitude to *Fundação Oriente*. I was the beneficiary of a research grant between 2002 and 2005 that helped me to partially defray the expenditures involved in this project.

ABSTRACT

A STUDY IN CROSS-CULTURAL TRANSMISSION OF NATURAL PHILOSOPHY: THE *KENKON BENSETSU*

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KEYWORDS: Natural Philosophy, Aristotelianism, neo-Confucianism, Christianity in Japan, Heavens and Earth, Four Elements, Astronomy, Translation

This work shows that the transmission of European natural philosophy by Christian missionaries in Japan during the sixteenth and seventeenth centuries was made in a systematic way, even if at an elementary level. The *Kenkon Bensetsu* is used as main evidence of this. This text was introduced into Japan by Antonio Rubino, on the orders of Inoue Masashige it was translated by Sawano Chūan, at the request of Kainoshō Masanobu it was transliterated by Nishi Kichibei and Mukai Genshō, and this last one also wrote a commentary on its theories from a neo-Confucian perspective.

The historical setting and the process that led to the production of the *Kenkon Bensetsu* are described. From this it is established that the Japanese of all walks of life were curious about the causes of natural phenomena; that the missionaries had the ability to provide those explanations, drawing from the pool of theories provided by sixteenth century Aristotelian natural philosophy, adjusted to the interests and talents of their audience; and that the Japanese authorities considered that these theories were important in some way and thus took the necessary steps to ensure that that they would not be consigned into oblivion as a consequence of their efforts to stamp out Christianity.

The text is integrally translated following explicit criteria, therefore opening the way to further exploration by many researchers. Some of its most striking characteristics concerning content and style are analysed.

RESUMO

A STUDY IN CROSS-CULTURAL TRANSMISSION OF NATURAL PHILOSOPHY: THE *KENKON BENSETSU*

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PALAVRAS-CHAVE: Filosofia natural, Aristotelanismo, neo-Confucionismo, Cristianismo, Céus e Terra, Quatro Elementos, Astronomia, Tradução

Este trabalho demonstra que a transmissão da filosofia natural europeia operada pelos missionários cristãos no Japão nos séculos XVI e XVII foi feita de modo sistemático, se bem que a nível elementar. Como principal evidencia deste facto é usado o *Kenkon Bensetsu*, texto introduzido no Japão por Antonio Rubino, traduzido por Sawano Chūan, transliterado por Nishi Kichibei e Mukai Gensho, e comentado por este último. É apresentada uma resenha histórica do processo de produção desta obra de que ressalta a capacidade dos missionários apresentarem a filosofia natural ao nivel das capacidades e interesses dos seus ouvintes, a curiosidade do povo e o empenho que as autoridades japonesas em obter informação sobre o assunto. O texto é integralmente traduzido segundo critérios explicitos, abrido um importante campo de exploração que se encontrava até agora fechado a muitos investigadores. As suas caracteristicas mais relevantes no que respeita a conteudo e forma são analisadas.

物有本末、事有終始、知所先後、則近道矣。

『大學』

Things have their root and their branches.

Affairs have their end and their beginning.

To know what is first and what is last

will lead near to the Way.

The Great Learning

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LIST OF USED ABREVIATIONS[1]

Bunmei	*Bunmei Genryu Sosho*『文明源流叢書』, Tokyo, Kokusho Kankokai 国書刊行会, 1914, Vol. 2, pp. 1-100.
Cartas	*Cartas qve os Padres e irmãos da Companhia de Iesus escreuerão dos Reynos de Iapão & China aos da mesma Companhia da India, & Europa, desdo anno de 1549. atè o de 1580*. 2 vols., Euora, Manoel de Lyra, 1598.
De Sphaera	GOMEZ S.J., Pedro, Biblioteca Apostolica Vaticana, *Reginenses Latini*, 426, fols. 1-38, *De Sphaera*, transcribed by Obara Augustino Satoru, S.J., "De Sphaera," Kirishitan Kenkyu『キリシタン研究』, vol. 10, Tokyo, Yoshikawa Kobunkan 吉川弘文館, 1965, pp. (1)-(78).
Dictionarivm	*Dictionarium Latino Lvsitanicum, ac Iaponicum ex Ambrosii Calepini volumine depromptum: in quo omissis nominibus propriis tam locorum, quam hominum, ac quibusdam aliis minùs usitatis, omnes vocabulorum significationes, elegantioresque dicendi modi apponuntur: in usum & gratiam Iaponicae iuventutis, quae Latino idiomati operam navat nec non Europaeorum, qui Iaponicum sermonem addiscunt. In Amacusa in Collegio Iaponico Societatis Iesu*, 1595.
Documentos I	RUIZ-DE-MEDINA S.J., Juan (ed.), "Documentos del Japon 1547—1557", *Monumenta Historica Societatis Iesu*, vol. 137, Roma, Instituto Histórico de la Compañia de Jesús, 1990.
Documentos II	RUIZ-DE-MEDINA S.J., Juan (ed.), "Documentos del Japon 1558—1562", *Monumenta Historica Societatis Iesu*, vol. 148, Roma, Instituto Histórico de la Compañia de Jesús, 1995.

[1] Ordered alphabetically by the abbreviation; the abbreviation was made according to the most commonly used shortened name for each work.

Historia	FRÓIS, S.J., P. Luís, *Historia de Japam*, 4 vol., Edição anotada por José Wicki, S.J., Lisboa, Biblioteca Nacional de Lisboa, 1976-1983.
In Sphaeram	Christophori Clavii Bambergensis ex Societate Iesv, *In Sphæram Ioannis de Sacro Bosco. Commentarivs. Nunc quanto ab ipso Auctore recognitus, & pleríque in locis locupletatus*. Lvgdvni, Svmptibvs Fratrvm de Gabiano, 1593.
Jap-Sin	Japonica-Sinica Collection at the Roman Archive of the Society of Jesus, Rome
Kenkyusha	MASUDA, Koh, *Kenkyusha's New Japanese-English Dictionary*, 4th edition, Tokyo, Kenkyusha, 1974.
Kogo	SUZUKI Kazuo 鈴木一雄, ITŌ Hiroshi 伊藤博, TOYAMA Eiji 外山映次, KOIKE Seiji 小池清治 (ed.), *Zenyaku Dokkai Kogo Jiten*『全訳読解古語辞典第二版』, Tokyo, Sanseido 三省堂, 2001.
Kojien	SHINMURA Izuru (ed.) 新村出編, *Kōjien*, 5th edition『広辞苑 第五版』, Tokyo, Iwanami Shoten 岩波書店, 1998.
Kokushi daijiten	Kokushi Daijiten Henshū Iinkai (ed.) 国史大辞典編集委員会編, *Kokushi Daijiten*『国史大辞典』, 14 vols. + vol. 15 (3 tomes), Tokyo, Yoshikawa Kobunkan 吉川弘文館, 1979-1997.
Kōkanwa	MORIHASHI T. 諸橋, KAMATA 鎌田正, YONEYAMA 米山寅太郎, *Kōkanwa jiten*『広漢和辞典』, Kyoto, Taishūkan Shōten 大修館書店, 1982.
Muromachi	Muromachi Jidaigo Jiten Iinkai (ed.) 室町時代語辞典編修委員会編, *Jidai Betsu Kokugo Daijiten: Muromachi Jidai-hen*『時代別国語大辞典: 室町時代編』, 5 vols., Tokyo, Sanseido, 1985-2001
Nelson	NELSON, Andrew N., The *Modern Reader's Japanese-English Character Dictionary*『最新漢英辞典』, 2nd revised edition, Tokyo, Charles E. Tuttle Company, 1974.

Nikkoku KITAHARA Yasuo 北原保雄 et alia (ed.), *Nihon Kokugo Daijiten* 『日本国語大辞典』, second edition, 14 vols., Tokyo, Shogakkan 小学館, 2001.

Rekishi Daijiten *Nihon Rekishi Daijiten* 『日本歴史大辞典』, Tokyo, Kawade Shobō Shinsha 河出書房新社, 1958.

Nippo *Hōyaku Nippo Jisho* 『邦訳日葡辞書』, edited and translated by Doi Tadao 土井忠生, Morita Takeshi 森田武,Chōnan Minoru 長南実, Tokyo, Iwanami Shoten 岩波書店, 1980, and Morita Takeshi 森田武 (ed.), *Hōyaku Nippō Jisho Sakuin* 『邦訳日葡辞書索引』, Tokyo, Iwanami Shoten 岩波書店, 1989.

Shinwaei COLLICK, Martin, David P. Dutcher, Tanabe 田辺宗一, Kaneko 金子稔 (ed.), *Shinwaei Chū-Jiten* 『新和英中辞典 第5版』, Tokyo, Kenkyusha 研究社, 2002.

Tenmon KODAIRA Koichi 小平桂一, Hieto Eijirō 日江井栄二郎, Horihara Ichirō 堀原一浪 (eds.), *Tenmon no Jiten* 『天文の事典』, Tokyo, Heibonsha 平凡社版, 1987.

Tenmongaku SUZUKI Keishin 鈴木敬信, *Tenmongaku Jiten* (revised and expanded edition) 『天文学辞典』（改訂・増補）, Tokyo, Chijin Shokan 地人書館, 1991.

Vocabvlario *Vocabvlario da Lingoa de Iapam com a declaração em Portugues, feito por algvns padres, e irmãos da Companhia de Iesv*, Nangasaqui, 1603.

A STUDY IN CROSS-CULTURAL TRANSMISSION OF NATURAL PHILOSOPHY: THE *KENKON BENSETSU*

INTRODUCTION

The contribution of the Jesuit Mission in Japan[1] and of the tradition of learning that arose from it, which might be called the *Nanban School of Learning*, to the culture of Japan in the pre-modern period has been appraised by historians in many ways and with innumerable nuances. Nevertheless, it is possible and it is useful to distinguish two opposite evaluations.

The second, and more recent, is mainly the product of historical research conducted in the twentieth century. Although recognizing the earnest efforts of the Christian missionaries in Japan to spread Christianity and several other aspects of their culture during the sixteenth and seventeenth centuries, it concludes that their influence was slim at best. One extreme example of this view is presented by George Elison in the conclusion to his *Deus Destroyed*: "The missionaries' enterprise was of heroic proportions, and the news they sent of it to Europe as embellished with images of triumph and apotheosis as the church. But the perspective of history confines the view of their accomplishments within narrow limits. *Seen in strict terms, the sum of their cultural contribution to Japan was nil*".[2]

The first, and more ancient appraisal, has been around for more than three centuries. While accepting the apparent failure of the missionaries' main objective of Christianizing the country, it holds that they had an earth-shattering impact on the popular as well as on the erudite culture of the nation. One of the early proponents of this view wrote: "[The missionaries] put Southern Barbarian names to the people; to the customs pertaining seasons and times, to the courtesies concerning marriages and funerals, to the relationship with guests and friends, to the pure feelings related to morals and values, to the preparation of food and dress, to all of them they introduced

[1] The Christian missionary work in Japan during the sixteenth and seventeenth centuries was not conducted only by the Jesuits. Other orders, the Franciscans, the Dominicans and the Augustinians also took part in the evangelization of the country. Laymen, merchants and sailors, also had their share in the inter-cultural transmission of religious and profane culture. Still, in what concerns the transmission of European natural philosophy the main role was played by the Jesuits, and it is the consequences of their activities on the Japanese view of the Universe that is the focus of this work. I will call their collective endeavour the *Japanese Mission*.

[2] George Elison, *Deus Destroyed: The Image of Christianity in Early Modern Japan*, Cambridge, Harvard University Press, 1988, p. 248. The emphasis is mine.

the ways of Southern Barbary; they promoted policies for the government of the Nation, they decided on the judgement and punishment of people, they even directed how peasants should go on their tillage! […] The Japanese who entered their law forgot ceremonial, abandoned the [right] path, neglected [the importance of] their country lord's life, and as they valued the orders of the *bateren* Barbarian priests they propagated their religion at will."[3]

The author of these lines was the neo-Confucian scholar Mukai Genshō 向井玄松 (Keichō 14.2.2—Empō 5.11.1, 1609.3.7—1677.11.25), a prolific author of "seventeen books besides many poems and other writings,"[4] on topics ranging from botany and surgery to the evil teachings of Zen Buddhism and the Christian global conspiration plot to take over the World. He will be a central personage in what follows for several reasons. On one hand he was the editor and commentator of the *Kenkon Bensetsu*, the treatise on European natural philosophy that is presented here. On the other hand he was one of the most important Japanese neo-Confucian philosophers of the middle seventeenth century and the one who had closest contact with western ideas and mores. It is likely that no non-Christian Japanese of his generation had a deeper knowledge of both eastern and western systems of thought than he did. His noteworthiness is due to the open attitude with which he approached new facts and ideas, and to the breath of modernity that he brought into his school of thought even if he remained conservative in outlook.

His views on western cosmology and religion are especially valuable to the modern scholar interested in the cultural interchange that occurred in early modern Japan. Genshō's views of Aristotelian philosophy and Christian theology are not those of the "undiscerning populace" that willingly accepted them "ignoring the teachings of the Sages of old", as Genshō himself would put it. Nor were they those of learned neo-Confucian scholars, such as Hayashi Dōshun 林道春 (Tenshō 11—Meireki 3.1.23, 1583 – 1657.3.7), better known as Razan 羅山, who had barely come into contact with the foreign ideas before dismissing them out of hand – therefore losing the opportunity

[3] This passage was translated from the modern edition, by Shinmura Idzuru 新村出 (1876.10.4—1967.8.17), of *Chiji-hen* 『知恥篇』, authored by Mukai Genshō, which can be found in *Kaihyō Sōsho* 『海表叢書』, vol. 1, Kyoto, Heirakuji Shoten 平楽寺書店, 1928, p. 21.

[4] See in Chapter IV the funerary record of Mukai Genshō written by Kaibara Ekiken.

to refute them thoroughly. Much less did his views bear any resemblance with the ideas of those missionaries that came to have as good a grasp of Japanese cosmology and religion as João Rodrigues Tçuzu (*ca*. 1561/2 – 1633.8.1) did. Genshō's judgement was based on accurate, first hand expositions of western thought by knowledgeable people and informed by his deep knowledge of Chinese philosophy and Japanese religion. This makes his opinions particularly valuable as they are the first and, together with the views of Arai Hakuseki 新井白石 (Meireki 3.2.10 – Kyōhō 10.5.19; 1657 – 1725) presented in Seiyo Kibun 『西洋紀聞』, the most important testimony of how an erudite and discriminating Japanese reacted to the foreign world-view.

Genshō evaluation of western knowledge was nuanced. His denouncement of the padres' plot of conquering Japan is almost everywhere in his works. His acceptance of European theories and methods of medicine is documented in his treaty *Kōmō-ryū Geka Hiyō* 『紅毛流外科秘要』. His reasons for rejecting Christianity are made clear in his *Chiji-hen*. Here, however, we will concentrate on his reaction to western ideas on natural philosophy and cosmography. His views on these matters are presented in some detail in the commentaries he penned in the cosmological treatise named *Kenkon Bensetsu* 『乾坤弁説』, the loom around which this work is weaved.

Western material culture began to be introduced in Japan with the arrival of the Portuguese in 1543. Two things came to symbolize that culture. One was the musket. The other was international trade. Both seemed to please exceedingly the Japanese. Western intellectual culture, Christianity and also natural philosophy and astronomy, started to be systematically presented after the arrival of Xavier. He and other missionaries in his wake faced formidable barriers in the presentation of both religious and profane knowledge. One of them was a language fitted for a culture that was advanced but alien, and thus lacked the words for the concepts they wanted to introduce. Another was a perennial lack of material resources. With their personal resourcefulness they overcame both to achieve a remarkable religious success in just two generations: a flock of over two hundred thousand people, supported by a network of two hundred churches spread over the country, besides many other evangelization structures like residences, colleges, etc. The great religious success, however, precipitated a great political reaction: in 1614 the missionaries were expelled and the Portuguese became under suspicion. The suspicion was so strong that even if no proofs were found of their involvement in the Shimabara uprising they were considered guilty and expelled from

the country in 1639 and forbidden of ever returning back. This was the final if not the most dramatic and visible element of the rejection of Southern Barbarian culture.

It is thus natural that historians who studied the religious aspect of the sixteenth and seventeenth century interaction between Japanese and Portuguese have had the tendency to stress the successes of the Japanese Mission, while those that focused on the political aspect have for the greater part concluded for its failure. Flowing from these two opposed positions the reaction of sixteenth and seventeenth century Japanese to *Nanban* culture has come to be frequently presented as having been an unqualified acceptance by a minority that converted to Christianity or an absolute rejection by the others, who either became strongly opposed to everything European or just ignored it completely. I suspect, however, that the partial acceptance of some aspects of western ideas by Genshō, and his rejection of other elements, was typical of the Japanese of his age.[5] Though individuals might differ in what they took and in what they rejected, wholesale acceptance and total rejection were the exception rather than the rule. Therefore I believe the study of Genshō's views is important to bring perspective and equilibrium to the discussion of the impact of one of the most notable experiments of cross-cultural communication that ever happened and which took place for one hundred years after the arrival of Portuguese merchants and Jesuit missionaries in Japan.

As it was noted above, there is a current in modern historiography that holds that for all the exoticism with which the Portuguese merchants and the Jesuits missionaries tinged the history of Japan during the *Nanban Century*[6], "their cultural *contribution* to Japan was nil."

Contribution is a two edged concept. In this case, it may mean the inputs provided by the Portuguese and by the Jesuits that would allow the Japanese to see the

[5] See José Miguel Pinto dos Santos, "Five Types of Reaction of a Neo-Confucian Scholar to Western Cosmology: The Case of Mukai Genshō (1609—1677)", *Empires Éloignés: L'Europe et le Japon (XVIe—XIXe Siècle)*, Dejanirah Couto and François Lachaud (ed.), Paris, École Française d'Extrême-Orient, 2010, pp. 51-71. More recently Kiri Paramore, *Ideology and Christianity in Japan*, Abingdon, Rutledge, 2009, p. 44, has also suggested that the frequently used "'either/or' paradigm" may "potentially limit the scope of analysis" and artificially "push individual [Japanese] thinkers into overly limited categories".

[6] "*Nanban* century" is an expression coined by João Paulo Oliveira e Costa, *O Cristianismo no Japão e o Episcopado de D. Luís Cerqueira*, Ph.D. Dissertation, Lisboa, Universidade Nova de Lisboa, 1999, pp. 85-86, that by being more inclusive and admitting the existence of a secular as well as of a religious impact in Japan represents better the reality of the cross-cultural interaction in the one hundred years after 1543.

world through new artistic, religious and scientific perspectives. On the other hand it may also mean the cultural output achieved by the Japanese from those inputs, which would be observable from the development of a novel sensibility in things artistic, religious and scientific.

Certainly no one would seriously argue that *their cultural input to Japan was nil*.[7] Portuguese sailors and merchants brought the musket, the silk and the gold, the ultimate symbols of the culture of war, indulgence and commerce, the three incarnated deities of western imperialism, materialism and greed. Jesuit priests brought Aristotle, Hippocrates and Jesus together with the printing press, the hospital and the Bible. And, as it is widely held that their effort in publicising and spreading these inputs was of "heroic proportions", there should be no question concerning the input side of the question. And this can be stated despite the fact that research concerning many of those cultural inputs has not been exhausted yet.

Therefore the above statement can only be read so as to mean that *the cultural output resulting from their inputs was nil*. And, indeed, it is not easy to find in modern historiography references and descriptions of what the Japanese made from those inputs and how they used them. It seems as if the Shimabara rebellion and the consequent expulsion of the Portuguese was the end of the story; that the Japanese forgot overnight their appreciation for the missionaries' ideas on God and stars, and the Southern Barbarian introduced tastes of fried food and egg based sweets; and that in 1640 they started as a tabula rasa in what concerns European culture. There are two possible explanations for this lack of visibility of cultural output: either it is real, or it is apparent. Either the Japanese in the process of their cultural quality system rejected or ignored the offered inputs, and thus their seventeenth and eighteenth century cultural output does not bear the mark of the rejected Southern Barbarian inputs; or, if this was not the case, then modern historians have not worked hard enough to provide us with the evidence. [8]

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[7] Actually I could find one. Richard Storry, *A History of Modern Japan*, London, Penguin Books, 1972, p. 66, wrote this racially tinged and misguided comment: "[…] it so happened that the European race, the Portuguese, with whom the Japanese had the longest contact up to 1639 was perhaps the one least likely to pass on to them the revolutionary discoveries in astronomy and natural science, and indeed the experimental method generally, that laid the foundations of modern western technology."

[8] However, it should be said that, in the tradition of Genshō, many Japanese scholars have expressed the conviction that not only the inputs where there and were accepted but also that the outputs are there to be seen. For example, Akihito, His Majesty the Emperor of Japan, has written: "The interchange with Portugal and other European countries, which had such a great influence on Japanese learning and

It is my contention here that the second is probably the case. To start with we have the testimonial of Genshō presented above, as well as that of other knowledgeable Japanese of his time to the effect that many of their compatriots so "valued the orders of the *bateren* Barbarian priests" as to "neglect [the importance of] their country lord's life". Hardly could words be assembled in any other way by a seventeenth century Japanese to express the strength of the foreign influence with more vigour. The *lord's life* was arguably the most important value for a Japanese of that age, the foremost duty that any honourable man had being the contribution to his preservation and well-being. This change of behaviour certainly cannot be attributed but to cultural change. It surely was not a permanent change, as the Tokugawa regime restored back the social order to its *bushi* ideal, except for a few thousand farmers scattered in the western fringes of the country that remained secretly attached to a different spiritual value. This brings us to the question: given that the foreign missionaries did not achieve their desired output of converting Japan to Christianity, were there not other more permanent changes? Is it possible that when making their sums, the historians who shouted "nil!", just as the proverbial man looking for the lost key in the garden because that is the place where there is more sunlight, were not looking for evidence where it could be found?

Much and excellent research has been done in the field of Japanese religious and political history during the time of interaction between Portuguese and Japanese in the sixteenth and seventeenth centuries. This work has lead to the publication of not a few books and theses of exceptional value to the understanding of what happened then, a situation that even leaves one embarrassed when faced with the need to choose from amongst such abundance.[9] However, despite this valuable accumulated research, many popular and vulgarizing histories of Japan, either implicitly hold this remarkable

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technology, lasted no more that 100 years." Akihito, "Early Cultivators of Science in Japan", *Science*, vol. 258, 1992, pp. 578-580.

[9] James McMullen, "Confucianism, Christianity, and Heterodoxy in Tokugawa Japan", *Monumenta Nipponica*, Vol. 65(1), 2010, p. 149, makes the following appraisal: "Japan's contact with Christianity in the sixteenth and seventeenth centuries is among the fields of premodern Japanese history most intensively researched overseas. At its best, this subject has occasioned fine scholarship and bravura writing." Nevertheless, when confronted with this abundance and forced to restrict the references to just one item per language I always recommend: Charles R. Boxer, *The Christian Century in Japan: 1549-1659*, Berkeley, University of California Press, 1951; Ebisawa Arimichi 海老沢有道, *Nihon Kirishitan Shi* 『日本キリシタン史』, Tokyo, Hanawa Sensho 塙選書, 1966; and the already cited João Paulo Oliveira e Costa, *O Cristianismo no Japão e o Episcopado de D. Luís Cerqueira*, Ph.D. Dissertation, Lisboa, Universidade Nova de Lisboa, 1999.

cultural event in such low regard so as to dismiss it in a few lines, or explicitly state something to the effect that "the sum of their cultural contribution to Japan was nil".[10] In their evaluation of the consequences of the presence of the Portuguese and of the Jesuits in Japan the discussion almost always centres on the absolute rejection of Christianity and the total refusal to trade with the Portuguese, that is, they focus in the political and religious side of the question. The conclusion usually is that as Christianity was forbidden and the Portuguese were expelled the rejection was absolute, the failure was total, and he impact was nil. It is my conviction that there is much to say against this line of argument, and that the evidence actually shows that the Jesuits achieved a remarkable religious success and a stark political failure, but that is not my point here. My contention now is that, besides the religious dialogue between east and west and in addition to the political and commercial embassies going west and east, there were other dialogues going on in Japan during the sixteenth and seventeenth centuries. In what concerns me here, I intend to show that there was a meaningful and heated debate between different views of nature and explanations of natural phenomena. This debate was many sided, with several competing schools presenting their views and defending them against multiple opponents. There were the Aristotelians, the Buddhists, the Neo-Confucianists and others.[11] During this debate, especially that which took place between Aristotelians and Neo-Confucianists, which will take almost completely our attention in what follows, some ideas crossed a cultural border and were found acceptable, while others did not, and were not accepted. The ultimate objective of this work is then to attempt to broaden the analysis of this east-west encounter away from the political and religious history, and see what inputs where accepted for further processing by the seventeenth century Japanese and which were not.

Although I believe that there were many specific contributions to Japanese life made by the western priests and merchants whose individual value was not zero, here I

[10] For example see G. B. Sansom, *Japan: A Short Cultural History*, Tokyo, Charles E. Tuttle Co., 1973, where in p. 437 we can read: "On the whole it cannot be said that the intellectual influence of Europe upon Japan in the sixteenth and early seventeenth centuries was either profound or lasting." R. H. P. Mason and J. G. Caiger, *A History of Japan*, Tokyo, Charles E. Tuttle Co., 1973, p. 154, note that: "[t]he Iberian peoples transformed neither the economy nor the religious life of the country to which they came." For an example, this time in Japanese, see *Shūei-sha Han Nihon no Rekishi* 『集英社版日本の歴史』, 22 vols., 1991-1993, where in over 7,500 pages of Japanese history we can just find a handful scattered references to the presence of the Portuguese and of the Jesuits.

[11] Paramore, *op. cit*., especially p. 5, makes a similar argument in what concerns religion.

will concentrate in trying to establish what were the inputs and outputs in a well defined field that is alternatively designated as *natural philosophy* or *science*. This is a topic that is sometimes broached in western scholarly literature on the interaction between Japan and Portugal in the sixteenth and seventeenth centuries but always in the most summary way. As the main evidence that there was an attempt of transmission of natural philosophy by the Jesuit fathers it is sometimes referred the existence of a scientific or astronomical treatise, the *Kenkon Bensetsu*, edited in Japanese by Sawano Chūan 澤野忠菴 (*ca*. 1580—1650.11.1) who before being tortured and apostatizing had been a Jesuit missionary by the name of Cristovão Ferreira, and commentated upon by a Neo-Confucian scholar, Mukai Genshō, whom we already encountered. It is precisely from the insertion of this commentary written by a neo-Confucian scholar into a western style exposition on natural philosophy put in Japanese by an educated European that the *Kenkon Bensetsu* derives much of its value. From it we may learn first hand two important things. One is what an educated Jesuit chose to present to the Japanese from the vast range of topics covered by European science. This may allow us to make inferences about substance and form in the transmission of western science in Japan: which topics the Jesuits in general thought worth of transmitting and how they transmitted them. Another is what a knowledgeable Japanese thought of those topics and of their treatment. Although obvious, it may be worth to mention that the *Kenkon Bensetsu* is useless as evidence of what was European science in the seventeenth century or anytime before that. Besides the *Kenkon Bensetsu* other treatises about western science were produced in Japan and have survived to this day, such as the *Genna Kokaisho* and *Nigi Ryakusetsu*, which, like the *Kenkon Bensetsu*, are extant in multiple copies. These are worth of study because they also acknowledge that there was a non-religious polemic. They are less interesting to our purpose here because they lack the commentaries found in the *Kenkon Bensetsu*. However, because their authorship can be attributed, even if partially, to Japanese, they do document the acceptance of western cosmology and do this in a different way from that of the *Kenkon Bensetsu*.

We said above that contemporary western scholars mention the existence of the *Kenkon Bensetsu* and sometimes use it as evidence of some transmission of western astronomy and natural philosophy. However, from the extant English and Portuguese literature there is no evaluation of how much astronomy it actually contains nor is it clear what theories and techniques are actually taught there: does it help in the

computation of eclipses or to estimate precession? Does it show how to estimate the latitude of one's position on the Earth by observing the declination of the Sun or the Polar Star? Does it teach to calculate the opposition of Jupiter or the conjugation of Venus with Saturn? Nor is it clear what the influence it exerted on Japanese astronomers and philosophers of latter generations was. In Japanese we do encounter many detailed but partial studies of the *Kenkon Bensetsu*, authored by Imai Itaru 今井漆, and Ōya Shin-ichi 大矢眞一, and some others. Ebisawa Arimichi wrote *Nanban Gakuto no Kenkyu* which certainly is the most detailed description of the influence of western cosmology and natural philosophy on Japanese thought. More recently Hiraoka Ryuji has revived the field with several solid articles and a doctoral thesis. There he argues that natural philosophy was an instrument of Christian apologetics and presents a detailed analysis of the formation of a textual tradition around *Kenkon Bensetsu*. He also integrally transcribes one of the best extant manuscripts of the *Kenkon Bensetsu* and another of one of its variants, the *Nanban Unkiron* 『南蛮運気論』. This work of Hiraoka Ryuji appears almost one century after the first modern edition of the *Kenkon Bensetsu* was published, an edition which doubtlessly contributed to the awareness we have today of this textual tradition and to the appearance of the above mentioned research. But the fact is that while Japanese scholars, especially science historians specializing in the pre-modern and modern period, may have an idea of what the contents of the *Kenkon Bensetsu* may be, in the west just a handful of specialists have all but the slimmest idea of what this work might be about.

The *Kenkon Bensetsu* is at the same time a work of literature, of philosophy and of history. It can therefore be studied from a linguistic perspective, or from a philosophical or a historical one, but an analysis that does not contemplate all three aspects would be partial and impoverished. The peculiar use of the language by Chūan, and especially his choice of words is by itself very interesting, and revealing of his background and interests. The carefully formalistic style of Genshō contrasts with it and also reveals a lot about Genshō, the man. Both styles have been extensively used by the lexicographers of the *Nihon Kokugo Daijiten*, the ultimate reference on the Japanese language, as examples of usage. Furthermore, to properly appreciate the philosophical presentation that is made in the *Kenkon Bensetsu* proper attention should be given to the language used.

Besides its literary value, the *Kenkon Bensetsu* is also a manual of basic natural philosophy. It would have been an unremarkable manual if it had been written in Lisbon, but the fact that it was composed in Japan on the behalf of the Japanese and at their request makes it a very interesting book. It is very interesting because it is a testimony to the conscientious, active and argued transmission of the Aristotelian cosmovision into the Confucian cultural world that was made possible by the geographic revolution operated by the Portuguese expansion into East Asia. Its importance also lies in allowing us to ascertain how the Aristotelian philosophical explanations look like when expressed in the seventeenth century Japanese language, and what arguments a Confucian scholar would use when confronted with it.

As was already mentioned, we may say that the history of non religious and non political influence of Jesuits in pre-modern Japan still needs to be written. This is especially true in what concerns natural philosophy. Western scholars, however, cannot participate in this work before the main texts that document the transmission of natural philosophy have been translated and edited into western languages.

Therefore, my first aim here is to present a faithful translation into English of the *Kenkon Bensetsu*, arguably the most important and most well known treatise about western natural philosophy written in Japan in the seventeenth century. By faithful translation I mean one that makes as clear as possible what a seventeenth century erudite Japanese would read out of the text. In other words, I will not try to convey what Sawano Chūan, the editor of this work, might want to convey to his Japanese audience, but what his Japanese readers might actually have understood from the book as it was actually transliterated by Mukai Genshō. My attempt here to make a faithful translation is to make the text perceivable by you as it was perceived by an early Edo scholar. The reason is simple: what an European thoroughly schooled in natural philosophy, and with a good command of cosmographical and astronomical matters, as Chūan was, might wish to say about the constitution of the Universe is already well known: there are dozens of treatises similar in content to the *Kenkon Bensetsu*, and they have been thoroughly studied. On the other hand, what a Japanese might make of such a presentation, written in Japanese, and especially out of one that has so many literary idiosyncrasies as the *Kenkon Bensetsu* has, is not obvious. To achieve this end it is necessary to set the cultural context of the intended audience of the *Kenkon Bensetsu*: to present the basic intellectual framework used to interpret nature that was used by the

Japanese. Besides this it is also essential to make explicit the meaning that the Japanese would read out of the words, not that which we might assume was the intended by the editor.

A second objective is to investigate what can be known about the process that led to the writing of this treatise: by whom and on whose orders it was written, why was it ordered, and under what circumstances it came to light. This story involved many people in a span of over twenty years, is full of curious circumstances and serves to portray an age. Moreover it also serves the purpose of trying to understand western cosmology as a seventeenth century Japanese might perceive it after reading the *Kenkon Bensetsu*.

The history of the composition of the *Kenkon Bensetsu* which we will see in detail is extraordinary for a few reasons. One is the large number of people involved, of the most different walks of life, many of whom did not have the slightest idea that their actions were leading to the composition of a book. Had not Inunaga, against all hope, set in pursue of a running away mysterious vessel and caught it, there would be no book on astronomy to present Inoue, no translation by Chūan, and no commentary by Genshō. Another is the remarkable changes that groups and individuals underwent and were instrumental in the making of the *Kenkon Bensetsu*: the populace that from being easily swayed by Christian doctrine comes to abhor it, the Kurodas that from protectors turn into persecutors, Ferreira, the chief *bateren* who becomes Chūan the chief collaborationist, and Genshō who from staunch antagonist to Southern Barbarian theories becomes *malgré lui* their main publicist. Still another is how the history is so tightly woven that the most important personages keep reappearing and everyone is related in some way with almost everyone else. And despite its complexity the whole history can fit all in a dozen lines; paraphrasing Genshō in his preface, it can be told succinctly thus:

Chūan, a Christian priest with excellent astronomical learning, comes to preach in Japan. He is caught and has his religion rectified[12], what makes Rubino decide to come to Japan to meet him and bring him back to his original faith. Rubino, an elder that excelled in astronomy, is caught by a retainer of Tadayuki, the grandson of Jōsui, one of the greatest benefactors the *padres* in Japan ever had. Tadayuki sends Rubino to

[12] I.e., made right, a euphemism for forced conversion.

Inoue, the grand overseer of religious rectification, and thus Inoue gets a book from Rubino. Inoue asks Chūan to translate it into Japanese. Later, Kainoshō has a westernized Kichibei and an eastern textual fundamentalist Genshō transliterate Chūan's translation and Genshō add a commentary. Upon finishing the commentary Genshō notices the book has no title. He remembers that the third generation, by building a worthless vessel named *Kenkon Maru*, almost lost everything Jōsui had conquered from nothing for the house of Kuroda and decides to name the book about a worthless science after the worthless vessel.

This work is organized into four parts. In the first part I attempt to outline the historical conditions that lead to the period when the *Kenkon Bensetsu* was edited. I start, in Chapter I, by framing a question that is the defining question of this work: if we pick up a seventeenth century Japanese scholar and look at his life and work, where can we notice the influence of the body of knowledge that the Portuguese and Jesuits supposedly introduced in Japan? Given that the main object of this work is a treaty on natural philosophy and astronomy it is fitting that I look, even if in the briefest of ways, into the adventures of a late seventeenth century Japanese astronomer. This will serve also as a pretext to outline some permanent characteristics of Japanese society that may help us understand the behaviour of some of the personages that appear later. This part may seem superfluous on a work on the history of science in early-modern Japan, but that redundancy is more apparent than real. Science in the context of any culture is the product of concrete people integrated in a social setting and its premises and conclusions in some way reflect how that society is organized. To understand the scientific product of an age and of a culture an understanding of the social organization and dynamics of that age and culture is not irrelevant. Even European science has undergone an evolution as European society as changed. Nowadays scientific results are achieved by large structured teams through the assemblage of highly specialised and partial work, very much as a Ford T was the end product of a large structured team organized around an assembly line. Not coincidently this form of organizing scientific work started not much later after Henry Ford started producing the Tim Lizzie in 1908.

Then I take a look at the basic elements that made possible that western scientific ideas could one day be transmitted to Azuchi-age Japanese in lectures and in disputes, and eventually be written in Japanese in treatises that were valued by specialists. I broadly present some of the main features concerning the arrival of

Portuguese merchants and Jesuit priests to Japan and the influence they exerted in Japanese life. I will deal, also very schematically, with the question: where is it in Japanese culture of the Seclusion Period the influence of the western elements introduced by the *Nanbanjin* and the *bateren*? It will be argued that this influence was broad and not restricted to natural philosophy, nor even to religion, spirituality and morals but reached many corners of Japanese material and intellectual life. I will deal also with the *invisibility* of these influences. The main point here is that, and using a reply similar to that given by Cosme de Torres to his Buddhist disputants about the existence of the soul, in the same way as air is not seen, there are invisible things that exist. This is performed in Chapter II.

Afterwards I close on the main issue dealt by this research: the cross-cultural transmission of natural philosophy in Japan in the *Nanban period*. I describe first the position that natural philosophy took in the missionary activity of the Jesuits in Japan: not a central but an important auxiliary one. Then I will argue that the Japanese, of all the sixteenth century peoples that were object of Christian mission, seemed to the Jesuits the most able to come into Christianity through rational argumentation. They also seemed to be the most curious about natural and spiritual things. Therefore the Jesuits used science as an evangelization tool, starting their catechesis with elementary presentations of the workings of the material universe. They also taught it in their schools and wrote books to expound it. With this I try to answer the question: How did the Jesuits sow in Japanese culture western astronomical learning? This is attempted in Chapter III.

In the second part I recount the history of the formation of the most visible legacy of the cross-cultural transmission of western cosmology: the *Kenkon Bensetsu*. This account is made based in the long preface to this treatise, written by Mukai Genshō, its transliterator and commentator. Here I do not try to deconstruct the text of the preface; rather I will try to construct on this narrative supplying it with other relevant information from Jesuit and other Japanese sources. The narration is made from the point of view of Genshō, sharing for narrative purposes his neo-Confucian perspective on the Universe and his political conservatism and nationalism. Still it is an historical narration: no facts are presented that do not come from documental evidence. In one point I leave the realm of fact and build on a hypothesis for which there is no more evidence that a curious coincidence and what, based on the views expressed in his

writings, I assume were Genshō's literary tastes: the choice to the title for the treatise. This narrative is built in one chapter and attempts to answer the question: how did one of the most important outputs of the cross-cultural transmission of western natural philosophy come to life? This is Chapter IV.

In the third part I present the Japanese text and an English translation of the *Kenkon Bensetsu*. The Japanese text is a reproduction of the first modern edition published in 1914. However I have added in notes some of the more important variant readings of other manuscripts not considered in that edition.

In the fourth part I revisit the *Kenkon Bensetsu*. First I present in Chapter VII the basic theories that are referred to in the text as well as in the commentaries. This I do following closely the short essay named "A Comparison Between the Learning in Four Countries" that Genshō placed just before the main text of the *Kenkon Bensetsu*. This hopefully will be of some help to the reader in extracting some more meaning out of the names and designations employed in the translated treatise. In this chapter I also briefly describe the main works that testify the presentation of western natural philosophy in Japan, and take a look at the number and variants of the extant copies of the *Kenkon Bensetsu*.

Then, in the Chapter VIII, I take a bird's eye's view at the contents of the exposition about western philosophy in the *Kenkon Bensetsu*. This is made in four sections: I review in sections 2 and 3 the exposition about the sphere of the Earth, and in sections 5 and 6 I highlight the main ideas of the paragraphs concerning the spheres of the Heavens. This has the objective of establishing the character of the *Kenkon Bensetsu*. In the other sections I make some brief comments concerning the choice of terminology.

Finally, in Chapter IX, I classify and analyse the comments penned by Genshō. This classification is important because although Genshō considered Southern Barbarian scholarship basically flawed, it is clear that there were certain areas of knowledge he considered eastern scholars should learn from the *Nanbanjin*.

I have tried to make this a work of quality and originality. It is my sincere hope that it is not found that where it is original it is no good and where it is good it is not original. Originality is always a risky endeavour: as the Japanese proverb goes "the sticking nail gets hammered down". I may do well, therefore, justifying some originalities concerning form.

It is usual to documental evidence to be put in appendixes at the end of a work. Here I have made the unusual choice of putting the *Kenkon Bensetsu* in the very middle of it. The reason is that the core of this thesis is *the book* itself and to signify that the *Kenkon Bensetsu* should be put literally at the very centre and not relegated to the last pages, after the conclusions and everything else, as if it was of minor interest. I have therefore chosen to envelop it, as already mentioned, with four chapters presenting the historical setting and formation process in front, and with three chapters explaining its contents in the back.

Another unusual choice is the volume of linguistic notes in the translation. Their objective is not to show my ignorance of the language, though in fact I had to look many of those words in the dictionary before deciding which one would be more appropriate, but to empower the reader to understand my choices and to help him to criticize and to make better choices if he thinks they are warranted.

Finally there are some comments throughout this work, framing a historical event with an economical or behavioural theory. Being a professional economist by vocation and by training, they arouse spontaneously from my joy to find that these modern economic and behavioural theories may help in the understanding of past events.

One last word concerning style. I generally follow *The Chicago Manual of Style*[13] which advises the "down" style: the parsimonious use of capitals. Although proper names are capitalized, in general words derived from or associated with proper names are lowercased. These are capitalized: titles of sovereigns and other rulers; civil, military, academic and religious titles; names of places and in general of any entity that appears on maps. Capitalized are also: religious names and terms in general; calendar and time designations; names of stars, constellations and planets as well of the lines on the sphere. Japanese philosophical concepts which are so rich in meaning that they are usually left un-translated by most authors are *italicised* both when transliterated into the Latin alphabet and when translated.

European names are spelled according to their modern form except in two cases: when they appear in a cited text or when the flavour of the passages so requires. The same rule applies to toponyms. Dates of birth and death are given after the first reference. As a rule, dates are presented in the traditional BC/AD system. For events

[13] *The Chicago Manual of Style*, 15th edition, Chicago, The University of Chicago Press, 2003.

concerning Japan and the Japanese, the Japanese dating system is presented before the BC/AD date. Whenever possible precision is sought and month and day are also presented together with the year. Japanese names are given following Japanese usage: the family name precedes the given name. After the first reference the name is also written in Japanese characters. This is followed when possible by the usual duplet of dates indicating birth and death both in the Japanese and Julian/Gregorian Calendars. For Chinese names the family name also precedes given names. This being a study on Japanese history, they are given first in the way a Japanese would pronounce them, followed by their writing in Chinese characters and then by their Chinese pronunciations.

Japanese is Romanized according to the Hepburn system, and Chinese according to Pinyin, except inside quotes.

[Square brackets] are used to enclose words or sentences not in the original work and inserted by me. In citations from English they are used to indicate that the text is truncated. In translations they are used to include words not in the original language but that make the English translation clearer.

{Curly brackets} are used to indicate explanatory notes introduced into the text by its author or editor: in Japanese manuscripts in general, and in the *Kenkon Bensetsu* in particular, these are usually two lines of smaller letters, with varying length, which are introduced so as to fit in the space of one line of the main text.

(Parentheses) in Chapter VI, inside the translated text of the *Kenkon Bensetsu*, show the variant reading of manuscript (i). These are included only when the difference is material and affects the meaning of the sentence.

Finally, as a general rule *italics* are used for stress and “inverted commas” for citations. Periods and commas precede closing quotation marks if they belong to the cited text. Otherwise they follow it.

PART 1 — THE JAPANESE AND THE SOUTHERN BARBARIAN WAY

CHAPTER I — YASUI SANTETSU, OR THE JAPANESE WAY

1. Yasui Santetsu

Yasui Santetsu 安井算哲 (Kan'ei 16.lap 11.3—Shōtoku 5.10.6; 1639.12.27—1715.11.1) was an *igo* 囲碁 player. Not a gambler but a master. No ordinary player, but the government *igokata* 囲碁方, the official *igo* player of the shogunate. Like most of all other artistic, scientific, government, military and religious offices in Japan, his post was hereditary and thus he was duly trained to properly discharge his duties by his predecessor and father, Yasui Santetsu 安井算哲 (*fl.* first half of the seventeenth century). Very young he had developed a high awareness of the importance of timing and spatial positioning for success. He was able to transfer his experience in dealing with complex situations in the 361 positions on the Euclidian plane of an *igo* board to the no less intricate power games of scientific policy played by court nobles and shogunal samurai bureaucrats.

Born as Rokuzō 六蔵 in Miyako, the imperial city, he had innate ability for mathematics. He was schooled in *wasan*, or Japanese mathematics, by Ikeda Masaoki 池田昌意 (fl. middle seventeenth century)[14], and in calendar making by Okanoi Gentei 岡野井玄貞 (*fl.* middle seventeenth century)[15] and Matsuda Junshō 松田順承 (*fl.* middle seventeenth century)[16]. Seldom had a name change been more appropriate than

[14] A seventeenth century *wasanka*, or a mathematician on the Japanese tradition, who lived and taught in Edo where he had a *juku*, or school, in front of Saiōji 西応寺. Published in the Second Year of Empō *Sugaku Jōjo Ōrai* 『数学乗除往来』, a treatise solving 49 problems. For details see Asahi Shinbunsha 朝日新聞社 (ed.), *Asahi Nihon Rekishi Jinbutsu Jiten* 『朝日日本歴史人物事典』, Tokyo, Asahi Shinbunsha 朝日新聞社, 1994.

[15] A Medical School practitioner with strong interest in mathematics and calendar making. When of the Korean embassy visit of 1643, he asked to met Ra Zan 螺山, a minor Korean scholar, and inquired him about the thirteenth century Chinese Juji Calendar 授時暦. For details about Gentei see Asahi Shinbunsha 朝日新聞社 (ed.), *Asahi Nihon Rekishi Jinbutsu Jiten* 『朝日日本歴史人物事典』, Tokyo, Asahi Shinbunsha 朝日新聞社, 1994.

[16] Not much could be gathered about this *wasanka* and Calendar School practitioner. In his official diary *Kokushikan Nichiroku*, Hayashi Gahō 林鵞峯 (Genna 4.5.29—Enpō 8.5.5; 1618.7.21—1680.6.1) refers his visit together with his friend Yasui Santetsu on the Twenty Second Day, of the Tenth Month of the Ninth Year of Kambun (1669): see *Kokushikan Nichiroku* 『國史館日錄』, edited and annotated by

his, which took place when he replaced his father as *igokata*.[17] He worked in his office in autumn and winter, and spent spring and summer in the Miyako. There he followed Yamazaki Ansai 山崎闇斎 (Genna 4.12.9—Tenna 2.9.16; 1619.1.24—1682.10.16), who introduced him to Suika Shintō 垂加神道, and Abe Yasutomi 安倍泰福 (1655—1717), a descendent of Abe no Seimei 安倍晴明 (Engi 21.1.11—Kankō 2.9.26; 921.2.21—1005.10.31), who taught him his new religious and cosmological system, Tsuchimikado Shintō 土御門神道. In his early twenties he went to the western regions of Japan where he measured the latitudes of many of their landmarks. He also started to measure the movements of celestial bodies, an activity that had seldom been performed in his country up to then, and noticed what up until that moment nobody seemed to have paid much attention to: a two day gap between the calendar and the actual Sun position.

The calendar then in use had been adopted in A.D. 862. Early Japanese calendars were simply borrowed from China, without any adjustment for the slightly more eastern position of Japan, and so was the Senmyō Calendar 宣明暦, Xuān Ming in Chinese.[18] Now, the fact that a calendar adopted in A.D. 862 was still in use in the seventeenth century in Japan may appear quite an ordinary and natural situation. After all, Sosigenes's work[19], the Julian calendar, adopted in B.C. 46 was still in use in

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Yamamoto Takeo 山本武夫, Tokyo, Yagi Shoten 八木書店, 1999, p. 79. Yasui Santetsu makes also a brief reference to him in his 1683 memorandum (see below).

[17] Santetsu is composed of two Chinese characters, the first, *san* 算, means number and calculation, the second, *tetsu* 哲, means clear (cf. Nelson). Therefore a possible rendition of his name might be Clear Calculation.

[18] Concerning the process of adoption of Chinese calendars by the Japanese see: Shigeru Nakayama, *A History of Japanese Astronomy: Chinese Background and Western Impact*, Cambridge, Harvard University Press, 1969, pp. 65-71. The Xuan Ming Li was the official calendar in China between A.D. 822 and 893. Nathan Sivin, *Granting the Seasons: The Chinese Astronomical Reform of 1280, With a Study of Its Many Dimensions and an Annotated Translation of Its records*, New York, Springer, 2009, p. 48, translates Xuan Ming as "Extending Enlightenment."

[19] According to Pliny it was to Sosigenes of Alexandria (fl. first century BC) that Julius Caesar turned to help in his reform of the Roman calendar: "There have been three great schools of astronomy, the Chaldean, the Ægyptian, and the Grecian. To these has been added a fourth school, which was established by the Dictator Caesar among ourselves, and to which was entrusted the duty of regulating the year in conformity with the sun's revolution, under the auspices of Sosigenes, an astronomer of considerable learning and skill. His theory, too, upon the discovery of certain errors, has since been corrected, no intercalations having been made for twelve successive years, upon its being found that the year which before had anticipated the constellations, was now beginning to fall behind them. Even Sosigenes himself, too, though more correct than his predecessors, has not hesitated to show, by his continual corrections in the three several treatises which he composed, that he still entertained great doubts on the subject." *The*

England and Wales in the eighteenth century. Even more long lived was the Egyptian civil calendar which was in current use for almost three millennia after its formulation around 2900 B.C., and still was the calendar of choice of some astronomers as late as the sixteenth century, such as Nicholas Copernicus (1473.2.19—1543.5.24). [20] Calendars, to the mind of the modern man, are one of those few things that should be passed unalterable from generation to generation, and remain unchanged for centuries, if not longer. However, this was not so with Chinese calendars: they were revised on average once in a generation. From the earlier times on, following a strategy replicated millennia later by American marketers, model changes were engineered every so often by the Office of the Grand Astrologer, the *Taishi-rei* 太史令, *Taishi-ling* in Chinese, which incorporated small specification changes in a basically unchanged product that was advertised as the new definite thing built to last forever.[21] In the two thousand years up to the end of the seventeenth century more than one hundred new calendars were officially adopted in China.[22] Two factors induced this kaleidoscopic change in the standard of time. One was the idea that the Emperor received his mandate from Heaven. Accordingly, after important changes in reign, and always when dynastic change

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Natural History of Pliny, vol. IV, John Bostock and H. T. Riley (trans.), London, Henry G. Bohn, 1856, pp. 75-76.

[20] See Edward Grant, *A History of Natural Philosophy: From the Ancient World to the Nineteenth Century*, Cambridge, Cambridge University Press, 2007, pp. 4-5.

[21] The character *reki* 暦, *li* in Chinese, is usually translated as *calendar*. However, following Sivin, *op. cit*., pp. 38-39, we can distinguish the following four meanings for this word. The first "is the art of computing the times and locations of certain future or past phenomena in the sky." The second "is a step-by-step sequence of computations that generates such forecasts and assembles them to make a complete ephemeris." The third "is the embodiment of the system, namely the computational treatise". The fourth is the result of the application of the above mentioned sequence of computations to determine future ephemeris such as solstices, new moons and eclipses, which were published in almanacs and are what usually the common man calls *calendars*. To each of these meanings Sivin attributes an English designation, but most historians of science make do with just the word *calendar*. The history of Chinese calendar making is the description of the efforts to increase the accuracy of the estimates for the length of the tropical and sidereal years, of the lunation and of the periods of revolution of the planets, what lead to *calendar revisions*, that is, changes in all four above mentioned aspects. Although Chinese astronomers dedicated the best of their lives to the first three operations, ordinary people were only aware of the fourth, the published almanac. This topic is discussed in more detail by Sivin, *op. cit*., pp. 38-60; and by Colin A. Ronan, *The Shorter Science & Civilisation in China*, vol. 2, Cambridge, Cambridge University Press, 1981, p. 79, and pp. 182-183. As will become apparent in what follows, astronomers in Japan seem to have neglected for centuries the first three operations.

[22] This number is presented by Ronan, *op. cit*., p. 79. A list of 97 of these calendars can be found in Sivin, *op. cit*., pp. 43-53.

occurred, the new Emperor was prompted to reform the calendar so that through the enactment of a new calendar the establishment of a new order was clear to all. Another motivation for calendar reform was simply to correct disagreements of the calendar then in use with observed heavenly occurrences after these differences were detected. Hence reforms were also carried out whenever small discrepancies were found in celestial ephemeredes.[23] This close relationship between the civil calendar and heavenly occurrences that existed in the east had long been broken in the west. The Egyptians were the first to establish a solar calendar for civil purposes that had exactly 365 days, made up of twelve months of thirty days plus five festival days, that had no relation to astronomical events nor served any astronomical function.

Many explanations are given for this permanence in the Japanese calendar when transience would have been expected on these affairs in this part of the world: the Imperial line remained unbroken since its inception, so there was never a new order in need to be confirmed, as was the case in China; an opposite view holds that a new order was actually imposed after the disturbances caused by the fights between the Taira and the Minamoto, power shifting from courtiers to warriors, but the new powers left calendrical matters with the representatives of the old order, though these now held only

[23] On this matter see Yabuuchi Kiyoshi, "Tōsō Rekihōshi" 「唐宋暦法史」, *Tōhō Gakutō* 『東方學統』, 1942, vol. 13, pp. 491-493. For example, a missed eclipse might prompt a new estimation of the length of the lunation, what would result in a new prevision of ephemeredes, that is, it would lead to the publication of a new calendar. Concerning the motivations for calendar reform see Nakayama, *op. cit.*, pp. 65-67. This tradition of almost constant reform gave the possibility to the Jesuits of facilitating their missionary work in China through the practice of a very technical sort of astronomy. Manuel Dias [Senior] relates that when Mateus Ricci was negociating his visit to Beijing with a mandarin friend, "vendo os padres occasião lhe tratarão do negoceo da ida que desejavão fazer, dando-lhe conta de alguãs peçaszinhas coriosas, que tinhão para o rei, e como tambem podião ajudar nas cousas de Matamatica ao seu calendario, que tem alguns erros conhecidos", João Paulo Oliveira e Costa (direction and introductory study) and Ana Fernandes Pinto (paleographic transcription), *Cartas Ânuas do Colégio de Macau (1594—1627)*, Macao, Comissão Territorial de Macau para as Comemorações dos Descobrimentos Portugueses, 1999, p. 86. In Japan, on the other hand, the demand for such technical knowledge did not exist because the Divination Board was unconcerned with occurrence of discrepancies and did not attempt to correct them through the revision of the calendar. Therefore the Jesuits did not send to Japan their famed *astronomer missionaries*, as there was no demand for them there. Still, the high interest that the Japanese population generally showed concerning natural phenomena in general and celestial events in particular, prompted the Jesuits to practice their evangelization with systematic recourse to natural philosophy theories, including the Aristotelian theories on the Heavens. This latter type mission did not need specialists but still it required knowledgeable missionaries. As will be argued later, most Jesuits in Japan had this type of knowledge.

nominal power[24]; the political situation became unstable and degenerated into the permanent state of warfare properly named by later historians as *sengoku jidai* 戦国時代, or the period of the country at war, a situation not propitious to such peaceful endeavours as astronomy and calendar reform; Japanese specialists were few, lacked the essential skills, did not have the necessary instruments, and had lost contact with Chinese court astronomy; as a matter of fact, practical convenience in the Office of Calendar Making was more important than technical merits; the errors in the calendar caused no inconvenience or confusion whatsoever in daily life, as it did not affect agriculture or hinder commerce.[25]

Though all of these factors may hold part of the responsibility for the absence of the introduction of a new calendar, the main reason probably lies in the development of a peculiar intellectual climate that surrounded the subject in Japan. Several elements contributed to the formation of this ambience. One was the royal character of the sciences related to the Heaven, the reservation of their study to properly appointed officials, and the secrecy that surrounded their techniques. This was not peculiar to Japan, its astronomical institutions and regulations having been patterned from the Chinese model, but it assumed a specially closed bent here. In Japan all relevant positions of the *Onmyō no Tsukasa* 陰陽寮, or Divination Board, included not only divination but also astronomy, calendar making and time keeping. These positions were filled by the members of two families, the Kamo 賀茂 and the Abe 安倍, not through the selection of able candidates chosen through public examinations as in China. In both families knowledge transfer was restricted to direct descendents. Systematic observation by laymen was forbidden and possession of observational instruments, such as the gnomon, was punished.[26] But most critically, divination was considered the most

[24] The Imperial House remained always the ultimate source of legitimization of power in all history of Japan. This was also true during the sixteenth and seventeenth centuries: "The emperor exercised no direct political power, but he was the acknowledged fountain of honour and the symbol of national unity." George Sansom, *A History of Japan: 1334-1615*, Tokyo, Charles E. Tuttle, 1974, p. 140. See also William Theodore De Bary, *Sources of East Asian Tradition: The Modern Period*, New York, Columbia University Press, 2008, pp. 950-951; Juan Clemente Zamora, *O Processo Histórico*, Lisboa, Livraria Renascença, 1946, p. 191.

[25] See Nakayama, *op. cit*., pp. 119-120.

[26] "Hōgibu" 「方技部」, *Koji Ruien* 『古事類苑』, 1909, p. 284. However, this seems to have not been strictly enforced, especially after the sixteenth century.

important of the four sciences the Divination Board managed, the interest of astronomical observations laying more in their being a source of information to fortune telling than as a means toward the establishment or the correction of a calendar, even less as a necessary endeavour for an accurate knowledge of Heaven.

Santetsu, having become aware of the two-day error of the Senmyō Calendar started looking for alternatives. The one that caught is attention, through the guidance of Matsuda Junshō, his friend and *sensei*, or Master, was the venerable Juji Calendar 授時曆, or the Shoushi Calendar used in China for a full century between 1281 and 1384.[27] He approached both imperial courtiers and shogunate officials with a proposal for its adoption. To the court members he pointed that the *onmyō* fate prediction based on day-series, or hemerology, could not be accurate as it was then practiced, as the series bore no relation with observed celestial phenomena. To the shogunate bureaucrats he pointed the convenience of having a calendar conforming to heavenly order in a country properly and orderly governed according to *Tendō* 天道, the Heaven Mandate. Then, in 1675, in the Fifth Month of the Third Year of the Empō Period, the unexpected happened. A solar eclipse occurred as predicted by the Senmyō Calendar, not because of its technical accuracy but by pure chance, as when a broken clock gives the right time twice a day, but which was not to be expected according to the Juji Calendar. Although upset by this happening, that reinforced the position of the conservative party that saw no need for change, Santetsu laboured on. He got the collaboration of Nakamura Tekisai 中村惕斎 (Kan'ei 6.6.9— Genroku 15.7.26; 1629—1702)[28], a neo-Confucian scholar with interests in the geography, astronomy and the calendrical sciences and together they revised the computations adjusting them to the Japanese latitude with the values obtained earlier by Santetsu's measurements. In 1683 he sent another memorandum to the shogunate proposing the Yamato Calendar 大和曆, his own revision of the Juji Calendar, the first calendar revision ever attempted by a Japanese.[29] Luckily, in that

[27] Sivin, *op. cit*., p. 5, translates Shoushi as "Season-Granting".

[28] For details on this scholar see Dainihon Jinmei Jisho Kankōkai 大日本人名辭書刊行會 (ed.), *Dainihon Jinmei Jisho* 『大日本人名辭書』, 5 vols., Tokyo, Kodansha 講談社, 1980.

[29] There he wrote: "To know right, it is widely known that in the Senmyō Calendar the Sun is two days late in relation to the Heaven. Nowadays well versed in astronomy is the *Onmyō no Tsukasa* Abe Yasutomi who overcomes the old. There is [also] Matsuda Junshō. He is very knowledgeable about

same year, the lunar eclipse expected for the Eleventh Month according to the Senmyō Calendar, but not forecasted by both the Juji and the Yamato Calendars, did not occur. However the shogunate was not willing to force the subject on the imperial court and referred the matter to the *Onmyō no Kami* 陰陽頭, the highest authority in the Divination Board.

The *Onmyō no Kami* was then Tsuchimikado Yasutomi 土御門泰福, Santetsu's "old" master from the capital, who had been appointed to his father post in 1682.[30] Yasutomi's office had no interest whatsoever in the official adoption of Santetsu's calendar. It would raise doubts about their predecessors' competence, a fault against *ko* and against *giri*[31]; it would dent the prestige of his office; it would enhance the reputation of an outsider; it would go against the opinion and will of powerful counsellors as Inaba Masamichi 稲葉正往 (Kan'ei 17.11.10—Kyōhō 1.10.9, 1640.12.22—1716.11.22); and it was the symbol of the new order brought by the Mongol conquerors to the Middle Kingdom, whose introduction into Japan would be most inauspicious for the court and the nation, presignifying the return of the invaders vanquished by divine will with the *kamikaze* 神風, the gods' winds, four centuries before. In 1684 the Divination Board, making a pre-emptive move announced the adoption of the Daitō Calendar 大統暦, the Dai Tong calendar that had been in use in China between 1384 and 1644. The choice of the Ming Dynasty's calendar brought more political significance than technical improvement to the issue.

This prompted Santetsu into a more intense campaign for the adoption of the Yamato Calendar. He sent a third memorandum to the shogunate, and began a careful lobbying through Tokugawa Mitsukuni 徳川光圀 (Kan'ei 5.6.10—Genroku 13.12.6; 1628.7.11—1701.1.14), to whom he was introduced by Ansai. Mitsukuni was then one of the most important powers behind Tokugawa Tsunayoshi 徳川綱吉 (Shohō 3.1.8—Hōei 6.1.10; 1646.2.23—1709.2.19), the fifth generation shogun. Mitsukuni had grown interested in calendrical matters through his studies of Shintō, which he had made with

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calendar computations." 「正に知る、頒行する所の宣明暦、天に後る二日なるを。今天文に精しきは則ち陰陽頭安倍泰福、千古に踰ゆ。松田順承という者あり。暦数に審なり。」.

[30] Note that actually Santetsu was some fifteen years senior to Yasutomi.

[31] For an explanation of these two words see section 3 below.

Ansai's guidance. His influence was decisive in speeding the decision process in Edo. At the same time Santetsu worked on Yasutomi and eventually won him to his side. When this was achieved, still in 1684, Mitsukuni had the *bakufu* send Santetsu's calendar to the court for promulgation, which was duly done. However, precedence and tradition were duly preserved by having the new calendar annotated with the all important divination entries authored by Yasutomi.[32] Thus, a typical Japanese conflict resolution technique was successfully employed once again: a new order was introduced dressed in the fashion of the previous one. The Jōkyō Calendar 貞享暦 was enacted in 1684 to start to be used in the following year, and would be replaced only in 1755 by the Hōreki Calendar 宝暦暦. Santetsu, who would change his name to Shibukawa Harumi 渋川春海, was rewarded of his efforts by being appointed *tenmongata* 天文方, the official astronomer of the shogunate, and is today revered as the first modern Japanese astronomer. He also founded a dynasty: his son succeeded him as *tenmongata* and the last *tenmongata*, who had his post abolished in 1868 by the revolutionary forces, was his direct descendant.

2. The question

This episode from the history of political astronomy in Japan, which took place at the end of the period considered in this work, is put in these first pages for two reasons. One is to raise a question.

One of the hard facts in Shibukawa Harumi's history is that two generations after the Christian missionaries were expelled in 1614 and one generation after the Portuguese were forbidden to return to Japan in 1639, a bright, energetic, knowledgeable and well connected official who had set up to reform an outdated calendar, did not choose as his model the Christian solar calendar or use the western astronomical theories and techniques that the Jesuit missionaries had taught, but chose instead, as his model, a four-hundred year old Chinese calendar. Doesn't this prove that the astronomical teachings of the Jesuits during their century old permanence in the country did not cause any impact and did not leave any trace? Wasn't Santetsu aware of the astronomic theories exposed in the *Kenkon Bensetsu* and in other treatises produced

[32] Nakayama Shigeru 中山茂, *Nihon no Tenmongaku* 『日本の天文学』, Iwanami Shinsho 837, Tokyo, Iwanami Shoten 岩波書店, 1972, pp. 53-57.

by the Southern Barbarian[33] School? Hadn't he heard of the Christian solar calendar, whose improvements over the Julian calendar were explained in the *Genna Kokaisho*? Further, would it have been different had the missionaries presented the Copernican model instead of the Ptolemaic cosmology? The adoption of the Christian solar calendar would eventually happen at the beginning of Meiji, in the second half of the nineteenth century; couldn't it have happened in the seventeenth century?

3. The moral of the story

There is still another reason. Although it is outside the scope of this work to develop a sociological framework to explain the dynamics of behaviour in the Japanese society, nevertheless there are some basic characteristics of Japanese society without which the student of Japan, of its past and of its present, of its political, cultural and entrepreneurial life, cannot understand the events and their causal development and will be perforce left puzzled by them. Therefore, another motive to narrate Harumi's adventures is to use it as a pretext to present some basic characteristics of Japanese society that one should have in mind as he follows the process of transmission, rejection, and acceptance of western natural philosophy in Japan during the sixteenth a seventeenth centuries.

One of these important patterns is the permanent and strong desire for the inalterability of the present order, represented here by longevity of the Senmyō Calendar.[34] Another is the occasional vigorous impetus for change, represented by the

[33] The expression *Southern Barbarian School* will be used to describe the output of the cross-cultural transmission of learning made by missionaries, Jesuits and others, and by Portuguese merchants and seamen. This output was a school: a group of individuals, who accepted, practiced and taught Portuguese style astronomy and natural philosophy theories. This choice of words is the literal translation of the Japanese *Nanban gakuto* 南蛮学徒 used in the *Kenkon Bensetsu*. *Nanban* was used by the Japanese to designate first the Portuguese and later also the Spaniards. *Gakuto* means disciples, students or scholars. The *Kenkon Bensetsu* is itself one of the most important testimonials to the historical existence of this school.

[34] Japanese society is notoriously conservative. One modern scholar has exclaimed recently: "[t]he conservatives still run Japan." Roger Buckly, *Japan Today*, 3rd ed., Cambridge, Cambridge University Press, 1999, p. 27. In the late 1970s, to the question "Of the following ways of thinking about society, which is closest to your point of view?" 3% replied that "[t]he structure of society today should be changed overnight by revolution"; 4% answered "[t]he social system must be maintained at any cost"; and 89% choose "[t]he bad points of society should be reformed gradually." (Japan's) Prime Minister Statistical Office, *Public Opinion Survey Annual* 『世論調査年間』, Tokyo, 1979, p. 193. Japanese conservatism has been called "creative conservatism" by Sheldon Garon and Mike Mochizuki,

youthful enthusiasm of Santetsu.[35] A third is the strong reaction to the proposed changes, represented by the resistance to the Yamato calendar by the Imperial Palace, a reaction that some times can have curious twists as when the outmoded and clearly inappropriate Taitō Calendar is adopted. Another is that when change comes it usually has to dress itself in the clothes of a previous order, as the new calendar being published and annotated by the Tsuchimikado. Finally it illustrates also how protracted the process of deciding change can be in Japan.

To appreciate Santetsu's career and choices, the obstacles he faced and the alliances he forged, we need to have a basic model of the drivers and constrains of behaviour in Japanese society. Or, to be more precise, we need to understand the behaviour of the Japanese when they are immersed in the context of their own society. This will also help us to better understand how the natural world is perceived in the east and how different it is from that in the west, and why two radically different cosmologies have emerged in East Asia and in Europe.

The character and behaviour of the Japanese have baffled foreigners for a long time for its seemly constant inconstancy. As one anthropologist has remarked, when referring to the Japanese if one adjective is applied the opposite characterization has also to be introduced: "When a serious observer is writing about peoples other than the

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"Negotiating Social Contracts," in Andrew Gordon (ed.), *Postwar Japan as History*, Berkeley, University of California Press, 1993, pp. 145-166, as it is eager to incorporate innovations in science, industry, management and even in social mores that do not threaten the basic tenets of Confucianism concerning human relations. The endurance of this conservatism can be explained by the imposition of social discipline through the molding, not to say educative influence, of age and peer groups during the juvenile years and later; already in the 1930s it was remarked that "discipline and constraint, at least during their decisive stages, are imposed less from the outside, by men of greater age and terrifying authority, than by members of their own age group." Kurt Singer, *Mirror, Sword and Jewel: A Study of Japanese Characteristics*, New York, Braziller, 1973, p. 34. On this subject see also Robert J. Smith, *Japanese Society: Tradition, Self and the Social Order*, Lewis Henry Morgan Lecture Series, Cambridge, Cambridge University Press, 1983, especially pp. 122-124 and also the chapter "The Creation of Tradition". This chapter by Smith focus on one of the best examples of a conservative lead revolutions, that which lead to the fall of the Tokugawa in 1868. To this revolution it has been attributed "a powerful conservative tradition that dominated government and society in the twentieth century." Kenneth B. Pyle, "Meiji Conservatism", in Marius B. Jansen and John Whitney Hall, *The Cambridge History of Japan: the Nineteenth Century*, Cambridge, Cambridge University Press, 1989, pp. 674-720. Before that the Tokugawa regime was also a byword for conservatism, the very embodiment of a system designed to avoid political, social and economic change.

[35] The strength of the impetus for change when it occurs and the speed at which it can be implemented in Japan has long been object of considerable interest for social scientists. It can happen in a broad range of groups including the nation, business companies, and sport teams.

Japanese and says they are unprecedentedly polite, he is not likely to add, 'But also insolent and overbearing.' When he says people of some nation are incomparably rigid in their behaviour, he does not add, 'But also they adapt themselves readily to extreme innovations.' When he says a people are submissive, he does not explain too that they are not easily amenable to control from above. When he says they are loyal and generous, he does not declare, 'But also treacherous and spiteful.' When he says they are genuinely brave, he does not expatiate on their timidity. When he says they act out of concern for other' opinions, he does not then go on to tell that they have a truly terrifying conscience. When he describes robot-like discipline in their army, he does not continue by describing the way the soldiers in that Army take the bit in their own teeth even to the point of insubordination. When he describes a people who devote themselves with passion to western learning, he does not also enlarge on their fervid conservatism. When he writes a book on a nation with a popular cult of aestheticism which gives high honor to actors and to artists and lavishes art upon the cultivation of chrysanthemums, that book does not ordinarily have to be supplemented by another which is devoted to the cult of the sword and the top prestige of the warrior."[36]

On the other hand almost every trait found in Japanese society is interpreted differently depending on the observer: "What seems to some to be politeness is read as obsequiousness by others; what in one view is a passion for order is in another held to be hapless conformity; the dedication to work that so excites the admiration of many is elsewhere constructed as mindless surrender to paternalistic exploitation; even the most modest degree of self-assertion that is lauded by those who hope for change is denounced as rampant egoism by those whose goal is stability; what one finds to be expression of individuality, another takes to be evidence of unbridled selfishness."[37]

When studying an historical episode or dealing with the representative of a Japanese corporation one should always bear in mind three things: that the Japanese are human, women and men, just like the rest of us, with all the characteristics that humans

[36] Ruth Benedict, *The Chrysanthemum and the Sword: Patterns of Japanese Culture*, Boston, Houghton Mifflin Co., 1946, pp. 1-2.

[37] Smith, *op. cit.*, p. 5.

have;[38] that in any given situation it is probable that they will react differently from people of other cultures, especially western cultures; and that those differences spring basically from how the Japanese view man, society and nature and the relationship between them.[39] To characterise that view in the simplest way we may say that they view society as composed by groups, that they perceive hierarchies in any social group, and that it is as nodes of relations that everyone determines his or her appropriate behaviour.

3.1 Group orientation

The most basic principle to understand Japanese society is the importance and prevalence of what is sometimes called the group orientation of the Japanese, as opposed to the individual orientation of western cultures.[40] Groups are "bodies of people whose members, united in aims and interests, work with one another for goals which take priority over each individual's and all outsiders' interests."[41] Group orientation means that a society is viewed as composed by groups, not by individuals.[42]

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[38] Smith, *op. cit*., p. 5, recounts how in the course of a conference he was attending a scholar "exclaimed with evident satisfaction: 'There, you see? The longer we study the Japanese, the more human they become!'"

[39] Concerning the seamless connection between cosmology and the study of proper human behaviour see Chapter VII below.

[40] What I call here "group orientation" other scholars have called "group consciousness", "social preoccupation", etc. On the particular importance of group orientation in Japanese society see the above mentioned works by Benedict, by Smith, and also by Chie Nakane, *Japanese Society*, Berkeley, University of California Press, 1970; Douglas Moore Kenrick, *Where Communism Works: The Success of Competitive-Communism*, Tokyo, Charles E. Tuttle Co., 1990, (especially pp. 27-34); and by Takie Sugiyama Lebra, *Japanese Patterns of Behavior*, Honolulu, University of Hawai'I Press, 1976 (especially chapters 2 to 4). Kenrick prefers to use the term *clique* because the word "group does not convey with sufficient strength the tight manner in which the Japanese band together for mutual dependence and belongingness." (p. 27). In Lebra we can read in p. 2: "The overwhelming impression from literature, as well as from my personal observations, is that the Japanese are extremely sensitive to and concerned about social interaction and relationships. Among the different kinds of things people can relate to, the Japanese seem most sensitized to "social" objects, namely, other human beings, *hito* in Japanese (*hito* means both "person[s]" and "other person[s]"). When the individual experiences inner pleasure or pain, joy or suffering, hope or despair, he tends to be preoccupied with the relationship to some *hito*. I shall call their orientation 'social preoccupation.'"

[41] Kenrick, *op. cit.*, p. 27.

[42] "The entire [Japanese] society is a sort of aggregation of numerous independent competing groups," Chie Nakane, *op. cit.*, p. 106 (the entire chapter "The Overall Structure of the Society", pp. 90-107, is of interest to the understanding of this societal arrangement). See also Kenrick, *op. cit*., p. 27.

Groups are in turn composed by lower-level groups or by individuals.[43] On the other hand, for the past two hundred years in the nations of the west individuals have been considered the basic constituents of society. Any Japanese is first and foremost a member of a group, nowadays of several groups, the family, the school or the company, and the country. For most of Japanese history a lone individual, not integrated in any group, has not existed from the societal point of view. After the Second World War the legal rights have become enshrined in law and upheld when invoked. Still, even nowadays, if someone is not integrated in a family, a company, a neighbourhood association or any other formal group the chances are that his life will be one of wretched isolation and indigence. He may exist physically but does not belong to society and as a practical matter cannot interact with it.

The most basic group in Japan is the family, what is coherent with the thought of Confucius and the tradition of other East Asian societies, though with a particular emphasis in Japan.[44] In Japan, the family or "*ie* is a social group constructed on the basis of an established frame of residence and often of management organization."[45] While family is thought in China, India and the west as being defined mainly through the commonality of ancestors or through blood relationships, in Japan it is the commonality of residence that allows for frequent interaction amongst its members towards a common end that is the central defining characteristic.[46] And although the families are undeniably constituted by individuals, it is the family that has permanence while its individual members come and go through the fleeting circumstances of human life, through birth, marriage, divorce and death.[47] Even today the authorities do not keep records of individuals but of families. If you are adopted or if you marry into another

[43] Chie Nakane, *op. cit.*, p. 55, calls *sectionalism* to "the phenomenon of 'the creation of groups within a group'".

[44] "The basic unit of Japan through historic times has been the household 'extended' within its tight walls to include distantly related kin and non-relatives as well as immediate family members, all living in close proximity as a united family, working as a productive unit with an established hierarchy." Kenrick, *op. cit*., p. 28. See also "The Basic Cell… The Harmonious Family" in Jon Woronoff, *Japan: The Coming Social Crisis*, Tokyo, Yohan Publications, 1980, pp. 60-108.

[45] Nakane, *op. cit*., p. 4.

[46] *Ibid.*, p. 5-7.

[47] "The wife and daughter-in-law who have come from outside have incomparably greater importance than one's own sister and daughters, who have married and gone into other households." Nakane, *op. cit*., p. 5.

family your family group changes and so does your family name change, your personal name being moved from the record of one family to that of another.

Other important groups are neighbourhoods, artisans and traders guilds (replaced by trade unions and corporations in the last century and a half), and government bodies. Corporations are an especially interesting case in that they very closely fit in the above definition of *ie*, and thus may be considered as *quasi-families*.[48]

To be a member of a group has a reward: belongingness, which offers not only an identity but also security against *soto*, the outside world of nature and other "no-belonging" human beings.[49] On the other hand it requires responsible behaviour, empathy towards the other and it fosters and rewards dependency.[50] From this derives "the principle that there is no limit to the duty an individual Japanese owes to the group. 'It didn't happen on my watch' is simply not an excuse that cuts any ice in Japan. Both failure and success are team affairs in Japanese eyes, and of every member of a team, regardless of the quality of his personal performance."[51] This duty to one's group is *gimu*. There is no limit to *gimu*.

Groups usually bring stability to society, and are a powerful factor in making it conservative, and this is especially true in Japan. On one hand they impose rules of behaviour on their members. These rules have a permanence that transcends the life of a single individual and a persistence that arises from the tendency that new members have, once having internalized them, of passing them down to others as they rise in seniority and hierarchic position. On the other hand these rules are closely monitored, not by a distant authority but by close peers. However, groups may also constitute a disruptive factor of a society. Disruptive groups are usually new groups with novel ideas and practices that are not reconcilable with the values of the other groups and society at

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[48] See Rodney Clark, *The Japanese Company*, Tokyo, Charles E. Tuttle, 1987, pp. 35-41.

[49] Nakane, *op. cit.*, pp. 21-22.

[50] There is a vast literature on the psychology, sociology and philosophy of *amae*, or dependence. The indispensable references are Doi Takeo 土居健郎, *'Amae' no Kōzō* 『「甘え」の構造』, Tokyo, Kōbundō 弘文堂, 1971, which is translated into English as *The Anatomy of Dependence*, Tokyo, Kodansha International, 1973; and by the same author, *'Amae' Samazama* 『「甘え」さまざま』, Tokyo, Kōbundō 弘文堂, 1989.

[51] Robert C. Christopher, *The Japanese Mind: The Goliath Explained*, New York, Simon & Schuster, 1983, p. 53.

large. They easily appear and thrive when the social order is fluid, as was the case of *sengoku jidai* in Japan, and take active role in the shaping of a new order. However, once the social order starts to solidify, new groups are generally seen suspiciously and face strong barriers to acceptance. One clear example of this is the summons to denounce "men who plot changes and form parties or factions to carry them out" made by the *bakufu* in 1615 with the promulgation of the *Buke Shohatto* 武家諸法度.[52] The political rejection of Christianity and of Ō Yōmei 王陽明 (1472—1529.1.10, Wang Yangming) inspired Confucianism in seventeenth century Japan had much to do with the perception that the groups formed and agglutinated around these schools were a danger to the established societal relations and morals. This is clearly exemplified in the latter's case, where the *bakufu* did not object to the study, by individuals, of Yōmei philosophy but took swift and strong action whenever it became a group activity.[53]

3.2 Hierarchy

The second basic principle is hierarchy. Hierarchical groups are groups where vertical relationships are stronger than and dominate over horizontal ones. In Japanese groups the vertical relationships always dominates over horizontal ones.[54] Moreover, relationships that are considered horizontal in other cultures are perceived as vertical by the Japanese.[55] Therefore in Japan there is always a hierarchy among individuals inside each group, a hierarchy among the groups that compose each sector of human activity, a hierarchy between the groups that form a nation, and the Japanese even perceive the

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[52] Translation in George Sansom, *A History of Japan: 1615-1867*, Tokyo, Charles E. Tuttle, 1974, p. 8. In the same line consider also the following passage written by Hayashi Razan in *Sōzoku Kōki* 『草賊後記』 and cited in James McMullen, "Confucianism, Christianity, and Heterodoxy in Tokugawa Japan", *Monumenta Nipponica*, Vol. 65(1), 2010, p. 167, n. 72:「企新義結党其罪不赦」. This passage can be translated as: "the crimes of planning innovations in rites [or customs], and of forming factions [or groups] will not be pardoned." This translation is made based on the fact that the *gi* 儀, *rite*, that could be found in the *Buke Shohatto*, has been mistakenly changed to the homophonous *gi* 義, *meaning*.

[53] James McMullen, "Confucianism, Christianity, and Heterodoxy in Tokugawa Japan", *Monumenta Nipponica*, Vol. 65(1), 2010, pp. 149-195. See especially p. 171.

[54] See Nakane, *op. cit*., pp. 24-89, Benedict, *op. cit.*, pp. 43-75, Kenrick, *op. cit.*, pp. 75-81, Woronoff, *op. cit.*, pp. 31-34, Taylor, *op. cit.*, pp. 42-65.

[55] One example is that of siblings, generally thought of as a horizontal relationship in the west, but which is viewed in most situations as a vertical one in Japan.

existence of a hierarchy among nations. In a high-school, for example, there is a hierarchy among students as well among professors, and there is a hierarchy among high-schools. "[The Japanese] reliance upon order and hierarchy and our faith in freedom and equality are poles apart and it is hard for us to give hierarchy its just due as a possible social mechanism. Japan's confidence in hierarchy is basic in her whole notion of man's relation to his fellow man and of man's relation to State […]."[56]

Because of the group orientation described above it is understandable that the concept of individual rights arrived only recently to Japan. However for a long time there have been groups' rights (rights of families, rights of villages, rights of guilds, etc.) and hierarchical rights. These hierarchical rights are one's share in the rights of the group and depend on one's position in the hierarchy. It bears stressing that these rights are not of the person but of his position in the hierarchy. When someone changes his position in the hierarchy he leaves his old rights and acquires new ones.

Besides rights hierarchy establishes obligations and duties. The number of concepts pertaining to obligations and the variety of words used to express those different types of duties is indicative of how powerful the Japanese hierarchical system is to control behaviour. Contraposed to *on* 恩[57], the benefits received passively, there are *gimu* 義務 and *giri* 義理[58]. *Gimu* is an obligation that is never properly fulfilled and includes *chū* 忠[59], the obligations towards the Emperor, the country, and the law; and *kō* 孝[60], the duties towards ancestors, parents, and through the duty towards one's family, it is also a duty towards one's descendents. *Kō* and *chū* are obligations incurred by being born inside the group, and the fullest effort towards the repayment of the favour

[56] Ruth Benedict, *op. cit.*, p. 43. Pp. 43-75 are one of the most clear and forceful description of the importance of hierarchy in Japanese social life.

[57] "Von. Megumi. *Benefício*. ¶ Vonuo fôzuzu. Pagar, ou retribuir os beneficios. ¶ Von, l, Vonxŏuo atayuru, l, fodocosu, l, qisuru. *Fazer merces.* ¶ Vonuo cŏmuru. *Receber beneficios*. ¶ Vonuo xicaquru. *Fazer beneficios, ou prouocar com beneficios a alguem*. ¶ Vonuo qiru. *Receber merces*. ¶ Sonatano vonuo qinu. *Não tenho que vos agradecer, ou não vos deuo nada*. ¶ Vonuo xiru. *Ser grato, ou conhecer os beneficios*. ¶ Vonuo xiranu. *Ser ingrato*. ¶ Vonni qisuru, l, vonni xicaquru. *Fazer algum beneficio a alguem mostrando lhe que lho faz.*" Vocabvlario, fl. 281v.

[58] "Guiri. [...] ¶ *Item, Primor*. Vt, Guirino fucai hito. *Homẽ de grande primor*." Vocabvlario, fl. 119v.

[59] "Chù. *Seruiço*. ¶ Chù aru fito. *Homẽ que tem feito muito seruiço*." Vocabvlario, fl. 51.

[60] "Cŏ. *Obediencia de filho pera o pay, ou mãy*. Vt, Qimini chufucacu, bumoni cŏ aru fito. *Homem de seruiços pera com o senhor, & obediente aos pais*." Vocabvlario, fl. 52.

received from one's sovereign, one's country, or one ancestors' cannot be more than a partial one. *Gimu* also includes *ninmu* 任務 the obligations towards the organization where one works, which also is not possible of being totally fulfilled. It might be worth to note that only superiors can bestow *on*. It is not possible for someone hierarchically inferior to perform *on* on a superior. The father feeding the son is *on*. The son feeding the father is *gimu*, more concretely, it is *kō*. The general saving a soldier in battle is *on*. The soldier saving the general in battle is *gimu*, more concretely, it is *chū*. *Giri*, on the other hand, is susceptible of repayment and should be repaid with mathematical equivalence. It can be regarded as a mechanical like reciprocity for favours received from one's professional and personal relations: it is the application of the principle *you scratch my back, and I'll scratch yours*. It may be roughly divided into two main categories: *giri*-to-the-world and *giri*-to-one's-name. This last includes one's duty to clear one's reputation from insult or any other slight, the duty to admit no professional failure or ignorance, and one's duty to lead a respectful life. These broad duties include other more precise duties. For example the duty to lead a respectful life obliges one not to display inappropriate emotion, not to live above or, for that matter, below one's station in life, etc.[61]

As an example consider the following episode occurred in the sixteenth century:

"Nesta mesma conjunção quiz Nobunanga fazer huma festa mui nobre e assinalada para mostrar como ou[t]ro rey Assuero sua Gloria, para a qual se ajuntarão no Miaco todos os principes e senhores de seo estado, [... n]a qual festa Nobunanga mandou particularmente que se achasse o P.^{e} Vizitador com todos os Padres e Irmãos, fazendo-lhe dar para isso hum logar acomodado e decente à maneira de palanque, para se poder ver de alto, do que se não podião os Padres escuzar por não ser Nobunanga pessoa a quem se podia replicar, especialmente tendo-se isto dos christãos por mui especial favor".[62]

In this case Nobunaga was bestowing *on* on the missionaries by inviting them to his party and therefore honoring them "por mui especial favor". On their hand, the missionaries, whose preferences seem to have been to stay discreetly absent if possible, could not refuse this *on* without insulting their benefactor and protector, as a benefit

[61] Ruth Benedict, *op. cit*., pp. 114-132.

[62] História, vol. III, p. 255.

refused becomes an insult. Had they done this Nobunaga would have incurred *giri*-to-his-name, the duty to repay the insult. By being present the missionaries were in turn incurring *giri*-to-Nobunaga, duty to repay the favour of inviting them. They could do this by sending afterwards a "small" present. Why did the missionaries seem to wish staying away from their friend in his moment of glory? Because as a rule one tries to avoid the obligations of *giri*: "'*giri*' runs the Japanese saying, is 'hardest to bear.'"[63]

Another interesting historical example of an attempt to impose *giri* also involved Nobunaga. The Imperial offer made to him of one of three positions, those of *daijō-daijin*, *kanpaku* and shogun was an essay of co-option through nomination to a symbolic position with the correspondent imposition of *on* and the accompanying *giri*. This manoeuvre had been successfully used by the court for several centuries before Nobunaga, and would also be used later with the intended effect of bringing a rising and unrestrained power into the restraining framework of hierarchy. The interest of this example arises from the ostensible avoidance displayed by Nobunaga of accepting the offer and being caught inside a complex of formal and implicit duties.[64]

The basic social hierarchy has changed profoundly after the Meiji Revolution,[65] but has left in intact the importance of hierarchy in structuring human relations. In the sixteenth and seventeenth centuries Japanese society was composed of four classes. On the top were the samurai, or warriors. Then came, in descending order, the farmers, and the artisans and, at the very lowest level of society, the merchants.[66] This is similar to

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[63] Benedict, *op. cit*. p. 133. See pp. 133-144 for an analysis of *giri*. Notice that in the definition of *on* given by the Vocabvlario and transcribed above "Vonuo cŏmuru. *Receive benefits*" could be translated more literally as *suffer benefits*. Notice also that "vonuo xicaquru" may mean both *benefit someone* and *provoke or anger someone*.

[64] This episode is refered by João Paulo Oliveira e Costa, *O Cristianismo no Japão e o Episcopado de D. Luís Cerqueira*, Ph.D. Dissertation, Lisboa, Universidade Nova de Lisboa, 1999, "O sonho de um Japão Cristão", where Nobunaga is very appropriately described as a "revolucionary personality".

[65] According to Jacques Barzun, *From Dawn to Decadence: 500 Years of Western Cultural Life, 1500 to the Present*, New York, HarperCollins, 2000, p. 3, revolution is "the violent transfer of power and property in the name of an idea." The Meiji Restoration thus classifies as a Revolution. A classic presentation of modern Japanese society is Chie Nakane, *op. cit.*, especially pp. 87-103. See also *Japanese Society Today: Perspectives on Tradition and Change*, Kotaku Ishido and David Myers (eds.), Rockhampton, Central Queensland University Press, 1995.

[66] For a description of the social system during the Tokugawa see, Wakita Osamu, "The Social and Economic Consequences of Unification", *The Cambridge History of Japan: Early Modern Japan*, Cambridge, Cambridge University Press, 1991, especially pp. 121-125.

the Chinese and Confucian view of society with one main difference. The upper class was not composed by scholar-bureaucrats as in China but by the samurai. However it should be noted that in the Tokugawa period the samurai rapidly became the bureaucrat and then the scholar. In each four classes there were hierarchies but let us just briefly focus on the upper one for illustrative purposes. On the apex was the shogun. Below him were the daimyo, and below them were the several other ranks of samurai. One should not be deceived into thinking that in the same category all the samurai were of a similar status. Two samurai of the same rank could enjoy widely different status depending on a host of factors, the most important of them being the status of the fief (i.e., group) he was allotted to. The daimyo also had their hierarchy: first came the *sanke*, the daimyo of the Tokugawa house, then the *fudai* daimyo, those whose families had allied to the Tokugawa prior to the victory in the Battle of Sekigahara, and then the *tozama* daimyo, those of all the remaining houses. Each one of these groupings had in turn their pecking order, and so on.[67]

It should be noticed that status did not, and still does not, depend on wealth or economic power, and vice-versa. A few merchants in the eighteenth and nineteenth centuries became richer than most daimyo, but they still remained at the lowest level of society even if they enjoyed the pleasures of life to an extent few daimyo could attain. As Gaspar Vilela (c. 1526—1572) wrote back in 1557: "E posto que hum lavrador ou mercador seja muito riquo não tem mais valia que de lavrador ou merquador. Não pode casar com fidalgo, e o fidalgo, posto que pobre, não perde sua valia."[68]

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[67] For a detailed analysis se John Whitney Hall, "The *Bakuhan* System", *The Cambridge History of Japan: Early Modern Japan*, Cambridge, Cambridge University Press, 1991, pp. 128-162.

[68] Letter of Gaspar Vilela to the Jesuits in Portugal dated October 29, 1557, Documentos, p. 705. Vilela was born in Aviz. He was educated by Benedictine monks. He entered the Jesuits in 1553, already a priest. He was one of the members of the group that came to Japan with Father Barreto. After working in Hirado and Hakata during 1557 and 1558 he started the mission in Miyako, Sakai, Nara and other places in the central regions of Japan. He baptized Yūki Tadamasa 結城忠正 (fl. middle of sixteenth century), Lord of Yamashiro, Kiyohara no Shigetaka 清原枝賢 (Eishō 17—Tenshō 18.11.15, 1520—1590.12.11), and Takayama Hida-no-Kami 高山飛騨守 (?—Bunroku 4, ?—1595). It was also Vilela that built the first church in Nagasaki. He went to India to recruit new members to the Japan Mission and died there without being able to return to Japan. He was perhaps one of the earlier missionaries that best understood the language and the customs of the country. See Ebisawa Arimichi, *Keiki Kirishitan Shiwa: Nihonjin Iruman Rorenso no Sokuseki wo Tadoritsutsu*, 『京畿切支丹史話：日本人伊留滿ロレンソの足跡を辿りつつ』, Tokyo, Tokyo-do 東京堂, 1942, and Hubert Cieslik, "Gaspar Vilela, The Apostle of Miyako", *Monumenta Nipponica,* Vol. VIII, 1954, pp. 111-121.

Finally it should be noted that during the Tokugawa period there were some groups that were outside the hierarchy: they were not above it, nor below it, but outside. Most notably was the Tennō 天皇, or Emperor, his family and his courtiers. The court retained high prestige and authority in granting titles and performing its religious functions. The Tennō continued to be considered divine in the sense that Izanagi-no-mikoto, his divine forefather, was divine. While the legitimization for the shogun's rule was made through Zhuzi's 朱子 (1130—1200) formulation of the Way of Sovereign, and he ruled according to the Mandate of Heaven, the justification for the existence of the Tennō was found in Shintō, in his lineage from the founding gods of Japan.[69]

Members of the Buddhist clergy and scholars were also outside the social hierarchy and, for the most part, were not constrained by the regulations pertaining to it. Finally there were the untouchables, who lived outside society, were not considered to be part of it, and were not even considered to exist. They lived together in small villages outside the towns where humans lived, but their hamlets were not even recorded in maps. Still, they performed valuable services to society as collectors of night soil, by working as tanners and as executioners.

One last word concerning hierarchy: it has been noted that it does not bear direct relation to economic power. It should also be stressed that it also does not bear a clear relation to decisory power.

3.3 Node of relations

The third basic principle is the importance of individuals as nodes of relations. In a Japanese group the person is not considered as an individual: instead he is defined by the set of relations that tie him to the group (as well as by those that make him the contact point between his and other groups). Therefore a person does not maintain a unique identity across social settings. Rather it changes with the group, because in the different groups he belongs to his nodes of relations are bound to be different. This, of

[69] We are simplifying an ideology that was complex in structure and evolutionary in time. For a perspective on the Tokugawa theories on society and hierarchy see David M. Earl, *Emperor and Nation in Japan: Political Thinkers of the Tokugawa Period*, Seattle, University of Washington Press, 1964; Maruyama Masao 丸山眞男, *Nihon Seiji Shisōshi Kenkyū* 『日本政治思想史研究』, Tokyo, Tokyo Daigaku Shupankai 東京大學出版會, 1952; Tetsuo Najita 奈地田哲夫, *Japan: the Intellectual Foundations of Modern Japanese Politics*, Chicago, University of Chicago Press, 1980.

course, is not uniquely Japanese but is shared by all societies with a Confucian matrix. "[F]or the early Confucians, there can be no me in isolation, to be considered abstractly: I am the totality of roles I live in relation to specific others. […F]or Confucius I am my roles. Taken collectively, they weave, for each of us, a unique pattern of personal identity, such that if some of my roles change, the others will of necessity change also, literally making me a different person." [70] The Confucian five basic relations were: between ruler and ruled; between father and son; between husband and wife; between elder brother and younger brother; and between friend and friend.[71] These relations established mutual responsibilities. For example the ruled owed the ruler obedience and the ruler owed benevolence to the ruled. Furthermore, in a Japanese group, he who has the greatest possibility to create consensus is the one who has greatest decisory power even if he does not hold the highest hierarchical position. When a woman enters a family through marriage she is linked to the family by just one link, that with her husband. Her hierarchical position and her power within the family are perforce low. But when a son is born she acquires a second link, and another one by the birth of each new child. When her son marries, this particular link will become more important. If she can establish trust links with other members of the household the number of her links will increase. If she can use these links to build consensus by *nemawashi*, or dig around the root, her power will increase, and she can even become the most powerful member of the family. However, her status will never surpass that of her husband or of her son.

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[70] See H. Rosemont, Jr., "Rights-Bearing Individuals and Role-Bearing Persons", in *Rules, Rituals, and Responsibility: Essays Dedicated to Herbert Fingarette*, LaSalle, Open Court Press, 1991, p. 90. On the development of this topic and its relation of human rights see also Anthony C. Yu, *Comparative Journeys: Essays on Literature and Religion East and West*, New York, Columbia University Press, 2009, pp. 312-350.

[71] The enlightenment concerning these relations is actually attributed by Chinese tradition to Emperor Fuxi, after his study of *Kenkon*, the Heaven and the Earth. See excerpt of Lu Jia's (?— 170 BC) *New Discourses*, in Chapter VII below. On the other hand, according to Padre João Rodrigues, reason and these five relations are also the basis of society in Europe as they were in China and Japan. Speaking with a Mandarin in Caton he reports having said that: "que nossa lei se chamava a lei do verdadeiro Deus do Ceo e da Terra, a qual ensinava a seguir o bem e fugir do mal, e era differente da seita dos pagodes, e que em nossa terra Europa não avia mais que esta so lei que no que tocava a seguir a lei natural, e como ella governar os reinos, conforme o pede a razão, e a observação das cinco ordens de pessoas, em que repartem seu moral (que he obrigação que ha entre senhor e vassalo, pay e filho, marido e molher, irmão mayor e menor, e a ordem entre os iguais", annual letter of the Colégio de Macau, January 27, 1616, in João Paulo Oliveira e Costa (direction and introductory study) and Ana Fernandes Pinto (paleographic transcription), Cartas Ânuas do Colégio de Macau (1594—1627), Macao, Comissão Territorial de Macau para as Comemorações dos Descobrimentos Portugueses, 1999, p. 153,

Some corollaries follow from these principles. A first one is that an individual's actions, besides being his own, are also his groups' actions. If a high-school student during his Summer vacation steals or kills, the high-school is also responsible for that crime, nowadays not legally, but still responsible from a societal perspective. In Tokugawa times, if someone confessed to be Christian, all members of his household were also held accountable. And not only of his household but also the group of five families his family was assigned to—its *gonin gumi*.

A second corollary is that the head of the group is the representative of the group, even if he has no actual decisory power. As a consequence it is him who formally takes responsibility for the group actions. Therefore, to continue with the previous example, it is usual that the high-school principal resigns to take responsibility and wash away the high school's shame for the crime of its student. In previous times he would commit *seppuku*, or suicide by disembowelment, an action that would wash away the shame of the group and usually save it from broader and harsher penalties.

A third one is that a person's standing depends on the standing of the group or groups he or she belongs to that is relevant to the situation at hand. The higher the standing of the family the higher the standing of wife and children; the higher the standing of a bureau the higher the position of its head as well as that of its second class official.

A forth is that there should be reciprocity according to the relation. If the sovereign can expect loyalty he should also offer protection to the subject. "Giri to one's lord demanded utmost loyalty until the lord insulted his retainer; afterward no treachery was too great."[72]

Finally, harmony is the central value of Japanese society. It is not by mere chance that the character *wa* 和, meaning *harmony*, is the character used to designate Japan and everything essentially Japanese. As Confucius, or Master Kō 孔子 (552/551BC—479 BC), left written in his *Greater Learning*: "Their persons being cultivated, their families were regulated. Their families being regulated, their states

[72] Ruth Benedict, *op. cit*., p. 196.

were rightly governed. Their states being rightly governed, the whole kingdom was made tranquil and happy."[73]

3.4. Homeostatic Socio-Cognitive Systems

We have argued that the behaviour of the Japanese in Japan can be understood with recourse to three basic principles. These will help us understand the history of the country in general and the episodes that compose it in particular. Moreover, they may also help elucidate the main question of interest here: what were the obstacles that western cosmology and natural philosophy had to face when they were introduced to the Japanese in the sixteenth and seventeenth centuries?

Is it possible to assume that if social structures and practices are different, the attention paid to natural phenomena will also be different? And that as a consequence the metaphysics will be dissimilar too? And will the social structures help to understand the metaphysics? According to cognitive psychologist Richard E. Niesbett the answer to all these questions is yes: "The social practices promote the worldviews, the worldviews dictate the appropriate thought processes; and the thought processes both justify the worldviews and support the social practices."[74]

According to a simplified version of his Homeostatic Socio-Cognitive Model social structure will direct attention, attention will affect world view, world view will influence epistemology and this one will guide the cognitive processes. Cognitive processes will then affect epistemology, world view, attention and this will feed back on the social structure. In other words, depending on the structure and workings of society the same phenomena, social or physical, will be perceived differently and different explanations will be given for them.[75]

In keeping with this theory, given the characteristics of their society, "the Greeks viewed themselves as unique individuals, with distinctive attributes and

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[73] James Legge, *Life and Teaching of Confucius*, Philadelphia, J. B. Lippincott & Co., 1867, p. 266.

[74] Richard E. Nisbett, *The Geography of Thought: How Asians and Westerners Think Differently…and Why*, New York, Free Press, 2003, p. xx.

[75] *Ibid*, pp. 32-39.

goals."[76] This nurtured a tradition of debate, which eventually was continued in the twelfth and thirteenth century scholasticism, and also gave rise to a strong curiosity about the natural world.[77] "[A]mong the Greeks the astronomer was a private person, a philosopher, a lover of the truth, as often as not on uncertain terms with the priests of his city."[78] Furthermore the individualistic nature of Greek society, and later of western societies, leads it to focus on particular objects in isolation from their context and to the belief that rules that govern the objects can be known.[79] The premise here is that if I see other people as individuals whose behaviour is pretty much independent of the social setting they are immersed in, then it is coherent and normal that I analyse a natural phenomenon as being very much unrelated to the setting where it takes place. Also, the individualistic nature of Greek society leads naturally to the development of debate and to the early formulation of rules concerning debate. From these rules sprang logic. The development of logic led in turn, through Parmenides and Zeno, to another characteristic of Greek thought: the reasoned conviction that there is perfection in immutableness and that in some way there is no change in the Universe.

On the other hand the group orientation of Confucian societies, with their stress in harmony and interdependence, gave rise to a natural philosophy that did not consider phenomena in isolation and explains that phenomena according to continuous and harmonious change. "The Chinese philosopher would see a family with interrelated members where the Greek saw a collection of persons with attributes that were independent of any connections with others. Complexity and interrelation meant for the Chinese that an attempt to understand the object without appreciation of its context was doomed. Under the best of circumstances, control of outcomes was difficult."[80]

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[76] *Ibid*, p. 3.

[77] *Ibid*, p. 4.

[78] Ronan, *op. cit*., p. 67.

[79] This is what G. E. R. Llyod, *Early Greek Science: Thales to Aristotle*, New York, W. W. Norton, 1970, p. 8, calls the "discovery of nature" by the Greeks, by what he means, "the appreciation of the distinction between the 'natural' and the 'supernatural', that is the recognition that natural phenomena are not the products of random or arbitrary influences, but regular and governed by determinable sequences of cause and effect."

[80] Nisbett, *op. cit*., p. 19.

Therefore, instead of immutableness, East Asian natural philosophy stresses the never ending cycle of opposite qualities *yin* and *yang*, that is, the dark and the clear, the negative and the positive or, as we will call them later, the *telluric* and the *solar*. Though opposites, *yin* and *yang* give rise to each other: so they are interdependent, their increase and decrease is not linear but circular, and thus harmonious. This cycle is extended to the *five phases* of wood, fire, earth, metal, and water, which are not elements with unchanging essences but successive stages in the material world, and then also to the harmonious production of life and death as it is typified in the never ending cycle of seasons.[81] Furthermore, for the Chinese the natural and the supernatural, insofar as the moral can be considered beyond nature, are considered to be closely related.

Hence the Japanese and the Chinese stress the need to see the whole picture, instead of a particular object or phenomenon in isolation: "the fundamental relatedness of all things made it obvious to them that objects are altered by context."[82] The Japanese in special are notorious for seeing objects in relation to their environment, not in their conceptual but physically non-existent isolation. It has been pointed that, for the Japanese, a branch is never just a branch but a branch of a certain tree, or at least it is the branch of a species of tree.[83] In the same way a brother has to be either an elder brother or a younger brother, and he cannot be just a brother. Therefore, the world is not a collection of discrete and separable objects but an organic mass of things each related to the others. Also nature is not the universe minus Man. So, if the Emperor does something immoral, he destroys both human and natural harmony, and an unexpected eclipse will reveal this. Therefore the scholar when studying human affairs will pay attention to physical events and when inquiring about material phenomena will consider the social developments. To this it should be added that keeping character with the importance it attributed to harmony, in the eastern tradition, debate did not play the central role it had in the western schools. Instead, the process of transmission and development centred on the vertical relation between student and master.[84] Contrary to what happened in Greece, learning in China, and especially astronomical learning, was

[81] *Ibid*., pp. 13-17.

[82] *Ibid*., pp. 23-24.

[83] Edward Seidensticker, *This Country, Japan*, Tokyo, Kodansha International Ltd., 1984, p. 1.

[84] See, G. E. R. Lloyd, *Adversaries and Authorities: Investigations into Ancient Greek and Chinese Science*, Cambridge, Cambridge University Press, 1996, pp. 20-46.

developed not by individuals but by groups. "[I]n China [… the astronomer] was intimately connected with the sovereign pontificate of the Son of Heaven, part and parcel of an official government service, and sometimes ritually accommodated within the very walls of the imperial palace."[85]

Summarizing, the individualism of western societies and groupism of East Asian ones are associated with epistemologies and cosmologies that fit the demands of their respective societal arrangements. Would Aristotle had the chance to travel to China at the time Confucius was teaching You Zi 有子 and Zeng Zi 曾子[86], what would he have told them? And what would he have heard in reply? The answer to this question is not only of merely academic interest as East Asian and western civilizations have come to live closer and closer both out of choice and necessity.

In a way Aristotle has already travelled to the east several times. We now turn to the first historically recorded meeting these two great philosophers had. It was Aristotle who travelled east because Confucius, just as "[t]he people of Japan and China […] are satisfied in themselves, and do not suffer the hardships of long trips"[87] would not willingly leave East Asia before the era of jet travel.[88] Aristotle travelled in a Portuguese *nau*, and was introduced by Jesuit priests. The place was Japan; the time was the sixteenth century.

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[85] Ronan, *op. cit.*, p. 67. Very much the same thing can be said about the astronomer in Japan, allowing for some minor differences in status and resources.

[86] Better known in English translations of the Analects as respectively Yu Tzu and Tseng Tzu. See Confucius, *The Analects*, D. C. Lau (trans.), London, Penguin Books, 1979.

[87] Mukai Genshō, *Kenkon Bensetsu*, first volume, paragraph 9. The classical example of this distate of Japanese to travel abroad is that of Sugawara no Michizane 菅原道真 (Shōwa 12.6.25—Engi 3.2.25; 845.8.1—903.3.26), the foremost Chinese scholar of his time, Doctor in Letters, head of the academy for Confucian studies, who did not accept the nomination to lead an embassy to China: "despite his lifelong love of things Chinese, [he] had no […] desire to see the actual country", Ivan Morris, *The Nobility of Failure: Tragic Heroes in the History of Japan*, New York, Holt, Rinehart and Winston, 1975, p. 49.

[88] Not many Confucian scholars travelled to the west to teach their philosophical system before the end of World War II—at least not in the numbers of Jesuit missionaries in sixteenth century Japan. Confucian texts reached Europe in the seventeenth century, prisoners of Jesuits' translations and slaves to illuminists' interpretations.

CHAPTER II — A HISTORICAL PERSPECTIVE ON THE MISSION

Western natural philosophy and astronomy were first introduced into Japan thanks to the missionary activities of the Jesuits. Before presenting the history and contents of the *Kenkon Bensetsu*, the main scientific legacy of the Jesuits in Japan, it is convenient to have a brief look at the historical conditions and events that made possible its transmission. This is what is attempted in this chapter. I will also use this opportunity to refer to some areas of Japanese society and culture where it can be argued that Portuguese and Jesuits had an influence.

1. A confluence year[89]

Occasionally there are confluence years when a cluster of autonomous and apparently unrelated events occur closely together and whose consequences will eventually merge to profoundly influence the future course of history. 1543 was one of those confluence years when a series of diverse but important events to the posterior development of natural philosophy in Japan took place. At the end of January, in the small feudal castle of Okazaki, Takechio 竹千代 was born to Matsudaira Hirotada 松平広忠 (Daiei 6.4.29—Tenmon 18.3.6; 1526.6.9—1549.4.3), a young and minor regional baron. At the end of May, in a monastery at Frauenburg, near the Baltic Sea, a learned but timid Polish Canon received in his deathbed one volume of his recently printed astronomical treatise. In September, around the day of the autumn equinox, three Portuguese landed on a beach not far from Cape Kadokura in Tanegashima Island, territory under the jurisdiction of the descendents of Taira no Nobumoto 平信基 (*fl.* 1200). Around that same time, the son of a Basque nobleman was discussing morals and theology with the Brahmins of the large, ancient and pompous Suchindram Temple, not far away from Cape Camorin. Sometime later a young Belgian finished the printing of his beautifully illustrated anatomical book in the shop of Joannis Oporini in Basel.

[89] I was inspired to write this section after reading the first six paragraphs of an article by Akihito, His Majesty the Emperor of Japan. The reference is: Akihito, "Early Cultivators of Science in Japan", *Science*, vol. 258, 1992, pp. 578-580. The remaining paragraphs of this excellent if compact article are also one of the best and shortest descriptions of the history of modern science in Japan.

Although impressed with the temple buildings, Master Francisco Xavier left Suchindram more astounded with the bad faith of the priests of Shiva and the ignorance of their followers.[90] Through this and other similar experiences in India he became aware of the poor quality of his mission field, and would start to pay close attention to the news and appraisals sent to him and to his fellow missionaries by Portuguese merchants and adventurers concerning the peoples they came into contact with during their exploits.[91]

It wouldn't take long for Xavier to receive accounts from a yet unheard people living in a large group of islands where three adventurers, probably António Mota, Francisco Zeimoto and António Peixoto, had landed.[92] The reports were unanimous.

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[90] About Xavier visits to the several temples in the region of Cape Camorin, see Georg Schurhammer, S. J., *Francis Xavier: His Life, His Times*, Volume II, India (1541— 1545), M. Joseph Costelloe, S. J. (trans.), Rome, The Jesuit Historical Institute, 1977, pp. 354-359.

[91] João Paulo Oliveira e Costa, *O Cristianismo no Japão e o Episcopado de D. Luís Cerqueira*, Doctoral Thesis, 1998, pp. 86-88 argues that Xavier not only wished to leave India but was willing to consider the transfer of the Jesuits to Japan: "Desiludido com as condições de trabalho na Índia e com as dificuldades em converter muçulmanos e hindus, Xavier, ao partir para o Japão admitia transferir a Companhia para o Extremo Oriente." This is established with Xavier's words in a letter written from Malacca to the Jesuits in Goa in June 20-22, 1549: "Estai prestes todos, porque, se achar disposição em Japão donde possais fazer mais fruito que na India, logo vos escreverey a todos: a muitos de vós outros escreverei primeiro que venha[m] donde eu estou." G. Schurhammer S. I. and I. Wicki S. I. (ed.), *Epistolae S. Francisci Xaverii Aliaque Eius Scripta*, vol. 2, Romae, Monumenta Historica Soc. Iesu, 1996, p. 129. For some other citations from Xavier's letters that show his opinions concerning the quality of the mission field in India see Chapter III, Section 2.

[92] Concerning the identity and year of arrival of the first Portuguese to Japan the more reliable view seems to be Georg Schurhammer, S.J., "O Descobrimento do Japão pelos Portugueses no Ano de 1543", *Anais da Academia Portuguesa de História*, Ser. 2, 1 Lisboa, 1946, pp. 1-172, which we follow here. The same view is presented in Kiichi Matsuda, *The Relations Between Portugal and Japan*, Lisbon, Junta de Investigações do Ultramar and Centro de Estudos Históricos Ultramarinos, 1965, pp. 2-3, and by Charles R. Boxer, in *The Christian Century in Japan 1549-1650,* Berkeley, University of California Press, 1951, pp. 18-27. A competing view, demised by Schurhammer, holds that the adventurer was Fernão Mendes Pinto (1514?—1583); see Mendes Pinto's *Peregrinação*, Lisboa, Publicações Europa América, 1983, chps. 132 and following, and his other narration as recounted by Father Maffei (cited in Boxer, *op. cit*., pp 22-23). That Mendes Pinto could hardly have been in Japan in 1542 and 1543 can be inferred by his claim to have been an eyewitness to the fall of Prome, in Burma, in 1542, before visiting Goa, and then sailing to the coast of China. The first version, advanced by António Galvão in his *Tratado dos Descobrimentos* of 1563 holds that the adventurers were António Mota, Francisco Zeimoto and António Peixoto who "viram hua ylha em trinta & dous graos, a que chamam Iapões, que parecem ser aquelas Sipangas de que tanto falam as escrituras, & de suas riquezas", cited in João Paulo A. Oliveira e Costa, *A Descoberta da Civilização Japonesa pelos Portugueses*, Instituto Cultural de Macau and Instituto de História de Além Mar, p. 164. In the English version: "In the yéere of our Lord 1542. one Diego de Freitas being in the realme of Siam, and in citie of Dodra as captaine of a ship, there fled from him three Portugals in a Iunco (which is a kind of ship) towards China. Their names were Antony de Mota, Francis Zeimoto, and Antony Pexoto, directing their course to the citie of Liampo, standing in 30. and odde degrees of latitude.

The Japanese were conscientious, curious, diligent, enthusiastic, hospitable, industrious, inquisitive, keen, noble and reasonable, adjectives he could not use on the peoples he had tried to evangelize up to that moment.

Although the former student of the University of Paris probably never had the chance of hearing about Canon Nicolas Koppernigk nor of his new planetary theory, he was knowledgeable about the most recent advances of European astronomy and natural philosophy.[93] Moreover he was certainly one of the most well-informed and articulate representatives in Asia of European scholasticism and of the philosophical and astronomical tradition that had its roots in Aristotle and Ptolemy.[94] Although his erudition would not be of any consequence in his missionary work in India and Southeast Asia, from Socorota to the Moluccas, or Spice Islands, it was armed with this body of knowledge that the *Magno Orientis Apostolo* and his fellow Jesuits would fish for converts in the lands where one day the young Takechiyo would become an absolute ruler. Similarly, it is highly improbable that he ever saw the engravings of *De Humani*

There fell upon their sterne such a storme, that it let them off the land, and in fewe daies they sawe an Island towards the east standing in 42. degrees, which they do name Iapan, which seemeth to be the Isle of Zipangri whereof Paulus Venetus maketh mention, and of the riches thereof. And this Island of Iapan hath gold, siluer, and other riches." *The Discoveries of the World from their first originall vnto the yeere of our Lord 1555. Briefly written in the Portugall tongue by Antonie Galvano, Gouernour of Ternate, the chiefe Island of the Malucos: Corrected, quoted, and now published in English by Richard Hakluyt, sometimes student of Christchurch in Oxford*. Londini, Impensis G. Bishop. 1601. See also João Rodrigues, *Historia da Igreja do Japão*, fl. 45. For a summary presentation of the two documental traditions concerning this question see João Paulo Oliveira e Costa, "Japão", *História dos Portugueses no Extremo Oriente: De Macau à Periferia*, A. H. de Oliveira Marques, Lisboa, Fundação Oriente, 2000, p. 383. The main Japanese sources concerning the circumstances of the arrival of the Portuguese are *Teppoki* 『鉄砲記』of Oshiyō Nanbo Bunshī 和尚南浦文之 (*fl*. early seventeenth century), *Sairan Igen* 『采覧異言』 of Arai Hakuseki 新井白石, and *Kyushu-ki* 『九州記』. In the first of these, one of the foreigners is named Mota, what reinforces Galvão version concerning the identity of the elements of the first group.

[93] *Dominus Franciscus de Xabier xamxilonensis dioceseos* received his Masters' Degree from the University of Paris on March, 1530 (*Acta Rectoria Universitatis Parisiensis*, Paris, Bibliothèque Nationale, *Mss. latins* 9952, 77v). It is well known what subjects he studied, what exams he passed and which professors he interacted with to get this degree. For details on his scholastic carreer see Georg Schurhammer, S.J., *Francis Xavier: His life, his times*, Volume I, Europe (1506-1541), M. Joseph Costelloe, S.J. (trans.), Rome, The Jesuit Historical Institute, 1973, pp. 77-147.

[94] For a classical and very accessible presentation of the evolution of European cosmology in the 16th and 17th centuries see Arthur Koestler, *The Sleepwalkers: A History of Man's Changing Vision of the Universe*, London, Hutchison, 1959. For a more technical exposition of astronomical techniques in this period see Albert Van Helden, *Measuring the Universe: Cosmic Dimensions from Aristarchus to Halley*, Chicago, The University of Chicago Press, 1985, or James Evans, *The History and Practice of Ancient Astronomy*, Oxford, Oxford University Press, 1998.

Corporis Fabrica or heard of the consequences of Andreas Versalius' (1514.12.31—1564.10.15) findings to the theories of Galen[95] (A.D. 129—A.D. 199/217) that all doctors had accepted up until then.[96] Still, the practice of medical acts according to those theories now discredited would earn many of his fellow missionaries such a high reputation that they would be sought as much as healers of the body as healers of the soul. As an old but well fitting suit is more elegant than a brand new one that is too short or too long, so old European theories in science and medicine, well understood and practiced consciously by the missionaries, would fell more authentic and would be better accepted by the Japanese than newer ones that were less well understood and were less congruent with their overall vision of the world.[97]

At the same time, the manufacture by the artisans of Tanegashima of high quality copies of the firearms introduced by Mota, Zeimoto and Peixoto, and their use by some Japanese chieftains with better tactical acumen, would gradually destroy the equilibrium that had existed for over a century between dozens of small rival daimyo.[98]

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[95] Aelius or Claudius Galenus.

[96] See C. D. O'Malley, *Andreas Vesalius of Brussels, 1514-1564*. Berkeley, University of California Press, 1964.

[97] I do not know of any missionary who considered the possibility of using in Japan the new astronomical or medical theories then appearing in Europe. The choice they made was obvious to them. Further, once having presented one system, the missionaries were bound to it, and certainly would have more to lose in reputation, than to earn, if they introduced new theories: most Japanese considered that truth is immutable and did not recognize the need to approach it through successive interactions of trial and error. In the Japanese tradition truth was received, not searched. Therefore they were naturally suspicious of those who kept changing their minds and theories. One of the best examples of this is presented by Entsu 圓通 (1754—1834) in his *Bukkoku Rekishō-hen* 『佛國曆象編』, 1810, where he argues: "The theories the Europeans had maintained in old times were all replaced in later years. How then could the theories that now prevail be vouchsafed to remain unreplaced for a century? If great men appear they are sure to advocate new and different opinions. But what necessity for such repeated renewals of scientific views? […] The comet was formerly taught by the Europeans as arising from the element fire that arises up from the earth. But in a new theory it was thought to be a wandering star, whose substance is transparent, which is illuminated by the sun to form the white shadow behind it." See Yoshio Mikami, "A Japanese Buddhist's View of the European Astronomy", *Nieuw Archief voor Wiskunde*, vol. 10, 1912, pp. 231-243.

[98] First in Satsuma, then all over the country. See Georg Schurhammer, S.J., *Francis Xavier: His Life, His Times*, Volume IV, Japan and China (1949-1952), Rome, The Jesuit Historical Institute, 1977, p. 59. João Paulo Oliveira e Costa, "Japanese Christians (16th -17th centuries): An Original Community", *Empires éloignés: L'Europe et le Japon (XVIe-XICe siècle)*, Dejanirah Couto and François Lachaud (ed.), Études Thématiques 24, Paris, École Française d'Éxtrême-Orient, 2010, pp. 109-117, says "that muskets introduced by the Portuguese were decisive in Oda Nobunaga's string of victories. His strategy disrupted the *Sengoku jidai 'Civil War'* stalemate and paved the way to the unification of the country under Toyotomi Hideyoshi in 1590, and to the beginning of the *bakufu* of Edo in 1603. Nobunaga skillfully

During the half century that followed their introduction, the military, political and economic power would become concentrated in a smaller and smaller number of increasingly powerful lords.[99] The price of the introduction of the musket would be increased mortality and injuries in the battlefield. Many of those injured would later seek the *padres* for physical cure and spiritual comfort.

From the beginning of the Christian mission started by Xavier to the early stages of its violent end decided by Tokugawa Ieyasu[100] 徳川家康 (Tembun 11.12.26—Genna 2.4.17, 1543.1.31—1616.6.2), the Shogun into whom Takechiyo would grow, the preaching of the Christian faith by the missionaries would be frequently accompanied by works of charity, including the healing of the sick and injured, and also with the presentation of natural philosophy and astronomy. Astronomy and natural philosophy

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adapted the use of muskets on the battlefield; an improvement that would not have happened without the Portuguese contribution." (p. 110).

[99] One example of a feudal chieftain who unified and gained control of his domain by the skilful use of firearms in a number of important battles is Matsura Takanobu 松浦隆信 (Kyōroku 2—Keichō 4. lap 3.6, 1529—1599.4.30) of Hirado; see Adam Clulow, "From Global Entrepôt to Early Modern Domain: Hirado, 1609-1641", *Monumenta Nipponica*, Vol. 65, no. 1, 2010, pp. 1-35. Concerning the military and political consequences of the introduction of firearms in Japan see also, for example, Olof G. Lidin, *Tanegashima: The Arrival of Europe In Japan*, Copenhagen, Nordic Institute of Asian Studies, 2002; Charles R. Boxer, "Notes on Early Military Influence in Japan, 1543-1583", *Transactions of the Asiatic Society of Japan*, Second Series, vol. 8, 1931, pp. 67-93; Delmer M. Brown, "The Impact of Firearms on Japanese Warfare, 1543-98", *Far Eastern Quarterly*, vol 7, n. 3, 1948, pp. 236-253; Hayashiya Tetsusaburō 林屋辰三郎, *Tenka ittō*『天下一統』, Tokyo, Chuo Koronsha 中央公論社, 1971; Hirayama Takeaki 平山武章, *Teppō Denrai Ki*『鉄砲伝来記』, Tokyo, Yaegatake Shobō 八重岳書房, 1969; Hora Tomio 洞富雄, *Tanegashimajū: Denrai to Sono Eikyō*『種子島銃：伝来とその影響』, Tokyo, Awaji Shobo Shinsha 淡路書房新社, 1958; Iizuka Kōji 飯塚浩二, "Tanegashima no Yurai: 'Teppō' Bunmeiron-Saisetsu"「種子島の由来：「鉄砲」文明論・再説」, in *Hikaku Bunkaron: Tōyō e no Shikaku to Seiyō e no Shikaku*『比較文化論: 東洋への視角と西洋への視角』, Tokyo, Heibonsha 平凡社, 1974. For an analysis of the writings of Frois concerning the musket see João Paulo de Oliveira e Costa, "A Introdução das Armas de Fogo no Japão pelos Portugueses à Luz da História de Japan de Luís Fróis", *O Japão e o Cristianismo no Século XVI: Ensaios de História Luso-Nipónica*, Lisboa, Sociedade Histórica da Independência de Portugal, 1999, pp. 71-86. About the process of political unification see, for example, Asao Naohiro, "The Sixteenth-Century Unification", *The Cambridge History of Japan*, vol. 4, John Whitney Hall (ed.), Cambridge, Cambridge University Press, 1991, pp. 40-95.

[100] About the life and career of Ieyasu see Takano Kiyoshi 高野澄, *Omokute Tōki Michi: Tokugawa Ieyasu* 『重くて遠き道: 徳川家康』, Tokyo, Kosaido Shuppan 広済堂出版, 1992; Conrad Totman, *Tokugawa Ieyasu: Shogun—A Biography*, South San Francisco, Heian International, 1983; Arthur Lindsay Sadler, *The Maker of Modern Japan: The Life of Tokugawa Ieyasu*, London, George Allen & Unwin, 1937; about the common misdating of his life see José Miguel Pinto dos Santos, "Ieyasu (1542-1616) Versus Ieyasu (1543-1616): Calendrical Conversion Tables for the 16th and 17th Centuries", *Bulletin of Portuguese-Japanese Studies*, vol. 5, 2002, pp. 9-26.

would be presented to the people in street preaching, to the faithful in doctrine classes, in sermons and in homilies, to the young in schools, to the Buddhist monks and Confucian scholars in debates. European astronomy and natural philosophy would become so closely associated with Christianity that the proscription of the latter will imply the prohibition of the former.

The publication of *The Revolutions* marked the beginning of the end of a cosmological system. The Ptolemaic model would still be taught for one hundred years in Europe. Nevertheless it would never again be held to be the indisputable truth about the Heavens. A new paradigm had become available to astronomers and slowly started to compete for supremacy first in academia, then in the public square. However, of the five threads mentioned above as coming together in 1543, the new coloration that Copernicianism and the new theories of the human body would bring to natural philosophy and medicine remained in a potential state during all of the *Nanban Century*. Still, the two threads of natural philosophy and medicine were there together with the other three and jointly they formed the cord that would pull Japan into the modern age. The ausence of the new colorations in astronomy and medicine reflects two facts. The first is that the Jesuits only introduced into Japan well known and proven things.[101] The second is the natural tendency of more abstract theories spreading more slowly than practical techniques. Concerning the first point, it should be recalled that the Copernican system could have been brought to Japan by the followers of Xavier, as eventually it was introduced into China by them.[102] Concerning the second point, about the slow penetration of more abstract ideas, we notice that neither Portuguese captains, nor English cape-merchants, nor Dutch doctors, some of them with university degrees

[101] Concerning the principles of introduction of western sciences into Japan Valignano recommended that "[s]ince in Japan there is no knowledge of any of our authors or our books […] it would seem meet and necessary to compose for the Japanese special books in all sciences, in which would be taught simply the gist of the matters at hand and the pure truths, well-founded with their proofs, without referring to the other divers and dangerous opinions." *Sumario de las Cosas de Japon (1583). Adiciones del Sumario de Japón (1592)*, José Luis Álvarez-Taladriz (ed.), Monumenta Nipponica Monographs, Vol. 9, Tokyo, Sophia University, 1954, p. 171. What applied to books applied also to other ways of imparting knowledge about western sciences. See also the discussion in M. Antoni J. Üçerler, SJ, "Jesuit Humanist Education in Sixteenth-Century Japan: The Latin and Japanese MSS of Pedro Gomez's 'Compendia' on Astronomy, Philosophy, and Theology (1593-95)", *Compendium catholicae veritatis: Commentaries*, Tokyo, Ozorasha 大空社, 1997, pp. 31-32.

[102] See Keizo Hashimoto, *Hsü Kuang–Ch'i and Astronomical Reform: The Process of the Chinese Acceptance of Western Astronomy 1629-1635*, Osaka, Kansai University Press, 1988.

earned over one hundred and fifty years after Xavier earned his, would not be able to carry the seed of Copernicanism into Japan. Jesuits, on the other hand, would never have been appropriate carriers of sixteenth century developments in medicine because, as a rule, they did not have specialist knowledge of the subject, just practical experience. Modern western medical knowledge would be brought into Japan by the doctors of the Dutch East India Company from the middle of the seventeenth century until well into the nineteenth century. Medicine would act then towards natural philosophy as natural philosophy had acted towards Christianity: as a maidservant who opened the door to her lady.

Maybe the above mentioned five events happened in the same year just by a caprice of fortune, or by the willing hand of God. Whatever that may be, all of them eventually became turning points. Some had immediate consequences; others were felt only after some generations. Some took place in Japan, others far away from it. For some, their power lay in the brute force of matter, for others in the subtle power of intellect. But the impact of all of them would one day be felt in Japan, and all would contribute to what Japan and its culture are today.

My objective is not to follow all the five but just one of them, the thread of natural philosophy represented above by Copernicus.[103] More specifically my ultimate objective here is to inquire how natural philosophy was taught and argued by the Jesuits who came to Japan in the wake of Xavier. I will use the *Kenkon Bensetsu* to do this. However, I will pay attention to the cross-cultural transmission between Southern Barbary and the Land of the Rising Sun that was happening during the same time frame, looking for evidence of ability to teach on one side and willingness to learn on the other. Therefore, before entering into the proper subject of this work, it is appropriate to have a bird's eye view of the process of discoveries that lead the Portuguese to Japan, and the Jesuits in their wake. The first step is summarily dealt with in the next section. Some of the areas of knowledge where the effect of the contact with the Portuguese is more visible are then presented. Finally I make a brief sketch of the Jesuit missionary activity to frame the transmission of natural philosophy in the wider context.

[103] One should not forget that in fact Copernicus did not break the thread, rather dyed it with a new colouration. For the continuity in natural philosophy up to the nineteenth century see Edward Grant, *A History of Natural Philosophy: From the Ancient World to the Nineteenth Century*, Cambridge, Cambridge University Press, 2007, especially pp. 274-322.

2. The arrival of the Portuguese

The Portuguese were not the first foreigners to arrive in Japan. Although geographically isolated in the eastern edge of Asia[104] for many centuries, Japan had already been visited and settled by merchants, artisans, farmers, warriors, monks and scholars from the continent. These people had brought with them the skills and knowledge of the one thousand arts from the myriad lands of the world.[105]

However, it can be argued that it was only in the sixteenth century that the world arrived to Japan. Before that time, the Japanese were aware of just a handful of lands and nations.[106] They knew well the Northern Barbarians, the Ainu clans who for a long time had occupied and fought for large portions of Honshū 本州, the Main State, of the Japanese land, and were still predominant in Ezo 蝦夷, the lands to the north. They had a vague and diffuse idea of the Southern Barbarians, about whom some had read in Chinese histories, and that a few others had actually met in their excursions through the southern seas in search of commerce and spoils. They were well aware of Korea, from where many of their ancestors had come, and from where Buddhism was first introduced. They were informed about China, the Land of the Ancient Sages, from where writing, laws and learning, civilization in one word, had come.[107] They were also conscious of the existence of a far away land where Buddhism and mysticism had originated. Through Chinese books they knew the names of a host of other small but barbarian nations scattered to the four directions. The Japanese themselves had been to many of these lands. Their warriors had fought in the lands of the Northern Barbarians,

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[104] Or "at the end of the world", as Matsuda, *op. cit.*, p. 31 puts it.

[105] Concerning the early history of Japan and its welcoming of alien people and borrowing of foreign ideas see John K. Fairbank, Edwin O. Reischauer and Albert M. Craig, *East Asia: Tradition and Transformation*, Boston, Houghton Mifflin Co., 1973, pp. 324-357; George Sansom, *A History of Japan: To 1334*, Tokyo, Charles E. Tuttle Co., 1974, pp. 12-40; and Masayoshi Sugimoto and David L. Swain, *Science and Culture in Traditional Japan: A.D. 600—1854*, Cambridge, The MIT Press, 1978, pp. 1-102. Throughout this work we will freely use the English equivalents of set expressions frequently used in Japanese and Chinese literature instead of the more habitual and prosaic English words such as *all*, *many*, etc.

[106] See João Paulo Oliveira e Costa, "Japão", *História dos Portugueses no Extremo Oriente: De Macau à Periferia*, A. H. de Oliveira Marques, Lisboa, Fundação Oriente, 2000, p. 384.

[107] For a review of the main episodes and sources concerning the historical intercourse between Japan and China see Aloysius Chang, *The Chinese Community of Nagasaki in the First Century of the Tokugawa Period (1603-1688)*, Doctoral Dissertation, New, York, St. John's University, 1970, pp. 5-28.

which one day would become their own. Their *wako* 倭寇, or merchant-pirates, had sailed to ports where they met Southern Barbarians. Their diplomats, merchants and monk-scholars had with more or less regularity visited China for many centuries: "[t]he priests and laymen of antiquity, by the divine aid, sailed over the ocean and visited the far-off land of China in search of the law of Buddha".[108] Even a handful of their more curious monks had travelled to India to drink at the source the teachings of the Shaka.

With the arrival of the Portuguese these vast and distant lands suddenly became their close neighbourhood and a multitude of other nations were introduced to the Japanese.[109] Within a few years, manufactures from Persia and Western Asia, people from Africa, plants from America and philosophy from Europe would be arriving to their shores.[110] Not only the world arrived then to Japan but the Japanese, their civilisation, their arts and products were then also dispersed throughout the orb. For it was at that time that the world became really aware of the existence of Zipangu. Before

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[108] *Edict of Expulsion* of the Christian missionaries of January 27, 1614. Cited in Jennes, *op. cit*., p. 117.

[109] As João Paulo Oliveira e Costa wrote in "Japanese Christians (16th -17th centuries): An Original Community", *Empires éloignés: L'Europe et le Japon (XVIe-XICe siècle)*, Dejanirah Couto and François Lachaud (ed.), Études Thématiques 24, Paris, École Française d'Éxtrême-Orient, 2010, p. 109, "[u]nder the initial leadership of Prince Henry, called the Navigator, the Portuguese heralded a new age that led mankind to the actual globalization process, through what we can aptly term a 'geographic revolution'". See also João Paulo Oliveira e Costa and Teresa Lacerda, *A Interculturidade na Expansão Portuguesa (Séculos XV-XVIII)*, Lisboa, Alto Comissariado para a Imigração e Minorias Étnicas, 2007, pp. 131-140, for an example of how this geographic revolution impacted in one aspect of human endeavor: art.

[110] On the global consequences of the discoveries see Michael W. Marshall, *Ocean Traders: From the Portuguese Discoveries to the Present Day*, London, Batsford, 1989; Jared Diamond, *Guns, Germs, and Steel: The Fates of Human Societies*, New York, W.W. Norton & Co., 1997; João Paulo Oliveira e Costa, *O Cristianismo no Japão e o Episcopado de D. Luís Cerqueira*, Ph.D. Dissertation, Lisboa, Universidade Nova de Lisboa, 1999, p. 23; Geoffrey Parker, *The Military Revolution, Military Innovation and the Rise of the West: 1500-1800*, second edition, Cambridge, Cambridge University Press, 1996; Vitorino Magalhães Godinho, *Descobrimentos e Economia Mundial*, 4 vols., Lisboa, Estampa, 1982-1983; for the interchange of artistic goods then opened see Alexandra Curvelo, "The Artistic Circulation Between Japan, China and the New Spain in the 16th-17th Centuries", *Bulletin of Portuguese-Japanese Studies*, Vol. 16, 2008, pp. 59-69; and Alexandra Curvelo, *Nuvens Douradas e Paisagens Habitadas. A Arte Nanban e a sua Difusão na China e Nova Espanha*, Ph. D. Thesis, Universidade Nova de Lisboa, Faculdade de Ciências Sociais e Humanas, 2008; for the role of Manila in the diffusion of Japanese and Chinese goods see Ubaldo Iaccarino, "Manila as an International *Entrepôt*: Chinese and Japanese Trade with the Spanish Philippines at the Close of the 16th Century", *Bulletin of Portuguese-Japanese Studies*, vol. 16, 2008, pp. 71-81; for the special case of the introduction of new plants in Japan see Pedro Lage Reis Correia, "Father Diogo de Mesquita (1551—1614) and the Cultivation of Western Plants in Japan", *Bulletin of Portuguese-Japanese Studies*, vol. 7, 2003, pp. 73-91. On the other hand, for the intellectual impact of Japan in Europe see Donald F. Lach, *Asia in the Making of Europe*, 2 vols., Chicago, University of Chicago Press, 1977.

that Zipangu was merely another name introduced into European languages by Marco Polo (*ca*. 1254—1324.1.8) in his book, a word without any concrete meaning lost in a crowd of other similarly fanciful but meaningless names of lands, peoples and places, mostly associated with histories and descriptions sometimes worth no more than old wives' tales.[111]

A long process of discoveries involving many thousand men over several generations was necessary before Portuguese adventurers such as Mota, Zeimoto and Peixoto could reach Cape Kadokura. This well planed and organized[112] process of discoveries had started some one hundred and ten years before with the crossing of Cape Bojador by Gil Eanes (fl. fifteenth century).[113] This operation was made possible by a set of convergent factors.

One was the existence of a political will to make contact with other lands and their peoples. This political will was embodied by the Portuguese crown, who also defrayed most of the costs. It had as its driving force the wish to expand the Christian faith, to seek new political alliances, and to establish commerce.[114]

Another was the scientific and technical improvements that made modern sea navigation possible. Many technologies had to be improved to make oceanic travel

[111] Marco Polo wrote about Japan: "This [Zipangu] is a very large island, fifteen hundred miles from the continent. The people are fair, handsome, of agreeable manners." This is a fair description. He also wrote that "[g]old is very abundant" what is certainly a confusion with silver. But then he also recounted: "I have to relate also a very wonderful thing, that these two barons took a number of persons in a castle of Zipangu, and because they had refused to surrender, ordered all their heads to be cut off; but there were eight on whom they could not execute this sentence, because these wore consecrated stones in the arm between the skin and the flesh, which so enchanted them, that they could not die by steel." *The Travels of Marco Polo*, Edinburgh, Oliver & Boyd, 1845, pp. 240-241. Concerning the knowledge Europeans had about Japan before 1543 see João Paulo Oliveira e Costa, *op. cit.*, p. 92. There he writes: "Associadas a […] informações verídicas, mas imprecisas, circulavam outras meio fantasiosas, que haviam sido recolhidas por Marco Polo (1254—1324) no litoral do Celeste Império." See also by the same author "Japão", *História dos Portugueses no Extremo Oriente: De Macau à Periferia*, A. H. de Oliveira Marques, Lisboa, Fundação Oriente, 2000, pp. 384-386. About the early relations between Europe and China see also Geoffrey F. Hudson, *Europe and China: A Survey of Their Relations from the Earliest Times to 1800*, Boston, Beacon Press, 1961, especially pp. 134-168, and Ronan, *op. cit.*, vol. 1, pp. 58-77.

[112] See Boxer, *op. cit*., p. 3

[113] See Luís de Alburquerque, *Gil Eanes*, Separata 186, Lisboa, Instituto de Investigçação Cientifica e Tropical, 1987.

[114] For a discussion of the set of motivations that lead to the support of the oceanic discoveries see João Paulo Oliveira e Costa, *O Cristianismo no Japão e o Episcopado de D. Luís Cerqueira*, Doctoral Thesis, 1998, pp. 27-29.

possible. Here it is fitting to stress the importance of one of them: astronomical navigation. Astronomical navigation began with the Portuguese and was developed by them during the fifteenth and sixteenth centuries before being passed on to the sailors of other European and Asian nations. The Phoenicians and the Vikings had indeed used stars for their orientation, but that is not what it is meant by astronomical navigation. Astronomical navigation is the technique that determines a position on the Earth's sphere through the measurement of the position of one or more stars on the celestial sphere. As many other techniques, astronomical navigation was developed first by scholars and then translated into easily usable rules that seamen could understand and easily use.[115]

This process of discoveries gave rise to the breaking of geographic barriers that until then had compartmentalized the world into several non-interacting sections. This lead to a geographic revolution where people, goods and ideas started moving between countries and regions that were previously unaware of each other. Although it might be pointed out that Chinese culture, for example, had made its presence felt in Europe and East Africa before the fifteenth century, the fact is that that influence at its most intense was sporadic, irregular and tenuous, and simply non-existent for most of the time. It was only after the middle sixteenth century that the interaction between China and those two continents gained a new dimension, intensity and constancy, and that China came into contact with new regions like America. This new relationship was not a direct one, for sure, as it was usually made through the intermediation of the Portuguese first, and then of other European peoples. Still, it eventually became a more life changing experience for the ordinary Chinese, African and American than all previous contacts. If this is true for China, it is much more so regarding Japan. With the Portuguese discoveries global commercial and cultural networks were built that made possible that local events such as the development of silver mining in Japan or the writing of a commentary on Euclid in Rome might have global repercussions. This would make possible the future economic and technological growth, which resulted in a generally increasing welfare, and would eventually lead to the industrial revolution and everything that came on its

[115] This is another example of the cross-cultural transmission of abstract knowledge being slower than that of practical techniques. English and Japanese sailors would start using declination tables transmitted by Portuguese sailors much earlier than the scholars of their own countries started computing their own declination tables and handed them out.

wake.[116] It should also be pointed that this, as everything else in human life, was not an unmitigated good. If the goods could travel easily between continents so could the bads, the diseases, the murderers, as well as the cranky ideas.

Many people took part in this process of discovery: the king, through his officials and soldiers, private merchants and adventurers, and churchmen. From Cape Bojador to Cape Kadokura many fortresses, villages and towns were established by king, merchants and priests, where mixed communities of natives, Portuguese, and other people lived. The dynamics of the interaction between these groups varied depending on time and region. It is well known, for example, that east of Malacca the missionaries where basically on their own, while to the west they could expect the cooperation of the Portuguese secular power. So it should be expected that their methods of proselytism would be adapted to the different circumstances.[117]

After Mota and his companions made their first visit, Japan began to be called on by many Portuguese merchants and adventurers. Fernão Mendes Pinto was but one of them. Another six or seven are reported to have arrived some time later to Bungo in a Chinese junk. The Chinese pilot exhorted Ōtomo Yoshiaki 大友義鑑 (Bunki 2—Tenmon 19, 1502—1550) the local lord, to kill them and take possession of their cargo. However, Ōtomo Yoshishige 大友義鎮 (Kyōroku 3—Tenshō 15.5.23), Yoshiaki's son, a youth of sixteen, appealed to his father and lord saying: "These are foreigners from a distant land who have come to trade under your protection. It would be more fitting if you were to make them welcome."[118] This was the first time Yoshishige took the defense of Christians. His honorable advice prevailed, the trade was consummated, and probably the Ōtomo house derived greater profits from the continuation of commerce

[116] For evidence on the rising standards of affluence across the World see Angus Maddison, *The World Economy*, 2 vols., *Development Centre Studies*, Paris, Development Centre of The Organization for Economic Co-Operation and Development, 2006, especially p. 639, Table 8b "World GDP, 20 countries and Regional Trends, 1-2001 AD".

[117] The same could be expected between the Christian missionary activity in the Portuguese and Spanish overseas territories because of the different political and social characteristics. On this topic see João Paulo Oliveira e Costa, *op. cit.*, pp. 35-61.

[118] Kiichi Matsuda, *The Relations Between Portugal and Japan*, Lisbon, Junta de Investigações do Ultramar and Centro de Estudos Históricos Ultramarinos, 1965, p. 3. However, Matsuda names the father of Yoshishige (also known as Sōrin 宗麟) as Yoshinori, while Madalena Ribeiro, *Samurais Cristãos: Os Jesuitas e a Nobreza Cristã do Sul do Japão no Século XVI*, Lisboa, Centro de História de Além-Mar, 2009, folowing missionary sources calls him Yoshiaki. The characters 義鑑 can be read both ways.

with the Portuguese than it could have earned from an act of pillage. It can be observed time after time that as the pen is stronger than the sword so is voluntary exchange mightier than spoil.

As referred above, although probable, it is not certain that the textual tradition of Galvão, which refers to Mota, Zeimoto and Peixoto as the first Europeans to arrive in Japan, is correct. On the Japanese side there are also several narratives, the one by Oshiyō Nanbo Bunshī being considered the most reliable. It should be noted, however, that imagination sometimes becomes as real as hard fact. The image that chapbooks such as the *Kirishitan Monogatari* 『切支丹物語』transmitted of the Portuguese missionaries became the only known facts for generations of Japanese between the second half of the seventeenth and the end of the nineteenth century.[119] We might then be forgiven for presenting here a version that had more currency in seventeenth and eighteenth century Japan than that of Bunshi, and thus, in a sense represents the reality as perceived by a pious Japanese Buddhist of that age. It was written by Sessō Sōsai 雪窓宗崔 (fl. seventeenth century):

"Investigating the origins [of the arrival of the Kirishitan], it took place in the last year of *Tenmon*[120], with the arrival of some merchants from *Rōma*[121], the capital of

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[119] For a description and translation of the *Kirishitan Monogatari* see Elison, *op. cit*., pp. 142-144, 213-217, and 319-374.

[120] The last year of Tenmon 天文 was Tenmon 23. According to the tables for converting the Japanese calendar to the Gregorian calendar published by José Miguel Pinto dos Santos, "Ieyasu (1542—1616) Versus Ieyasu (1543—1616): Calendrical Conversion Tables for the 16th and 17th Centuries", *Bulletin of Portuguese-Japanese Studies*, Vol. 5, 2002, pp. 9-26, and by Yuasa Yoshimi 湯浅吉美, *Nihon Rekihi Benran* 『日本暦日便覧（西暦宿曜表）』, Tokyo, Kyuko Shoin 汲古書院, 1990, it corresponds to the period between February 2, 1554 and January 23, 1555. Xavier arrived in Kagoshima, accompanied by Father Torres, Brother Fernandez, and the group of three Japanese headed by Yajiro, on 15th August, 1549 (Tenmon 18). However, the arrival of the first Portuguese in Japan can be dated to 1543 or, less probably, to 1544. For more information see João Paulo A. Oliveira Costa, *op. cit.,* pp. 124-125, or Georg Schurhammer, S.J., "O Descobrimento do Japão pelos Portugueses no ano de 1543", *Anais da Academia Portuguesa de História*, 2nd series, Vol. I, Lisboa, 1946, pp. 7-112. It also can be added that according to Oshiyō Nanbo Bunshii 和尚南浦文之 in his work *Teppō-ki* 『鉄砲記』 the arrival of the first Portuguese in Japan took place in Tenmon 12. However, there exist Japanese sources that incorrectly place the arrival of the Portuguese as having taken place as early as 1530 such as, for example, Arai Kinmi 新井君美 (1657-1725), better known as Hakuseki 白石, in his work *Honchō Gunki-kō* 『本朝軍器考』.

[121] The erroneous attribution of Rome as being the place of origin of the merchants and of the missionaries, more than an indication of an ignorance of geography, is certainly a literary device to demonstrate and establish the connection of these merchants and missionaries with the central

Itaria, in the Western Barbarian lands. Their ship having arrived in Bungo[122], enquiries were made about the route taken. [To which it was answered that] after navigating in the southern direction in the Western Sea one headed north to arrive in Japan. For this reason, they are called Southern Barbarians by the Japanese.

An inspection of the ship revealed about 200 persons[123], including merchants and crew, amongst whom one encounters two figures that stand out from the group."[124]

Although inaccurate in the detail this passage goes to the heart of what really happened: once upon a time a ship from Rome, Italy, arrived in Bungo with many merchants and two figures that stood out. The indication that the ship came from Rome symbolizes its ultimate provenance: the city where the Southern Barbarians looked up to orientation and orders, where their highest moral authorities had their seat of power. That the place of arrival was Bungo shows that it was there that the foreign missionaries found their most steadfast protector in Japan. This happened from the moment Yoshishige wisely advised his father to welcome the merchants to the moment the Ōtomo lost control of Bungo. Then there were the many merchants and sailors, all of them without a name. That they had not a name indicates that it was not commerce what turned out to be really unforgettable; what was really important was represented by the two figures that stood out, and to whom we will return later. On the other hand, that the merchants were many evinces the fact that it was commerce that attracted the attention of the Europeans.

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headquarters of Christianity where the plot to take over Japan was being devised. Later Japanese literature would make frequent references to this plot.

[122] Various sources (*Teppō-ki*, etc) give the arrival of the Portuguese in Japan as having taken place in Tanegashima in Kagoshima. Xavier also entered Japan via Kagoshima. Everything seems to indicate that the first Portuguese ship to anchor at the port of Bungo did so only in 1544, and Portuguese ships docked at this port with some frequency until 1560. The reference to Bungo in the text is probably due to the conspicuousness of Ōtomo Yoshishige as a Christian daimyo.

[123] This number differs from that given in the *Teppō-ki*, but is similar to the figure given by Arai Hakuseki in his work *Sairan Igen* 『采覧異言』.

[124] Sessō Sōsai, *Taiji Jashū-ron*『対治邪宗論』. Citation in José Miguel Pinto dos Santos, "About a 17th Century Buddhist Treatise refuting Christianity: A Testimony to the Early Cultural Interaction Between Europe and Japan", *Bulletin of Portuguese-Japanese Studies*, vol, 4, 2002, pp. 91-110. A modern edition of the *kanbun* text can be found in Ebisawa Arimichi 海老沢有道, H. Cieslik チースリク, Doi Tadao 土井忠生, Ōtsuka Mitsunobu 大塚光信 (ed.), *Kirishitan sho Hai-ya sho*『キリシタン書・排耶書』, Nihon Shisō Taikei 日本思想大系, Vol. 25, Tokyo, Iwanami Shoten Kanko 岩波書店刊行, 1970, pp. 492-502.

From then on, every year, Portuguese ships visited Japan.[125] In 1546, at least three ships with Portuguese merchants were trading there. The captain of one of them, Jorge Alvares (*fl*. middle of the 16th century), at Xavier's request, later wrote his observations on the country.[126] They are detailed and accurate and range from the natural features of the land to the religion of the people. On the qualities of the Japanese he wrote:

"Hé gente puoquo cubiçosa he muito maviosa. Se is à sua terra, os mais onrados vos convidão que vades comer he dormir com elles. Parece que vos querem meter na alma. São mui desejosos de saber de nosas terras e de outras cousas, se as soubessem perguntar. Não hé gente ciosa. […] Hé gente que quer que lhes façais outro tanto quando vão aos nossos navios. Querem que lhes deis de comer he beber, e lhes mostreis quanto elles querem ver, e lhes façais gasalho. […] Estranhão muito ho furtar, de maneira que por valia de cinquo ou seis tangas matão logo. […] Nunca lá vi nenhum bêbado [que não estivesse em seu sizo], porque como se achão carregados, logo se deitão a dormir. […] He hé gente que não tem mais de huma molher. […] Não há na terra nenhuma prisão. (…) Esta gente tem muito acatamento ao seu rei. […] Folgão de falar manso. Têm-nos a nós por homens destemperados porque falamos riijo. […] Hé gente muito devota dos seus ídolos."[127]

One characteristic Alvares notes is the earnestness of the Japanese: they kill for five cents; when they see something new they want to know all about it; and they are so intense that they "vos querem meter na alma". They are also liberal and hospitable, but want reciprocation: after bestowing *on* they want you to feel the weight of *giri*. They are bound by *chū*, they respect authority and love order. And they are curious. It was this

[125] Schurhammer, *op. cit*., p. 59.

[126] This captain and merchant was a different person from Jorge Alvares, the first Portuguese to enter China in 1511. On Alvares see Artur Basílio de Sá, *Jorge Alvares—Quadros da sua biografia no Oriente*, Lisboa, Ag. Geral do Ultramar. Divisão de Publicações e Biblioteca, 1956. About his information see Kishino Hisashi 岸野久, "Yōroppajin ni yoru saisho no Nihon kenbunki J. Arubaresu no 'Nihon Hōkoku'"「ヨーロッパ人による最初の日本見聞記 J.アルヴァレスの『日本報告』」, *Nihon Rekishi* 『日本歴史』, vol. 88(12), 1979, p. 368.

[127] Information by Jorge Alvarez to Fancisco de Xavier, in Documentos, p. 11. Note the implicit references to *giri*, "[h]é gente que quer que lhes façais outro tanto", and *chū*, "tem muito acatamento ao seu rei."

description that would catch the attention of Xavier and beckon him to do missionary work in Japan, a topic which we shall revisit later.

Although trading in Japan by the Portuguese was already going on for some time, it was only some years after this description was made that Macao was established as a Portuguese town.[128] From then on, almost without exception, the Portuguese trade would be made through this Portuguese town in China. Once a year, a large *nau* together with a few junks and galleons, would leave Macao in May or June with the southern monsoon and arrive to Japan some three weeks later. After trading for several months and seeing off the typhoon season they would return to Macao with the north monsoon in late autumn or early winter.

This trade at first was carried by the enterprise of private men such as Alvares. As it showed to be profitable the crown decided to take control, establishing a public-private partnership for the annual exploration of this trade route. A captain-major was appointed and from 1556 a *nau* came to Japan every year under official control. The establishment of this monopoly in the trade between China and Japan was possible because of the disappearance from the Japanese coast of the few Chinese merchants that had carried a small trade between the two countries. This fortunate event occurred thanks to the increased activity of the *wako* between 1553 and 1562. This trade route would come later under pressure with the appearance of competition in the early seventeenth century of Dutch, English, and once again, Chinese traders. While it lasted it earned to the Portuguese an annual profit estimated to be between 160,000 and 200,000 *cruzados*.[129] The articles the Portuguese sold in Japan were chiefly silk and, what would have surprised Marco Polo, gold. From Japan they bought mainly silver, wheat and lacquered goods.

At first the Portuguese trading vessels had no preferred or habitual port in Japan. Depending on the conveniences of trade, the goodwill of the region's lord, or the whims of the weather they might put into one or another port, to Bungo, Kagoshima or

[128] For the history of Macao see Rui Manuel Loureiro (ed.), *Em busca das Origens de Macau,* Macau, Museu Marítimo, 1997; João Paulo Oliveira e Costa (direction and introductory study) and Ana Fernandes Pinto (paleographic transcription), *Cartas Ânuas do Colégio de Macau (1594—1627)*, Macao, Comissão Territorial de Macau para as Comemorações dos Descobrimentos Portugueses, 1999, pp. 13-18; and Elsa Penalva, "Contradictions in Macao", *Bulletin of Portuguese-Japanese Studies*, vol. 14, 2007, pp. 7-20.

[129] Matsuda, *op. cit*., p. 12.

Hirado.[130] However these three ports had drawbacks: Bungo was on the east cost of Kyushu, Shimazu was volatile, and after the killing of the Captain-Major Fernão de Sousa in Hirado this port began to be avoided. Eventually, after experimenting with Yokoseura and Fukura for several years the Portuguese, with the help of Jesuits missionaries and the benevolence of Ōmura Sumitada 大村純忠 (Tenmon 2—Tenshō 15.5.18, 1533—1587.6.23), found in Nagasaki the perfect port which they would use after 1571.[131] This place would rapidly grow in population and in economic and cultural importance, becoming one of the foremost commercial cities of the country, the one from where almost all foreign trade flowed, and the centre of Church activities in Japan. There Portuguese merchants and seamen would make home and raise families. To it many thousand Japanese would be driven after money, foreign exotica and safety.

Some of the Portuguese influences on Japanese culture resulted from the close relations established between them and their Japanese neighbors. This influence can be termed *uses and costumes*, meaning the daily patterns of private and social life that are widely accepted and followed in a region or by a group of people. Mukai Genshō wrote in the *Chichihen* that the "Southern Barbarian ways" were introduced in "the customs pertaining seasons and times, [in] the courtesies concerning marriages and funerals, [in] the intercourse with guests and friends, [… in] the preparation of food and dress".[132]

In fact many Japanese started to use the Christian seasons and times, and the solar calendar was introduced and used alongside the Japanese lunisolar calendar. They

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[130] See Chang, *op. cit*., p. 33; and Matsuda, *op. cit*., p. 15.

[131] For the founding and later history of Nagasaki see Carlos Francisco Moura, "Nagasaqui, Cidade Portuguesa no Japão", *Studia*, Vol. 26, 1969, pp. 115-145; Diego Pacheco, S.J., *El Hombre que Forjó a Nagasaki: Vida del P. Cosme de Torres*, *S.J*., Madrid, Editorial Apostolado de la Prensa, 1973; Chang, *op. cit*., pp.. 29-52; João Paulo Oliveira e Costa, *O Cristianismo no Japão e o Episcopado de D. Luís Cerqueira*, Doctoral Thesis, 1998, pp. 441-450; João Paulo Oliveira e Costa, "Nagasáqui e a Primeira Abertura do Japão ao Ocidente", História das Ciências Matemáticas: Portugal e o Oriente, Lisboa, pp. 243-261; Alexandra Curvelo, "Nagasaki: An European Artistic City in Early Modern Japan", *Bulletin of Portuguese-Japanese Studies*, Vol. 2, 2001, pp. 23-35; Helena Margarida Barros Rodrigues, *Nagasaki Nanban. Das Origens à Expulsão dos Portugueses*, Master Thesis, Lisboa, Faculade de Ciências Sociais e Humanas, Universidade Nova de Lisboa, 2006; J. S. A. Elisonas, "*Nagasaki: The Early Years of an Early Modern Japanese City*", *Portuguese Colonial Cities in the Early Modern World*, Liam Matthew Brockey (ed.), Farnham Ashgate, 2008, pp. 63-102; and the book review by João Paulo Oliveira e Costa, "*Portuguese Colonial Cities in the Early Modern World*, (ed. Liam Matthew Brockey), Farnham Ashgate, 2008, *e-Journal of Portuguese History*, Vol. 7, no. 2, 2009.

[132] See Mukai Gensho, *Chichihen* 『知恥篇』, in Shinmura Idzuru 新村出 (ed.), *Kaihyō Sōsho* 『海表叢書』, vol. 1, p. 21, cited above in pp. 1-2.

also began to celebrate the Christian feasts of Christmas and Easter and fast on the prescribed days. Some of these calendars have survived until our days. One of the most interesting is that found in the *Genna Kokaisho*『元和航海書』, a treatise on navigation authored by Ikeda Koun 池田好運 (fl. early sixteenth century) and dated of 1618. In all appearance it is simply a table with the declination of the Sun to help calculate the latitude of a place anytime during a year. For every day of the year the position of the Sun on the ecliptic is presented in degrees and minutes. However, close examination reveals that the months are solar months, i.e., months that have not the duration of a lunation but are instead a fraction of the solar year, and that they are expressed by their Portuguese names of *Janeiro*, *Fevereiro*, etc. Moreover it includes a correspondence that allows one to determine the week day for any day of any month and year, something that is completely irrelevant from the point of view of astronomic navigation. Their only possible use was to determine Sundays and other week days when some religious observance should be practiced. The tables allowed direct determination of the Christian feast dates for the period between 1629 and 1684, but they were accompanied with an explanation of the structure of that calendar that would make possible their expansion beyond 1684. Something similar to what happened in China at the end of the sixteenth century, and is described in an annual letter from the Colégio da Madre de Deus of January 29, 1603, must have occurred in Japan much earlier:

"O que se pode dizer dos christãos em geral he primeiramente que sabem ja que cousa he ser christão pollo muito que padeçem por este nome. Este anno celebrarão o Anno Novo ao modo ecclesiastico, quero dizer que fizerão neste primeiro dia de Janeiro as festa que costumão fazer no principio do anno sinico, o qual ordinariamente cae mais tarde hum mes ou dous, e vindo depois o Anno Novo dos Chinas mandando-lhes os parentes, e conhecidos presentes acostumados, respondião que ja era passado o seu Anno Novo entendendo o dos christãos. Celebrão tambem com grande frequençia e devação as festas das Candeas, Cinza, e Ramos, e fazem destas couzas tanto caso que quando não podem vir en pessoa a igreja mandão alguem de sua casa [...]".[133]

[133] Anual letter of the Colégio da Madre de Deus written by Diogo Antunes, January 29, 1603, in João Paulo Oliveira e Costa (direction and introductory study) and Ana Fernandes Pinto (paleographic transcription), *Cartas Ânuas do Colégio de Macau (1594—1627)*, Macao, Comissão Territorial de Macau para as Comemorações dos Descobrimentos Portugueses, 1999, p.103.

New customs pertaining to marriages and funerals were also adopted during the period of contact with the Portuguese, which added a different moral and religious dimension. One of the examples concerning marriage that can be gathered from western sources is reported by Frois: "o Padre [Gaspar Vilela] disse missa e pregou sobre o sacramento do Matrimónio, por haver algumas pessoas que se querião cazar segundo o costume da Igreja".[134] In his preaching Vilela certainly taught about marital morals that were in sharp contrast to what was deemed appropriate and generous behaviour of husbands and wives. One century latter Hayashi Razan would complain: "Teaching husbands to be niggardly and fooling wives that their husbands should not take concubines are all the magical mutations of barbarians and Christians. One cannot deplore it enough."[135]

Archaeological and documental evidence shows that many Japanese opted out of cremation and chose to be buried in Portuguese or Christian style graves. "The oldest tomb—the Mantio—was found in Osaka and dates from 1582. It was discovered [in the 1950s and is] easily distinguished from the Japanese tombs, not only on account of its shape but because of the Roman lettering upon it: IHS".[136] Preparation for the death was taken seriously and funerals were performed with great solemnity:

"Quando algum christão estava para morrer, era vizitado e amoestado como se havia de aparelhar para bem morrer. E expirando, ajuntados os christãos, o metião em seo caixão cuberto com hum pano de seda, e assim o levavão quarto homens; e o Irmão com sobrepeliz levava a cruz, e hum dogico com agua benta, e outro com hum livro começava as ladainhas, e os christãos respondião, levando muitas lanternas. Com isto se convencião muito os gentios, e dizião que não havia outra couza como a ley dos christãos."[137]

Funerals were performed with great solemnity for the consolation of the family of the deceased. But they were also an occasion for proselytism not only through

[134] História, vol. 2, p. 43.

[135] Cited in James McMullen, "Confucianism, Christianity, and Heterodoxy in Tokugawa Japan", *Monumenta Nipponica*, Vol. 65(1), 2010, pp. 149-195. This passage is in p. 162.

[136] Matsuda, *op. cit*. p. 95.

[137] História, vol. 1, p. 88.

solemnity in the performance of Christian funeral rites that impressed the pagans, but also because it was an occasion to preach about the eternity of the soul:

"O modo de enterrarmos os defuntos quá hé o seguinte: himos com cruz alevantada rezando humas ladainhas com muitos christãos que acompanhão ao defunto, cousa de que se dá muita edificasão. Porque custumão elles enterrar os seus a maneira de quães sem nenhum aparato.[138] E vendo que fazemos aquella maneira de enterramento ficão edefiquados. E também depois disto se lhes faz huma pregação para virem a conhecimento que á alma vive, pois fazemos tamanha onrra ao corpo. Quando himos enterrar seguem-nos muita gentilidade a ver o que fazemos."[139]

Genshō says that social niceties also were influenced by the Portuguese. Of these, the *tea ceremony*, which emerged in the second half of the sixteenth century, possibly by the influence of the Christian Mass, is certainly the longest lasting and one that has come to represent the quintessence of Japaneseness.[140]

Concerning food and dress a wealth of evidence has come down to us. This evidence includes contemporary reports, pictures in folding screens, recipes and words in the Japanese vocabulary. But let us focus here on the evidence provided by the Portuguese words on these two areas. Among Portuguese words concerning dress that entered the Japanese lexicon we have *bengala*, *botão*, *calção*, *canequim*, *contas*, *capa*, *gibão*, *manto*, *meias*, *raxa*, *raxeta*, *São Tomé* (a cloth), *saraça*, and *veludo*. Among those relating to food we have *abóbora*, *amêndoa*, *biscoito*, *bolo*, *caramelo*, *castela*, *confeito*, *marmelo*, *pão*, *tempero*, and *vinho tinto*.[141] They show how broad it was the introduction of new materials into Japan, from *raxa* and *veludo* to *abóbora* and *marmelo*, and the spread of new concepts to the Japanese that were introduced by the Southern Barbarians, from *botão* and *meias* to *bolo* and *tempero*.

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[138] This lack of solemnity must have been a sporadic occurrence during *sengoku*, a particularly difficult period for the life of the common people. For a perspective on Japanese funerary practices from the seventh century B.C. to the end of the nineteenth century see Arthur Hyde Lay, "Japanese Funeral Rites", *Transactions of the Asiatic Society of Japan*, 1891, pp. 507-544.

[139] Letter of Gaspar Vilela of October 29, 1557, Documentos I, pp. 699-700.

[140] For the forceful presentation of this thesis see Nishimura Tei 西村貞, *Kirishitan to sadō* 『キリシタンと茶道』, Kyoto, Zenkoku Shobō 全国書房版, 1948.

[141] Matsuda, *op. cit*. pp. 92-93.

Genshō, somewhere else in the same book cited above, also referred disapprovingly that "South Barbarian names [were put] to the people". Indeed we know from western sources that this was true. The Japanese willing acceptance to take these names, use and flaunt them, is surely an indicator of a broad acceptance that things Portuguese enjoyed in the second half of the sixteenth century and on. However one should not go much further than this in drawing conclusions from the fashion concerning names. Names in Asiatic cultures pretend to express the inner essence of its bearer, and so one might be led to think that the acceptance of foreign names expressed an inner and profound change for many Japanese. Nevertheless, though certainly many exceptions may be found, this was not the case for many of the new Bartolomeus, Inácios and Antónios. This might be the appropriate moment to stress that nothing of what was presented in the previous paragraphs and will be presented in the four that follow, affected the way the Japanese perceived the world and society. Consequently, all of these influences, however important they may have been to one or another department of private or political life, were superficial and did not affect the dynamics of Japanese society nor the inner thoughts of the Japanese individual.

Seamanship was another area where Portuguese practices were transmitted to the Japanese. Japanese *shuinsen* 朱印船, or red-seal ships, carried Portuguese pilots and Japanese were trained in Portuguese and Spanish vessels. A testimony to this is the above mentioned Ikeda Koun who made the trip to Luzon with Manuel Gonçalo to learn how to calculate the latitude from the Sun, Polar Star and the Southern Cross, to take soundings, and to interpret the winds and currents, and then wrote what he had inquired into the treatise *Genna Kokaisho*. Sawano Chujiro, the son of Chūan, with whom we will become acquainted in Chapter IV, became a pilot, probably having received some training from his stepfather in astronomical navigation. Japanese seamen who were forbidden to return after 1636 continued to play an active part in the southern seas.[142] They certainly used Japanese portolanos of Portuguese origin.[143]

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[142] See Iwao Seiichi 岩生成一, *Nan-yō Nihon Machi no Kenkyū* 『南洋日本町の研究』, Tokyo, Iwanami Shoten 岩波書店, 1966.

[143] On the origin of the first Japanese portolanos see Hirosi Nakamura, "The Japanese Portolanos of Portuguese Origin of the XVIth and XVIIth Centuries", *Imago Mundi*, Vol. 18, 1964, pp. 24-44, and Jos. Fr. Schütte, "Ignacio Moreira of Lisbon, Cartographer in Japan 1590-1592", *Imago Mundi*, Vol. 16, 1962, pp. 116-128.

Shipbuilding was another area where the Japanese were eager to learn. Toyotomi Hideyoshi 豊臣秀吉 (Tenmon 6.2.6—Keichō 3.8.18, 1537.3.17—1598.9.18) visited a Portuguese ship and tried to buy another. The Portuguese politely refused and thus the Japanese started building their own ships trying to replicate Portuguese methods. In the 1610s, Date Masamune 伊達政宗 (Eiroku 10.8.3–Kan'ei 13.5.24; 1567.9.5–1636.6.27), the lord of Ōshū, had one built that could cross the Pacific Ocean.[144]

Japanese mining and metallurgy also adopted methods then used in Europe. For example, *nanban-buki* 南蛮吹き, or *nanban-shibori* 南蛮絞り, was a technique introduced for the separation of silver and cooper. One method for extracting silver from ore using mercury was also introduced and used while mercury could be imported from the *Nanbanjin*.[145] Techniques for the production of tempered iron were also introduced giving rise to *nanbantetsu* 南蛮鉄, a first choice for the production of *nihontō* 日本刀, the Japanese style sword that coincidently was developed around the turn of the seventeenth century.[146]

Last, but not the least, the musket must be referred again.[147] The people of Tanegashima very rapidly mastered the techniques of musket production. They were sold to all parts of Japan and started to be widely used. Military tactics changed as a consequence and its use speeded the unification of the country. "[B]y the end of the 16th century, Inatomi Ichimu had written his treatise on artillery".[148]

The last four examples just cited were considered by Sugimoto and Swain "strategic for modernizing processes" because they fulfilled three necessary conditions for sustainable societal and technological development. First, their adoption

[144] See Masayoshi Sugimoto and David L. Swain, *Science and Culture in Traditional Japan, A.D. 600-1864*, Cambridge, The MIT Press, 1978, pp. 174-178

[145] *Ibid*., pp. 181-183.

[146] Although it is an article on metalworking chemistry Suzuki Takuo 鈴木卓夫, "Nihontō no Danrensei ni Oyobosu Nanban-tetsu no rin-ganyūryō no Eikyō" 「日本刀の鍛錬性に及ぼす南蛮鉄のリン含有量の影響」 (Effect of Phosphorus Content of Nanban-tetsu on Forgeability of Japanese Sword Making), *Tetsu-to-Hagane* 『鉄と鋼』, The Iron and Steel Institute of Japan, Vol. 90, No. 1, 2004, pp. 43-47, has a brief introductory note on the history of *nanban-tetsu*.

[147] Concerning the introduction of fire arms and their influence in the history of Japan besides the references presented above see Masayoshi Sugimoto and David L. Swain, *op. cit.*, pp.170-174.

[148] Matsuda, *op. cit*. p. 66.

"encouraged forms of social change beyond the immediate range" of the techniques involved. Second, the Japanese who adopted the foreign techniques "were largely motivated by purely secular concerns (military use by the samurai and commercial gain for merchants)" and their interests "were not directly aligned with the major power groups seeking to preserve traditional society, namely, the court aristocracy, the priestly class, and the older military elite." Third, "the techniques could be directly related to the basic exact sciences and hence had some potential for hastening the early emergence of new forms of science in Japan—or at least an interest in studying western science."[149]

But it was not only *caramelo*, *veludo* and muskets that the Portuguese introduced into Japan. They also brought the *bateren*.

3. The arrival of the *Bateren*

It was at the end of 1547 that Francisco Xavier (1506.4.7—1552.12.3), then in Malacca on his way from the Moluccas to Goa, first came into contact with Japan. At that time Jorge Alvares, returning from a business trip to the Land of the Rising Sun, introduced to Xavier three youths whom he had brought with him.[150] One of them was Yajirō (?—*c*. 1551)[151] a young samurai from Kagoshima who had found protection on the ship of Alvares, with his two companions, after committing murder. The three Japanese young men, their demeanour and the interest they showed on everything, especially what was new to them, made an excellent impression on the missionary. In addition, the short, but clear and accurate description that Alvares made of the country, of its nature, people and society, further increased Xavier's interest in the land whose existence he had just learned.[152] The impact of what he heard and saw was such that he

[149] Sugimoto and Swain, *op. cit.*, p.170.

[150] As Xavier is considered the father of the Japanese Mission, Alvares might be regarded as its grandfather, as it was him who brought the country into Xavier's attention and made him see the great potential a Christian mission would have there. His steps would later continue to cross Xavier's, and it was him who would bring some help and comfort to the Missionary as he lay down dying in Shangchuan Island.

[151] Sometimes also referred to as Anjiro. For an account of his life and role in the intercultural relations between Portugal and Japan see Ebisawa Arimichi 海老沢有道, *Kirishitanshi no Kenkyū* 『切支丹史の研究』, enlarged and revised edition, 1971.

[152] See "Esta hé a informação do Japão que deu Jorge Alvarez", in Documentos I, pp. 4-24.

decided at that moment to leave the mission field he was then working on and go to Japan to evangelize its people. It was then that the Japanese Mission was born.

It was then too that Japan was discovered and revealed to the world by Xavier, and that Japan discovered the world, also through Xavier.[153] It would be through him that the world learnt the existence of one of the highest and more refined of civilizations, of a people of the highest valour in war, reasonableness in thought, and sensibility in art, qualities most Chinese believed only existed in China and Europeans thought only flourished in Europe. It was also through him that Japan learned of the existence of the world outside the eastern edge of the Asian continent, of large cities in Europe, of strange animals in Africa, of a new continent in the New World, and especially of a new religion with only one God and a new science with four elements.

When Xavier decided to go and evangelize Japan he sent Yajirō and his companions to the St. Paul College in Goa to study Portuguese and Christian doctrine. Portuguese because it was a necessary tool of communication, needed to achieve everything that Xavier wanted to achieve in Japan through Yajirō, at least until he and his European co-workers could master Japanese. Although many missionaries would indeed master Japanese, the Portuguese language would remain an important communication tool between Europeans and Japanese well until the second half of the seventeenth century. Christian doctrine because that was the end Xavier and his fellow missionaries were seeking: that everyone might hear the Gospel and might be inflamed by it and pass the fire on to others. Yajirō and his companions were entrusted to the special care of Father Nicolao Lancilotto (?—1558).[154] Yajirō was so diligent that he learnt by heart the gospel of St. Matthew in Portuguese, and started translating it into Japanese. This was the first translation of a book of the Bible from Portuguese into Japanese. On May 25th, 1548 he and the other members of his group were baptized by

[153] See João Paulo Oliveira e Costa, "Japão", *História dos Portugueses no Extremo Oriente: De Macau à Periferia*, A. H. de Oliveira Marques, Lisboa, Fundação Oriente, 2000, pp. 386-387, 433-436.

[154] Sometimes also referred as Lancelloti. Born in Italy he was admitted as Jesuit in 1541. He studied in Coimbra between 1542 and 1544 and left for India in 1545. He became the head of the Colégio de S. Paulo in Goa where he instructed the three young Japanese. See Kishino Hisashi 岸野久, "Rainichizen, Zabieru ni teikyō sareta Nihon Hokoku" 「来日前、ザビエルに提供された日本報告」, *Kirishitan Kenkyū* 『キリシタン研究』, vol. 21, 1981, pp. 203-234.

the Bishop of Goa and started what would later become one of the above mentioned Japanese fashions by taking the Portuguese names of Paulo,[155] João and António.

In June 1549, Xavier boarded a Chinese junk in Malacca and sailed for Japan with two Spanish Jesuits, Father Cosme de Torres and Brother Juan Fernandez, the three Japanese Paulo, João and António, and two servants, Manuel, a Chinese, and Amador, an Indian. The Governor of Malacca, to defray the missionaries' expenses did not give them gold or silver, but pepper. The voyage was to be arduous and hazardous, due storms, reefs, pirates, illnesses and the random whims of fortune-telling to which the Chinese captain was addicted.[156] They arrived in Kagoshima on August 15, 1549, the day of the feast of the Assumption of Mary.[157] Thus the Japanese Mission arrived to Japan.

The Japanese Mission was the sustained and organized effort made by the Society of Jesus and other Church bodies to spread and maintain the Christian faith in Japan. Its activity spanned for almost one hundred years, from the moment in 1547 when Xavier decided to go to Japan, to the death, martyrdom and apostasy of respectively Couros, Vieira and Ferreira in the early 1630s, the last missionaries to assure the hierarchic structure of the Church before its re-entrance in the country just before its reopening in the last days of the Tokugawa.[158] The objective was ambitious, the resources, such as manpower and money, always insufficient, and the obstacles to surpass many and difficult. It might be worth to remember some of these obstacles. Firstly, there were the large distances between Japan and the main decision centres of the Church in Rome, in Goa and in Macao, and also the remoteness of the principal countries of missionary recruitment. This made communication difficult, decisions tardy and required new missionaries to spend unproductively precious months away from

[155] Yajirō was also frequently called Paulo de Santa Fé by the missionaries.

[156] See Xavier's letter to the Goa Jesuits, November 5, 1549, Documentos I, pp. 136-142.

[157] *Ibid*, p. 142.

[158] Christianity has had a continuous presence in Japan since 1549 even if without a hierarchic structure. After Couros, Vieira and Ferreira some other priests remained active in Japan, but isolated and uncoordinated, unable to report to their superiors in Macao. The Japanese Mission itself and the hierarchic church had a second life, which started in the nineteenth century. Here, however, our interest will be focused in its first period of activity.

their fields of activity.[159] Secondly, there was the originality of the culture and of the language, which required long and elaborate training of the new missionaries if they were to be effective, and raised the problem of how to best transmit the concepts which were lacking in the Japanese language and which felt bizarre to the native culture. Thirdly, there was the hostility of the Japanese political leaders, from the cold and erratic Shimazu Takahisa 島津貴久 (Eishō 11.8.18—Genki 2.6.23, 1514.9.6—1571.7.15) to the obsessive and insecure Tokugawa Hidetada 徳川秀忠 (Tenshō 7.4.7—Kan'ei 9.1.24, 1579.5.2—1632.3.14).[160]

It was on September 29, 1549, some weeks after his arrival, that Xavier was received warmly by this Shimazu Takahisa, the local daimyo of Kagoshima.[161] He also made friends with some of the local Buddhist monks.[162] And he also made some converts. From the contacts he made with all of these he would write:

"De Japán, por la expiriencia que de lla tierra tenemos, os hago saber lo que della tenemos alcançado. Primeramente, la gente que hasta aguora tenemos conversado, es la mejor que hasta aguora está descubierta. Y me parece que entre gente infiel non se hallará otra que gane a los japanes. Es gente de muy buena conversación, y geralmente buena y no maliciosa."[163]

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[159] By "unproductively" it should not be understood idly. They spent their traveling time teaching and studying, and in the pastoral care of those traveling with them. Still, they were not using the time required by the travel in their main objective: mission work amongst the Japanese.

[160] After a warm welcome to Xavier in 1549.9.29, in which, Takahisa granted permission for Xavier to preach throughout his domains, Takahisa grew cold and then hostile as he saw no money and no Portuguese trade coming his way. The following year he completely forbade all missionary activity. Later he would welcome Luís de Almeida, and ask the Jesuits to send missionaries to his domains. Hidetada's life was dominated by his goal of not letting the Tokugawa's House follow the Toyotomi lineage and disappear into oblivion, and by his constant fear of anything or anyone who might endanger his power. See, for example, Fujino Tamotsu 藤野保, "Tokugawa Hidetada" 「徳川秀忠」, *Tokugawa Shōgun Retsuden* 『徳川将軍列伝』, Kitajima Masamoto 北島正元 (ed.), Tokyo, Akita Shoten 秋田書店, 1974, and João Paulo Oliveira e Costa, *O Cristianismo no Japão e o Episcopado de D. Luís Cerqueira*, Doctoral Thesis, 1998, pp. 724-727.

[161] Documentos I, p. 156. See also Jesús López-Gay, S.J. "Saint Francis Xavier and the Shimazu Family", *Bulletin of Portuguese-Japanese Studies*, vol. 6, 2003, pp. 93-106.

[162] Documentos I, p. 147.

[163] *Ibid.*, p. 142.

This evaluation of the Japanese, and similar appraisals by other missionaries, would mould the operation of the Japan Mission, of its policies and methods. In an age of rising European self-conscience and pride it would constitute a call to modesty and humility—even if it went unheard by the many.[164]

Xavier's aim was not to start evangelization from the periphery of the country. He aimed directly to what he thought was its political, social and intellectual heart: the emperor and the universities. Due to lack of information he was equivocated about the actual influence the emperor and the *universities* had but his feeling was correct. The Jesuit *hidalgo* was naturally and culturally sensible to the hierarchic structure of Japanese society. A few weeks after setting foot on Japan he writes approvingly:

"Gente de honrra mucho a maravilha, istima más la honrra que ninguna otra cosa. Es gente pobre en general, y la pobreza entre fidalgos y los que no lo son no la tienen por afrenta. [… E]stiman más la honrra que las riquezas. Es gente de muchas cortesías unos con otros. […] Hes gente que no sufre injurias ningunas ni palabras dichas con desprecio. La gente que no es hidalga tiene mucho acatamiento a los hidalgos, y todos los hidalgos se precian mucho de servir a el señor de lla tierra y son muy sojeitos a él. Y esto me parece que hazen por les parecer que haziendo el contrario pierden de su honrra, más que por el castigo que del señor receberían si el contrario hiziesen." [165]

Xavier acts in conformity: in a highly hierarchical society it is more efficient to approach from the top of the pyramid.[166] If the wish of the lord, of the father, of the elder brother, or of the husband is an order, the faster road to all members of a group is

[164] Or maybe it should be said that it remained in the unconscious, as heard it certainly was if we take in consideration that, up to 1600, at least 576 books with references to Japan were printed in Europe. See João Paulo de Oliveira e Costa, "O Japão e os Japoneses nas Obras Impressas na Europa Quinhentista", *O Japão e o Cristianismo no século XVI: Ensaios de História Luso-Nipónica*, Lisboa, Sociedade Histórica da Indepêndencia de Portugal, pp. 189-290, and João Paulo de Oliveira e Costa, "Japan and the Japanese in Printed Works in Europe in the Sixteenth Century", *Bulletin of Portuguese-Japanese Studies*, Vol. 14, 2007, pp. 43-107.

[165] Letter of Xavier to the Goa Jesuíts, Kagoshima, November 5, Documentos I, pp. 142-144.

[166] This approach to missionization has been called "downwards evangelization" in the context of the early modern Christian missionization of India by Luís Filipe Thomaz, "Uma Visão Cristã do Hinduísmo, na Primeira Metade de Seicentos", *Disdaskalia*, Vol. 29, Lisboa, Universidade Católica Portuguesa, 1999, pp. 163-184.

through the lord, the father, the elder brother, or the husband.[167] Therefore he determined to go to Miyako, the capital city, where were the Emperor, the Shogun, and the great lords of the home provinces. And where were also the *universities*.

It was not easy to leave Kagoshima due to the whims of Takahisa,[168] but it was even more difficult to reach the imperial city.[169] When he finally arrived there the disappointment was sharp: the city was ravaged by the war, the Emperor would not meet a foreigner in rags and without the proper presents, and what he thought were the Universities in the capital turned out to bear no semblance with the Sorbonne.

From his trip to the imperial city Xavier learnt a few things. Let us mention three. One was that in Japan appearances matter: they signal status. *Mestre* Francisco might hold a masters' degree from the Sorbonne, the Spanish *hidalgo* might have blue blood, but if he was in rags he was signalling his condition as a nobody. Nodes of relations between groups are established between people of similar level. In Japan bus drivers salute bus drivers of other companies; but they do not salute the chiefs of bus drivers of other companies, their *buchō* or *shachō*; likewise the two *shachō* may be on the best of terms but they do not wave at the other's bus drivers. The emperor might receive an ambassador, the envoy of a king, but not his jester.

Another was that status does not correlate with power: the Emperor and the Shogun were then powerless and the real power resided with the local daimyo. Therefore Xavier changed clothes, took his role as emissary of the Viceroy of India, and presenting Ōuchi Yoshitaka 大内義隆 (Eishō 4.11.15—Tenmon 20.9.1, 1507.12.18—1551.9.30), lord of Yamaguchi, with the letters, the watch and the other presents from the Vice-Roy of India, originally destined for the Emperor, asked him permission to preach in his domains. It would be there that a half-blind minstrel was converted, and became Brother Lourenço, one of the most powerful evangelists of all times.[170] It would

[167] It should be noted, however, that Japanese women, especially of noble origin, enjoyed a high degree of independence in the choice of their religious affiliation—as well as in their other intellectual and artistic preferences. On this issue see for example, José Lopez Gay, *El Catecumenado en la Mission de Japón del Siglo XVI*, Roma, Libreria dell'Universitata Gregoriana, 1966, pp. 118-125.

[168] Joseph Jennes, *A History of the Catholic Church in Japan: From its Beginnings to the Early Meiji Era (1549-1873)*, Tokyo, Oriens Institute for Religious Research, 1973, p. 9.

[169] See Schurhammer, *op. cit*., pp. 163-187.

[170] João Paulo Oliveira e Costa, "Lourenço, um Japonês Evangelizador no Japão", *Mare Liberum*, vol. 5, 1993, pp. 129-138 (also in João Paulo Oliveira e Costa, *O Japão e o Cristianismo no Século XVI: Ensaios*

also be there that he had some of the most intense disputations with Buddhist monks, bonzes of various sects, but especially those of Shingon.

Let us pause for a moment and take the view of the events that a Buddhist monk had, and return to Sōsai's account once again. After the arrival of the ship at Bungo with many merchants and crew it was found that two figures stood out:

"One of them is called *San Furanshisuko Shabieru*[171] and the other *Gasuparu*[172]. These two are called *bateren*, which we translate here as bonzo. They are accompanied by an individual called *Rorenso*, who is an *iruman*, which we translate here as *shuso*[173]. This man is supposed to have been born in Yamato in Japan, his real name being Ryōsai. From Kagoshima he proceeded to Rōma, where he studied Catholicism[174], later having returned to Japan. This is the religion that is called Christianity.

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de História Luso-Nipónica, Sociedade Histórica da Independência de Portugal, Lisboa, 1999, pp. 87-106); João Paulo Oliveira e Costa, "Luís Fróis et Lourenço: Histoire d'une Amitié Luso-Nipponne", *Daruma: Revue d'Études Japonaises*, Vol. 12/13, Editions Philippe Picquier, 2002-2003, pp. 55-65; Kataoka Yakichi, "Life of Brother Lourenço", *Missionary Bulletin*, vol. 3, 1942, pp. 12-25; Ebisawa Arimichi, "Irmão Lourenço, the First Japanese Lay-Brother of the Society of Jesus and His Letter", *Monumenta Nipponica*, vol. 5, 1942, pp. 225-233.

[171] Alias St. Francis Xavier. The *Taiji Jashū-ron* is the only work amongst Japanese anti-Christian literature to represent Xavier's name in a phonetically correct manner. One would have to wait for *Seiyō Kibun* by Arai Hakuseki, who had the opportunity to hear the name of the *Magno Orientis Apostolo* correctly pronounced by Giovanni Battista Sidotti (1668-1714.11.27), to obtain another good phonetic approximation: *Furanshisukusu Saberiuzu*. Sessō, it is obvious, does not interpret *San* as an indication of the holiness of the Jesuit. At any rate, the person who communicated this name to him was, in all probability, a Christian. One may further add that, in another piece of anti-Christian literature, the *Bateren-ki*『伴天連記』, dating from the Keichō Period (1596-1610), Xavier is referred to as "Meina Furamushishiko", omitting his family name.

[172] Without doubt, this refers to Gaspar Vilela, who arrived in Bungo in 1556 and began to preach in Kyoto in 1559, where he was to become very well known, especially amongst the Buddhist clergy. Before that he would earn, between the pious Buddhists of Hirado, a reputation as an ardent *bateren*. It should be remembered, though, that it was not Vilela but Cosme de Torres who traveled with Xavier from Malacca to *Ashihara no Nakatsukuni*. But the memory left among the *bonzos* by Torres, who had a less fiery personality than Vilela, was bound to be less sharp and was destined to be replaced by that of the consuming *Gasuparu*.

[173] "Xuso. *Certa dignidade entre os Bonzos*." Vocabvlario, fl. 315.

[174] We translate *tenshukyō* 天主教 as Catholicism. Although the Christians in Japan in the 16th and 17th centuries did not call their religion by the term *tenshukyō*, this was the official designation of the Catholic Church in China. In Japan, this expression spread amongst the educated segment of the population from the beginning of the 17th century onwards, by means of the influence of books imported from China. From the 19th century onwards and until the middle of the 20th century, this was also the official designation of the Church in Japan. In his treatise, Sessō will subsequently seek to demonstrate that Christianity not only stole doctrines from Buddhism but also took from it this designation.

Well now, substituting the *bateren*, this *Rorenso* began to preach Catholicism and to make conversions, which numbered about one hundred people. *Shabieru*, in order to expand the faith remained in Japan for some time, while *Gasuparu* returned to *Rōma* the following year to send some more *bateren*."

This other vision of the arrival of the *bateren* is important because it confirms the gist of the history told in the western sources. It will thus serve as bulwark against any attempt to des-construct those sources. It is also important because it shows how these events were seen and preserved for later generations of Japanese. From amongst the missionaries it makes reference to Xavier and Vilela but describes their missionary activities inaccurately. For example, it presents Gaspar Vilela[175] (1525-1572), instead of Xavier, as having left Japan to go abroad to recruit more missionaries for the Japanese mission. These two missionaries stood out in the psyche of a seventeenth century non-Christian by the commotion they created in Yamaguchi, Hirado and Miyako. It also makes mention of Brother Lourenço and of his extraordinary ability to make conversions. However, it should be noted that Sōssai makes Brother Lourenço a symbolic manifold where Lourenço stands not only for himself, but also for other outstanding Japanese converts, namely Yajiro, who brought Xavier to Japan, and Tomás Araki 荒木トマス (?—Shōhō 3, ?—1646), a Jesuit who traveled, studied, and was ordained in Rome, and who used to recite the Divine Office with Cardinal Roberto Bellarmine (1542.10.4—1621.9.17).[176] But the fact remains that this *Rorenso* was so gifted that he could take the place of *bateren* and preach. The inexactitudes in the account of Sōssai are but minor and due to the confusion of complicated foreign names which the priests put to the Japanese.

Third, Xavier also learnt from his visit to the capital that the Japanese, perceiving hierarchies everywhere, put Chinese scholars a notch above their own. The consequence the Jesuit drew was that it would be easier to convert the Japanese cultured classes after converting the Chinese, because the conversion of the latter would be a powerful example to the former.[177] After spending some months in Yamaguchi and then

[175] About Gaspar Vilela see Madalena Ribeiro, "Gaspar Vilela, Between Kyūshū and the Kinai", *Bulletin of Portuguese-Japanese Studies*, vol. 15, 2007, pp. 9-27.

[176] Jennes, *op. cit*., p. 133.

[177] Some authors consider that Jesuits were, at least in some of their facets, elitists, what presumably means that they worked from the top of the social pyramid. See for example, Elison, *op. cit*., p. 65; and

some more in Bungo, at the invitation of Ōtomo Yoshishige, he decided therefore to go and preach in China. It was at the end of 1551.

4. The blowing wind and the bending grass

Xavier left behind one priest, Padre Torres, one lay brother, Irmão Fernandez, and some 800 converts. [178] The Japanese Mission would always suffer from understaffing: there were two priests in 1555, three in 1559, four in 1563, and seven in 1565. Their numbers would reach ten in 1574 and a maximum of forty-six in 1596.[179] Consequently, most places, even some of those with a considerable population of Christians, would be permanently or for long periods without a resident priest. In a letter of October 13, 1599, Valignano put in very graphic terms the general lack of priests in Japan:

"[N]ão ha padre que não tenha dez, doze quinze e uinte pouoações a seu cargo, padecendo trabalhos intoleraueis em acudir aos doentes, e enterrar os defuntos e confessar cada anno tanta gente e com tudo isto ficão mais de dois terços de christãos sem se poderem confessar."[180]

The Mission would also always suffer from lack of resources.[181] Padre Vilela resided in Miyako for three full years after September 1559 unable to celebrate the Eucharist, as he had no mass kit.

To these we must add the increasing hostility of the Buddhist clergy, and local persecutions "due sometimes to the imprudent zeal of the missionaries and the new

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Madalena Ribeiro, "The Christian Nobility of Kyūshū: A Perusal of Jesuit Sources", *Bulletin of Portuguese-Japanese Studies*, Vol. 13, 2006, pp. 45-64. Xavier going to China with the objective of converting Japan is a rare case cross-border elitism.

[178] Jennes, *op. cit*., p. 11.

[179] João Paulo Oliveira e Costa, "Os Jesuitas no Japão (1549-1598). Uma Análise estatística", in João Paulo Oliveira e Costa, *O Japão e o Cristianismo no Século XVI: Ensaios de História Luso-Nipónica*, Sociedade Histórica da Independência de Portugal, Lisboa, 1999, pp. 17-47.

[180] Cited in João Paulo Oliveira e Costa, *O Cristianismo no Japão e o Episcopado de D. Luís Cerqueira*, Doctoral Thesis, 1998, p. 295. Concerning the lack of missionaries, especially priests see also Jennes, *op. cit.*, pp. 35-38, and 235-239, and Oliveira e Costa, *op. cit.*, pp. 141, 205-206, 613-614, 646-650. Note that one of the activities of the priests was "to help the sick". To these healing activities we will return later.

[181] See João Paulo Oliveira e Costa, *op. cit*., pp. 106-124; Jennes, *op. cit*., pp. 15-16, Boxer, *op. cit*., pp. 113-121.

converts"[182]. Then there were also constant political troubles, revolts and wars. Even if the political situation allowed the missionaries to always find tolerant and friendly daimyo in some place or other, still there was almost no location where the missionaries, their churches, houses, colleges and printing presses could stay put and undisturbed for a reasonable period of time: Kagoshima was completely abandoned after the departure of Xavier; the church in Yamaguchi was burned by the troops of Mōri Motonari in 1557 and its land confiscated; Vilela was expelled from Hirado in 1558 and the church destroyed; the mission of Hakata was destroyed by a revolt in 1559 against Ōtomo; the Jesuits had even to flee from Funai and Usuki in 1584 with their novices and with the students of the *colégio* when Shimazu's armies invaded these cities; when Takayama Ukon was moved from Takatsuki to Akashi in 1585 many Christians moved with him and the church all but disappeared from the costal area of Takatsuki.[183] Then there were the Edict of Banishment of 1587 and the Edict of Expulsion of 1614. However, in spite of these difficulties the number of converts would increase steadily between 1552 and the first years of the seventeenth century.

Therefore, in spite of the above mentioned handicaps and other difficulties, the Mission fulfilled Xavier's expectations and became a great religious success. During the age of the discoveries in no other place did so few achieved the conversion of so many in such a short period of time unaided by the secular power. A local and unsympathetic observer would write at the end of the Christian adventure:

"[The Southern Barbarian priests] used the teachings concerning the theory of Paradise and Hell, as well as works of charity and compassion, and because of these [teachings and works] the destitute and the simpletons, as the grass is bended down by the wind, lost their adherence to the heavenly truth. The Southern Barbary priests seizing the favourable opportunity took control of the events, planned to take over the country and to destroy national customs."[184]

Another would describe this success with a powerful image:

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[182] Jennes, *op. cit*., pp. 13.

[183] However it remained strong in the mountainous regions, where it was sometimes visited by a priest. See Matsuda Kiichi 松田毅一, "Takatsuki" 「高槻」, in *Nihon Kirisuto-kyō Rekishi Daijiten*『日本キリスト教歴史大事典』, Tokyo, Kyobunkan 教文館, 1988, p. 824.

[184] Mukai Gensho in the Preface to the *Kenkon Bensetsu*. See Chapter VI.

"To change [one's] Buddhism and become Christian is as easy as turning over one's hand." [185]

During the first twenty years after the departure of Xavier the mission had two superiors. The first was Cosme de Torres (1510—1570.10.2)[186] who led the Mission from 1551 to 1570. He was a largely built man with a kind heart and humility that easily ingratiated him with the Japanese he came into contact. He was learned as any Jesuit should have been and thanks to his close contact with Xavier for long years he came to incarnate his spirit. With the meagre resources available he tried to expand the geographical reach of the mission, especially in Kyushu and in the capital region. He paid attention that the neophytes received proper instruction, and was concerned that the children, the second generation Christians, received proper doctrinal instruction.

Under Torres a variety of methods and approaches to evangelization were employed. Some of the new fields, such as Yokoseura and Miaco were opened by a priest assisted by a *dōjuku*. Others such as Kuchinotsu and Shimabara were taken by a Brother assisted by Japanese helpers.

The missionaries had prepared sermons written in Japanese which they followed as circumstances demanded. These texts were hand-written, probably in *romaji* for the foreign priests and brothers, in Japanese script for the Japanese. There are numerous testimonies, as we will see later, that the more serious catechumens took notes during the instruction and would later come back to the preacher or his helper for further elucidation. Much later, in the 1590s, basic catechetical books were printed both in *romaji* and in Japanese characters.

How each missionary actually presented the catechism varied, if we are to believe the passing remarks that can be gleaned from the letters written by the missionaries. However, probably we are not making a gross mistake if we suspect that

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[185] Letter of Hayashi Razan to Ishikawa Jōzan 石川丈山 (Tenshō 11—Kanbun 12.5.23, 1583—1672.6.18), dated of 1654, cited in McMullen, *op. cit*., p. 159.

[186] Cosme de Torres was born and educated in Valencia. After ordination he taught Latin in Mallorca, Valencia and Terragona. In 1538 he went to Mexico and in 1548 crossed the Pacific. He met Xavier in Amboin in 1547. He was admitted to the Society in 1548. In 1549 he went to Japan with Xavier where he stayed until his death. He took Brothers Lorenço and Almeida into the Society. "Se adelantó 30 años a Mateo Ricci en promover la adaptación de los misioneros a las costumbres orientales." Documentos I, p. 40*. Valignano, in his *Historia del Principio y Progresso de la Compañia de Jesus en las Indias Orientales* states that with his death the first generation of the Japan Mission came to an end.

their contents were pretty much the same even if their presentation varied. To this topic we will return in the next chapter.

It was during the first years of Torres as superior of the Mission that the vexing problem of appropriate terminology was dealt with in a systematic way. When Xavier first preached in Japan he depended on Yajirō as interpreter and linguistic guide. Yajirō was a former Shingon Buddhist with very limited education, with but little grasp of *kanji*, or Chinese characters, and of Buddhist philosophy. We naturally drew from Shingon vocabulary words to express concepts new to Japanese thought. He taught Xavier to use *Dainichi* to express the idea of the one God, *tamashi* to enunciate the concept of the human spiritual soul, and *buppō*, literally the Law of the Buddha, to mean religion in general and Christian doctrine in particular. It is doubtful that even if he had been a learned scholar he could have been able to find within the Japanese language the perfect solution for expressing the many and novel concepts brought by Christianity. However at least he would have been able to point to Xavier the difficulties involved in the words that he proposed for adoption, and this he didn't. When Xavier learnt to his dismay that *Dainichi*, the *Great Iluminator*, was one of the Great Buddhas together with Shaka and Amida, he immediately stopped using it and started using the loan word *Deusu*. Still the missionaries continued to use many other Buddhist terms for some years. This situation only changed when another missionary, Balthasar Gago, in turn became aware of the problem. He described in the following way what he did then:

"Têm estes algumas palavras por onde lhes pregávamos a verdade muito tempo, as quais elles usão em suas seitas, nas quais, depois que caí nellas, vi o dano. Logo as mudei, porque querer tratar a verdade com palavras de engano e mintira fazião elles entendimento falso. De maneira que em todas as palavras que vejo que lhe são perjudiciaes lhes insino as nosas mesmas, para que além das cousas que são novas, pera estes terem necessidade de palavras novas. São as suas muito differentes no coração do que nós pretendemos.

Assi como acabado de lhe declarar que quer dizer crus, chamão-lhes elles em sua língoa jumosi, que hé letra sua á feição de cruz, que quer dizer dez. E assi pareses-lhes aos simpres que a cruz e a sua letra hé o mesmo. De maneira que hé que a cada passo e sobre cada palavra se lhe avia de dar o coração e declaração della, ou que se lhe

avia de mudar a tal palavra. E assi desta maneira mais de 50 palavras que fazião dano."[187]

As we just read, Gago took into consideration two possibilities to solve the terminological problem confronting Christianity. One was to take over Buddhist terms and attach to them the new intended meaning, or "sobre cada palavra se lhe avia de dar o coração e declaração della". This was similar to what the Church had done with Greek and Latin vocabulary in the first centuries of Christian history. The main difficulty in adopting this solution was that the old connotations would still remain with the word, opening the way for heterodox and syncretic interpretations to arise among the Japanese converts. Another was to retain the Portuguese or Latin terminology, or "que se lhe avia de mudar a tal palavra". This would be similar to the method followed by the missionaries to the German peoples. However, this solution would imply that the foreign character of the new religion would be made the more visible. This seems not to have been a problem, as more than half a century later it was remarked by Camillo Costanzo that "everybody was so well satisfied that even the pagans used these words".[188] A third possible solution would have been of formation of new words based on new combinations of the existing Chinese characters, a solution that would start to be used half a century latter in China. Why didn't Gago consider it? Most probably because he had still a quite rudimentary knowledge of the Japanese language and thus was not aware of this possibility. That can be gauged by the description he makes of the Japanese writing system on the letter just cited.[189]

The missionaries did not restrict their activities to the propagation of the Christian faith, spreading "teachings concerning the theory of Paradise and Hell" as Genshō put it in his preface to the *Kenkon Bensetsu*.[190] They also opened schools to teach children to read, write, sing, and count.[191] This was an area that was dear to Torres possibly because of his past as a school teacher and because of his adherence to the

[187] Letter of September 23, 1555, to the Jesuits in India and Portugal, Documentos I, pp. 569-570.

[188] Cited in Hubert Cieslik, S.J., "Balthasar Gago and the Japanese Christian Terminology", *The Missionary Bulletin*, Vol. 8, pp. 82-90.

[189] Documentos I, pp. 563-564.

[190] See Chapter VI.

[191] Ebisawa Arimichi, *op. cit.*, p. 15. More will be said about schools in Chapter III.

Jesuit ideal of education he imbibed from Xavier. The Jesuits also opened a hospital and a leprosarium and wherever they went they were asked to heal the sick and the injured. They organized or helped organize *misericordias*, *irmandades* and *confrarias*.[192] In one sentence, they also performed and organized "works of charity and compassion", to borrow an expression used by Genshō.

The second mission Superior was Padre Francisco Cabral (1533—1609.4.16)[193], from 1570 to 1581. He was learned and virtuous, but earned the fame that he had not much empathy with others, especially when they were Japanese. This may be correct, but one should point out that just after becoming Superior he had asked permission for the admission of Japanese into the Society of Jesus, thereby showing he was no white supremacist. This permission was not granted immediately by his superiors in India and Europe.[194] Moreover, at the urging of a Jesuit *Visitador* then in India, Cabral held a consultation with other Jesuits in 1576, where it was concluded that a novitiate for admission of Japanese candidates to the Society in Japan was necessary.[195]

As a former soldier Cabral felt at home in the martial and hierarchic Japanese society—at least in the outlook. He was strict with himself and with the others: he forbade the use of silk and imposed the use of the black cotton cassock that was immortalized in the *Nanban Byōbu*.[196] The missionary strategy that he closely followed

[192] See João Paulo Oliveira e Costa, "The *Misericórdias* Among Japanese Christian Communities in the 16th and 17th Centuries", *Bulletin of Portuguese-Japanese Studies*, vol. 5, 2002, pp. 67-79, and Ebisawa Arimichi 海老沢有道, *Kirishitan no Shakai Katsudō Oyobi Nanban Igaku* 『切支丹の社会活動及南蛮医学』, Tokyo, Fuzanbo 冨山房, 1944.

[193] Francisco Cabral, after studying at Coimbra University moved to India in 1550. He came into contact with the Jesuits in Ormuz, and was admitted into their ranks in 1556. After studying philosophy and theology he was ordained in 1558. In 1568 he was sent to Japan where he arrived in 1570.6.18, and became superior of the Mission. Not agreeing with Valignano policies for the Japan Mission he resigned in 1680 and moved into Macao in 1583. He returned to India where he was provincial between 1592 and 1597.

[194] Üçerler, *op. cit.*, pp. 16-17.

[195] *Ibid*., pp. 17-19; Josef Franz Schütte, *Valignano's Mission Principles for Japan*, John J. Coyne (trans.), St. Louis, Institute of Jesuit Sources, 1980, vol.1, pp. 230-238.

[196] Fujita, *op. cit.*, p. 70. On the views of Cabral about the importance that the missionaries kept their Jesuit identity see Pedro Lage Reis Correia, "Francisco Cabral and Lorenço Mexia un Macao (1582-1584): Two Different perspectives of evangelization in Japan", *Bulletin of Portuguese-Japanese Studies*, vol. 15, 2007, pp. 47-77.

was to work from the top.[197] He got along well with Nobunaga and Hideyoshi. He was also in good terms with many daimyo.[198] During the time he was superior the mission achieved a remarkable expansion, thanks to the conversion of large swathes of population in fiefs such as Ōmura, Arima, Amakusa, and Hizen.[199] This was made possible thanks to the hierarchic structure of Japanese society. That much Cabral was aware of, even if we were wrong about the reasons of it being thus:

"Cuanto al proceder de la cristiandad en estas partes, como ya tengo escrito a V.R., los mejores apóstoles que hay son los señores y tonos, porque como comúnmente vivan de las tierras y rentas que ellos les dan y todos [el pueblo] sean tan pobres que no tienen más que lo que la tierra les da con se cultivar, dependen tanto de los señores, que no conocen outros dioses; y por eso si les dicen que sean de una ley lo son fácilmente y dejan comúnmente la que tienen, y si el señor no les da licencia para tomar otra, por mucho que lo deseen no la toman. Y esto vi yo por experiencia en algunas partes donde estuve este año, y donde el Señor hizo mucho fruto en la conversión, porque para que se hicieran muchos lugares cristianos, no era más necesario que mandarles decir el tono que oyesen predicación, para que luego todos se hiciesen cristianos; y por el contrario, otros que por tener oído las cosas de Dios y ser iluminados, deseando en extremo de ser cristianos, y pidiéndome que les alcanzase licencia de los señores para lo ser, sin eso decían que no podían. Y aun esta licencia no hasta cualquiera, sino han de entender que el señor los dice, porque huelgan con eso; y así como, con sólo el señor los mandar que sean cristianos, lo son, así también comúnmente si les torna a mandar que no lo sean, lo dejan de ser."[200]

Cabral was right in his description of the importance of vertical relationships in Japanese society and of its implications to the process of conversion. But of course, he was wrong in attributing the docility of a retainer to his lord's wishes only to economic motives, and not to his sense of honour, that is, to his group orientation, to his craving for harmony, and to his deep sense of hierarchy. Cabral was therefore a lucky man,

[197] Fujita, *op. cit*., p. 71; José Lopez Gay, *El Catecumenado en la Mission de Japón del Siglo XVI*, Roma, Libreria dell'Universitata Gregoriana, 1966, pp. 93-96.

[198] Fujita, *op. cit.*, p. 71.

[199] Jennes, *op. cit*., p. 71.

[200] Letter of Cabral to the General, cited in José Lopez Gay, *op. cit.*, p. 94.

someone whose gap between perception and reality did not hinder his successful action and the attainment of his objectives.

These conversions engineered by taking advantage of the social structure and corresponding dynamics of behaviour in Japanese society were not without an internal contradiction, as some missionaries candidly admitted. One such was Frois:

"Aqui não deixara de ocorrer hũa duuida, a qualquer pessoa q não tiuer noticia & experiẽcia grade das cousas de Iapaõ, como sendo nos homẽs q professamos absolute desprezo do mundo, derdadeira imitação de CHRISTO, & resinhação de todas as temporalidades, & gloria mundana, com que motiuo & porque causa me mouo descender nesta a tantas particularidades dos gasalhsdos, fouores, & honras que deste rei gentio, & dos de sua corte tenho rocebidos: porque pareçe que contar estas cousas tão largamente he sinal de algum gosto que me pode ficar no peito de semelhante materia. Porem como meu intento he somente escreuer esta a vossa Reuerencia, que tem tão boa & milhor noticia que eu do estillo de Iapaõ, & quam differente he o modo da conuersacão desta gentilidade, a todos os outros do vniuerso, fica pera v. R. & os mais padres e irmãos de Iapão não seruindo de nada a solução da duuida, pois a não tem, polo que saiba V.R. de certeza pola experiencia que tenho destas partes, que pera se fazer fruito na gente nobre & plebeia, he ponto tão essencial & sumanẽte necessario ter primeiro ganhadas as vontades dos Reis & Principes que gouernão a terra, de maneira que com clara euidencia conheção todos o amor, reputação & credito que nos tem, que sem isto (humanamente falando) por nenhũma via se fara fruito algũ".[201]

Therefore the missionaries had no choice but to use the social structure of Japanese society if they wanted to be effective in their efforts.[202] It was also during this period that the church made important progress in the capital and neighbouring regions especially among people of samurai rank. Nevertheless, and strangely for a former army official, Cabral did not seriously attempt to organize the Mission according to a clearly perceivable hierarchy, what was jarring to the Japanese Mission helpers and to the people in general, as they fell most uncomfortable in dealing with unstructured

[201] Letter of Luis Frois, from Miaco, to padre Belchior de Figueiredo, in Bungo, July 12, 1569, Cartas I, fl. 274-274v.

[202] How this method worked not only in Kyushu but also in central Japan, in the Miyako and surrounding region, is described in Lopez Gay, *op. cit.*, pp. 97-118.

groups.[203] Curiously, he also did not appreciate the importance of the foreign missionaries learning the local language rapidly and well. Or perhaps he did not believe it was possible, and consequently was negligent in providing teachers and available time for the new arrivals to learn it.

In a letter written by Cabral many years after leaving Japan we can appreciate his shallow understanding of Japanese society and behaviour:

"In case a halt is not called to the admission of the Japanese […] it is inevitable that the Society and, indeed Christianity in Japan will collapse. […] If now their natural ambition is given further scope by training them to be scholars, philosophers, and theologians, as Valignano wishes to do, then the trouble will break out all the sooner. […] How are the Japanese *irmãos* to behave once they have done their studies and are our equals in learning?"[204]

The answer is that having received *on* they would have felt *giri*, besides any *gimu* they would already have by the fact of having been brought up in the Church. Unless insulted they would be loyal.

Cabral's rule was cut short thanks to the arrival of Alexandro Valignano (1539.2.9—1606.1.20). Valignano disembarked from the carrack of Leonel de Britto at Kuchinotsu[205] on July 15, 1579, in the capacity of visitor general, sent by the Jesuit General Everard Mercurian (1514—1580.8.1). He came expecting to find a country peopled by a white race, honourable and curious, eager to hear what the missionaries had to tell about Heaven and Earth, rigorous in performing their duties and insistent in receiving baptism. Instead he found himself in a land where he could hardly communicate, where the people seemed devious, where everything was the opposite of what could be expected anywhere else and, more critically, where the same diversity of good, lukewarm and bad filled the Church just as in his native Naples. What he had read in the letters and reports sent to Macao, Goa and Rome proved to be only the *chiaro* part of the picture, without the *scuro*. He realized then, to his own frustration that, as a believer in the doctrine of the original sin he should have understood that the reports he

[203] Jennes, *op. cit*., pp. 44-45.

[204] Letter to João Alves, from Goa, in December 10, 1596, in Schütte, *op. cit.*, I, pp. 243-244.

[205] História, vol. III, p. 130.

had read could not have been the all truth, that the Japanese should also have had their own failings as all sons of Adam and Eve have, and that the Christians' appreciation for life inside the Church was not uniform. Valignano disappointment with the Japanese and the work of the Mission did not dent his missionary zeal, just re-centred it. He had "amor intrinseco a esta terra" as Frois puts it[206], and came to appreciate the honour and reasonableness of the Japanese.[207]

Valignano soon set to solve the problems he found in the Mission. One was the inexact picture that was drawn in reports and letters. He established that the responsibility for the Annual Reports belonged to the mission superior, and drafted recommendations on how it should be prepared. On the other hand all missionaries were left free to write to whom they wanted, what they wanted and how much they wanted.

But the most important reforms he introduced had to do with the adaptation of the Mission structure and missionary ways to Japanese culture.[208] His strategy was aptly summarised by Duarte de Sande some years later:

"[P]orque na verdade entre estas nacoins que sam tam apartadas das nosssas, e tem leis e custumes tam diferentes he necessario entrar com a sua para sair com a nossa[209], acomodando-sse a ellas no que permite nossa Sancta Fee, pera desta maneira lhe poder divulgar e ensinar nossa santa doutrina, a qual elles não receberião doutra maneira".[210]

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[206] *Ibid*, p. 130.

[207] "[Valignano] se não fartava de glorificar a Deos por nestas partes tão remotissimas haver gente de tanto primor e honra, e que tão deveras entrasse no conhecimento e gosto da sua santa ley como os japões", História, vol. III, p. 263.

[208] I drew the structure of what follows from Boxer, *op. cit*., pp. 212-218 and Jennes, *op. cit.*, pp. 42-49. Concerning the acculturation practiced by the Jesuits see also João Paulo Oliveira e Costa and Teresa Lacerda, *A Interculturidade na Expansão Portuguesa (Séculos XV-XVIII)*, Lisboa, Alto Comissariado para a Imigração e Minorias Étnicas, 2007, pp. 110-118.

[209] This observation is curiously similar to Laozi's apophthegm "when [one] is going to despoil another, he first makes gifts to him." *The Sacred Books of China: The Texts of Taoism*, James Legge (trans.), Vol. 1, New York, Dover Publications, 1962, p. 78.

[210] Annual letter of the Colégio de Macau, January 16, 1596, João Paulo Oliveira e Costa (direction and introductory study) and Ana Fernandes Pinto (paleographic transcription), *Cartas Ânuas do Colégio de Macau (1594—1627)*, Macao, Comissão Territorial de Macau para as Comemorações dos Descobrimentos Portugueses, 1999, p. 75

One of these was the establishment of clear ranks to all mission personnel and, concomitantly, as we will see next, the requirement that Japanese style rules of politeness be performed and accepted by all. The Japanese, as was mentioned earlier, are extremely hierarchical. When unable to perceive the hierarchy in a group they perceive chaos and feel uncomfortable. Granted that the Society of Jesus was amongst the orders of the Roman Catholic Church an especially hierarchical organization; it eschewed the extreme egalitarianism of the medieval orders like the Dominicans and Franciscans and had established three layers of membership with a degree of mobility between them similar to the one that there is between souls in Hell and Heaven. Still, the spirit of brotherhood that remained in its organizational culture, a sequel of the spirit of the founding ten initial *friends*, in practice had the effect of abating the differentiation of status in all but the most extreme positions. Perceiving the uneasiness of the Japanese Valignano decided to enhance the hierarchical structure of the Jesuits and pattern it according to that found in the Zen hierarchy.[211] The hierarchy was designed to include six grades into which the Jesuits and their helpers were assigned according to their rank and office in the Society: the vice-provincial at the top; then the district superiors, the priests, the brothers, the novices and the *dōjuku*. Let us consider the following passage from Fróis:

"Deixou mais o Pe. Vizitador ordenado o modo que haveriamos de ter acerca dos costumes e cerimonias, e maneira de proceder da terra, couza muito dezejada dos mesmos japões, para se guardar em nossas cazas e nos podermos melhor conformar com elles; e que não hé de pouca importancia para sermos bemquistos e tidos em boa opinião entre elles, porque, como os costumes e cerimonias desta terra são tão differentes e contrarios dos que se uzão em Europa, e athé agora não tinhamos huma certa ordem que houvessemos de guardar acerca delles, alem de isto cauzar entre nós huma certa confuzão, não sabendo como nos haveriamos de haver nos costumes e modo de tratar com elles, se seguião outros inconvenientes mayores ficando muitas vezes os japões offendidos, e cauzando-se huma certa divizão de animos e perda de muito frutto pela contrariedade que havia dos nossos e dos seos costumes. Pelo qual se ordenou que em todo se procedesse em nossas cazas conforme ao modio proprio e costumado de Japão, fazendo-se para este effeito huns avizos nos quaes podessem todos aprender os

[211] Jennes, *op. cit*., p. 45.

costumes e forma de proceder. E com isto e com os regimentos que deixou para se guardarem nas cazas e rezidencias para sermos todos uniformes, se entende que com a observação delles pode crescer muito entre os nossos a união dos animos e o frutto e reputação de nossa santa ley entre os jappoens."[212]

This passage has been traditionally read as to mean that Valignano told the Jesuits, among other things, to mind their words and to follow the Japanese rules of courtesy.[213] This interpretation is of course correct. But there is more to it. Language reflects social structure and, in turn, is a factor moulding it, and Japanese is no exception. Rather, it is one of the best examples of this fact. Japanese is a language that with its various levels of speech clearly reflects the markedly hierarchical structure of its society.[214] As there are half a dozen or more words for *you* in Japanese, the usage of each one depending on the relative position in the social hierarchy of the people in the interaction, to be polite is perforce to be hierarchic, that is, to acknowledge the relative position of each one in the relevant hierarchy. Padre João Rodrigues in his *Arte da Lingoa de Iapam* states:

"Toda a elegancia desta lingoa consiste em saber usar de varias honras, & particulas que pera isso tem dando a cada cousa seu lugar. De tres sortes podemos tratar destas honras respeitando sempre, quem fala, aquem se fala, diante de quem, & de que cousas: por que tudo isto he necessario." [215]

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[212] Historia, III, 177-178.

[213] See, for example, Fujita, *op. cit.*, p. 90.

[214] On the usage of polite language or *keigo* 敬語 there is a vast biography, most of which self help books written for the Japanese public to help them through this most complex, career endangering and marriage breaking of issues. For an example of one such see Suzuki Yukiko 鈴木雪子, *Utsukushī Keigo no Manā: Change your own Life*『美しい敬語のマナー : Change your own life』, Tokyo, Besutoserāzu ベストセラーズ, 1998; for the relation between politness, *keigo*, and social seting see *Danwa no Poraitonesu = Discourse politenes*『談話のポライトネス = Discourse politenes』, Tokyo, Kokuritsu Kokugo Kenkyūsho 国立国語研究所, 2001; on the basic theory of *keigo* see Takiura Masato 滝浦真人, *Nihongo no Keigo-ron: Poraitonesu Riron kara no Saikentō*『日本の敬語論 : ポライトネス理論からの再検討』, Tokyo, Taishukan Shoten 大修館書店, 2005; for an introduction in English of the subject see: Patrick Geoffrey O'Neill, *A Programmed Course on Respect Language in Modern Japanese*, Tokyo, Charles E. Tuttle Co., 1983.

[215] *Arte da Lingoa de Iapam Composta pello Padre Ioão Rodriguez, Portugues da Cõpanhia de Iesv diuidida em tres Livros*, Com Licença do Ordinario, e Svperiores em Nangasaqui no Collegio de Iapão da Companhia de Iesv, Anno. 1604, *ibid*., fl. 158.

In other words, to be elegant and courteous when speaking Japanese is to know first of all one's proper social place and the hierarchical position of the person one is addressing. However, this may not be enough. It may also depend on the position of a third party that may be present and of what may be spoken about. This is one of the trickiest aspects of the Japanese language that no one can learn even from the most skilled instructor if he lacks the necessary awareness of Japanese social dynamics.[216]

Therefore, when Valignano told the Jesuits to be polite to each other and to outsiders he was also telling them to acknowledge hierarchy both inside the Society and outside it.[217]

Closely related to this was another change that Valignano imposed and that had to do with manners and proper behaviour. Like Paul advised his spiritual sons not to become the cause of the fall of weaker brethren by eating or not eating meat consecrated to the idols, Valignano asked that the padres should take care not to be a motive of scandal to the Japanese by flaunting their deeply ingrained uses and customs. As we saw, he insisted on the appropriate use of honorific language that was the mutual acknowledgement of rank, so important for the peaceful interaction in a hierarchic warrior society. The Japanese rules of politeness, in speech and in demeanour, which clearly expose a vertical relationship, were until then seen by some as incompatible with the spirit of brotherhood that should exist between the members of the Society.[218] But they were a common feature of intra and inter group relationships in Japanese society and were considered necessary by Valignano if the Mission was to include native personnel and still work well. Cabral egalitarian dress code was abrogated and the

[216] See the *Arte*, fl. 158-166, for a most interesting exposition of the on the basic elements of polite language.

[217] Concerning the behaviours expected with those from outside the Society see Fujita, *op. cit*., p. 90.

[218] See letter from Valignano to Aquaviva, December 20, 1586, in José Luis Alvarez-Taladriz, *Sumario de las cosas de Japón (1583); Adiciones del Sumario de Japón (1592)*, *Monumenta Nipponica Monographs*, no. 9, 1954, Tokyo, Sophia University, p. 269: "Es verdad que el Padre Francisco Cabral de la China repara en muchas cosas, encereciendo estas honras y dignidades y diciendo que podrían hacer mucho mal a los nuestros; y traía para prueba de esto dos o tres inconvenientes que acontecieron sobre los dichos *Avisos*; diciendo que algunos querían declarer que el dogico y los mozos los habían de servir como suyos proprios aun en los colegios y casa, y que outros se alevantaban con semejantes honras. Y uno o dos de los Superiores de Bungo me tocaron también alguna cosa acerca de esto." See also Pedro Lage Reis Correia, "Francisco Cabral and Lorenço Mexia in Macao (1582-1584): Two Different perspectives of evangelization in Japan", *Bulletin of Portuguese-Japanese Studies*, vol. 15, 2007, pp. 47-77.

Jesuits were to dress according to their proper station.[219] Therefore, not only speech but also attire would make patent hierarchy inside the Mission to both those inside and outside it.[220] Valignano was also adamant on the necessity of always keeping equanimity and avoiding the display of emotion, the more important the higher the social position of a person, and of using an appropriate third party when necessary to convey admonishments that might be embarrassing, another necessary concession Christian brotherhood had to make to *bushi* hierarchy. And besides this he reiterated the importance of scrupulous cleanliness in body, dress and housing, and the avoidance of eating habits that were abhorrent to the Japanese.

One other reform had to do with language ability and the work necessary to acquire it. It came into Valignano's notice that a considerable number of European missionaries had a poor domain of the language and resigned themselves to remain in that lamentable state. Many of them were unable to preach in public and to hear

[219] Xavier had already experienced the different treatment that is given to a person in Japan according to how he dresses. See Jennes, *op. cit*., pp. 10-11, and Fujita, *op. cit*., p. 24 and p. 27. This lesson had not been lost on the missionaries that succeeded Xavier. Something similar happened in China where the missionaries very early changed their Buddhist monk like habit for the Confucian literati attire: "Nesta çidade de Xaucheo estão os nossos muito mais acreditados para com os chinas e mandarins grandes, do que nunca estiverão, […] pois o credito que dantes delles avia era baixo, por correrem por bonzos gente pouco estimada dos chinas; agora correm por letrados, e assi tomarão o vestido proprio delles, de modo que podem comunicar com os madarins, assi ordinarios, [...]", João Paulo Oliveira e Costa (direction and introductory study) and Ana Fernandes Pinto (paleographic transcription), *Cartas Ânuas do Colégio de Macau (1594—1627)*, Macao, Comissão Territorial de Macau para as Comemorações dos Descobrimentos Portugueses, 1999, pp. 83-84.

[220] Some fifteen years later, Valignano wanting to reposition the padres in the Chinese cultural market, would follow a similar strategy. He gave the following instructions: "por se tirar do nome dos bonzos que he tam vil e desprezado na China, deixassem de andar rapados e fizessem creser as barbas e se vestissem ao modo que vestem os letrados na China, dando-se por letrados e mestres da lei de Nosso Senhor Jhesus Christo e não por bonzos porque como os mandarins e letrados chinas que seguem seitas dos filosofos antigos, que forão entre elles letrados, e tidos por virtuosos, e não tem conta com os pagodes e leis comuns que pregão aos bonzos na China, que sam propriamente seus religiosos, ficarão os bonzos em mui baixo e vil conceito entre os letrados e mandarins, por que na verdade os bonzos entre elles sam comummente ignorantissimos, e gente baixa, e de vida mui perdida por onde terem os nossos este nome de bonzo entre os Chinas os fazia estar em mui baixo grao, e conseito entre os letrados e mandarins e muito melhor lhe vinha fazer-se mestres e pregadores da lei, tratandosse como letrados que ser tidos por bonzos porque desta maneira terião entrada com os letrados e com os mandarins e pregarião com mais conseito e credito nossa sagrada doutrina;" João Paulo Oliveira e Costa (direction and introductory study) and Ana Fernandes Pinto (paleographic transcription), *Cartas Ânuas do Colégio de Macau (1594—1627)*, Macao, Comissão Territorial de Macau para as Comemorações dos Descobrimentos Portugueses, 1999, pp. 74-75.

confessions in private.[221] This was a most unsatisfactory situation for a profession whose principal instrument is the use of the spoken, and to a lesser extent, the written word. He also noticed that those missionaries with less ability in Japanese were those that had greater difficulty in adapting to the ways of the country. A similar problem occurred with the Japanese Jesuits as only one of them had a working level of Portuguese.[222] He made mandatory the study of the language for all the newcomers, and that they should spend up to a year and a half if necessary studying it. To facilitate this learning he commanded that a grammar and a dictionary be prepared and a language school be established at Usuki.

But possibly the most important reform were the decisions to develop a native clergy and to establish the learning institutions necessary to that end. To this second reform we will return later.

As Cabral seemed less than enthusiastic in the implementation of many of these reforms, Valignano accepted his resignation. The next Superior, who would on short notice become Vice-Provincial, was Gaspar Coelho (c. 1530—1590.5.7)[223]. His were the golden years of the labour and expansion of the Mission. Benefiting from favourable political conditions, and from two energetic and capable labourers with profound sensibility to things Japanese[224], Luís Fróis (1532—1597.7.8)[225] and Gnecchi-Soldi Organtino (1533—1609.4.22)[226], the church made remarkable progress in central Japan

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[221] For the necessity to have interpreters in the confessionary see J. F. Moran, "The Language Barrier and the Early Jesuits in Japan", *Stirling Occasional Papers on Japan*, no. 4, 1992, p. 10.

[222] Matsuda Kiichi, "Valignano" 「ヴァリニャーノ」, *Nihon Kirisuto-kyō Rekishi Daijiten*『日本キリスト教歴史大事典』, Tokyo, Kyobunkan 教文館, 1988, p. 152.

[223] Born in Oporto he was admitted as a Jesuit in March 1556 in Goa. He studied theology there and was ordained priest around 1560. He came to Japan in 1572 where he worked in the Shimo region. Chosen by Valignano he was Vice Provincial from 1581 until his death in 1590.

[224] João Paulo Oliveira e Costa, *op. cit*., p. 165, describes them as "figuras que se destacaram pela sua capacidade de enquadramento na civilização nipónica".

[225] Born in Lisbon he was admitted as a Jesuit in February 1548. He was sent immediately to India. In Goa he studied philosophy and theology and was ordained in 1561. He arrived in Japan in 1561 and worked in Miyako and Sakai between 1564 and 1576. Then he was in Bungo until 1581. Afterwards he worked as interpreter and secretary to Valignano and Coelho. During this time he wrote his *Historia de Japan*. For a brief account of his life see Historia I, pp. 3*-10*.

[226] Admitted to the Society in 1556, he was briefly in charge of the Colégio de S. Paulo in Goa. He arrived in Japan in 1570 and was sent to help Frois in the region of the capital. He was one of the foreign missionaries that understood better the Japanese costumes, religion and politics. It was him that mediated

and amongst the warriors and literati. They were also the years when the new principles for the Mission of Japan established by Valignano started to be implemented and slowly began to bear fruits. One of these was the decision to give priority to extension over deepness in catechesis, to build a large Church of multitudes rather than a select sect of the true believers.[227] This did not mean shallowness of belief or thinness of doctrine. Rather it meant a catechetical process adjusted to the capabilities of the potential converts: as much time and as many explanations would be given to those who wanted and needed them, such as the intellectuals and military and religious leaders, and the just necessary to the others: "con los rudos, y de poco ingenio se acomodará predicándoles solamente cosas fáciles y necesarias brevemente".[228] These were the first of the twenty and more years when conversion after conversion clearly shows the great religious success of the Mission. That the mission was a religious success is born by the above citation of Genshō. Sōsai writes something similar:

"In the meanwhile, *Shabieru* finally succeeded in converting the lord of the region. He built a temple and continued to preach. The people who converted on this occasion were as numerous as [the stalks of] hemp and millet in the fields."

This description also confirms the generally accepted view concerning the conditions for the success of the Japanese Mission: the conversion of the lord facilitated the process but the priests had to preach.

This period, however, was also the time when the seeds of a great political failure were sown. Several small incidents contributed to this failure as through their repetition they ingrained in the Japanese the belief that they were not assisting to unfortunate and forgettable episodes. Some had to do with the missionaries taking sides in the continual struggles between Japanese barons. One of the most memorable was the effort made by them on the behalf of Oda Nobunaga to the effect of Takayama Ukon

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in 1578 the defection of Takayama Ukon to Nobunaga's camp. After Hideyoshi's edit of expulsion he went underground but surfaced again in the capital in the early 1590s. See Matsuda Ki-ichi 松田毅一, *Oruganchino Shinpu Shoden, Kagayaku Miyako no Shito* 『オルガンチノ神父小伝、輝く都の使徒』, Tokyo, Don Bosuko-sha ドン・ボスコ社, 1947.

[227] The process of how this choice was made by the missionaries is described by José Lopez Gay, *El Catecumenado en la Mission de Japón del Siglo XVI*, Roma, Libreria dell'Universitata Gregoriana, 1966, pp. 11-36.

[228] Valignano, *Jap. Sin*., 2, fl. 135, cited *ibid*., p. 42. Concerning the duration of the catechetical process see *ibid*., pp. 36-51.

deserting Araki Murashige 荒木村重 (?—c. 1586) in 1578. Others had to do with imprudent remarks and behaviour on the part of sailors and captains as were, for example, the remarks of the pilot of the *San Filipe* to the effect that conquest of foreign lands by the King of Spain were prepared by the evangelization of those lands. At the same time there was the open involvement of Jesuits in trade and diplomacy. The most ostensive examples were the appointment of Padre João Rodrigues by Ieyasu as his *procurador*, and Fray Jeronimo de Jesus commissioning also by Ieyasu to open trade between Japan and the Philippines.[229] In the end, it was also the great number of conversions and the transfer of allegiance these converts operated from their lords to the Lord of Heaven that attracted the misgiving of Hideyoshi first and Tokugawa later, and which served as basis for the popular vision, expressed by the above citation from Genshō, to the effect that the foreign priests "planned to take over the country and to destroy national customs".

The successors of Coelho before the Edict of Expulsion of January 27, 1614, Pedro Gomez (1535—1600.2.21)[230], Francesco Pasio (c. 1554—1612.8.30)[231], and

[229] See Michael Cooper, S.J., *Rodrigues, O Intérprete: Um Jesuita Português no Japão e na China do Século XVI*, Tadeu Soares (trans.), Lisboa, Quetzal Editores, 2003, pp. 267-276; Fujita, op. cit., pp. 150-152.

[230] Born in Antequera near Malaga, he was admitted into the Society on December 12, 1553, in Alcalá de Menares. In 1556 received a Master of Arts, but one year earlier was already teaching a course of arts in the Colégio de Coimbra. In the following years he would teach the complete curriculum of the course of arts in Coimbra and in the Colégio de Angra. He collaborated in the edition of the *Institutionum dialecticarum. Libri octo*, Lisboa, 1564, with Pedro da Fonseca (1528—1599) and Cipriano Suárez (1524—1593). In 1579 he leaves Azores to go to Japan. He arrives in 1883 and until his death in 1600 he would spend the best of his time teaching. In 1590 he becomes Vice-Provincial, a responsibility he would discharge until his death. Meanwhile he would write the *Compendium Catholicae Veritatis*, in 432 folios. For further information on his life see: Joseph Franz Schütte, *Monumenta Historica Iaponiae I. Textus catalogorum Iaponiae aliaeque de personis domibusque S. I. In Iaponia. Informationes et relations, 1549-1654*, Monumenta Historica Societatis Iesu, 111, Monumenta Missionum, 34, Romae, Monumenta Historica Soc. Iesu; Üçerler, *op. cit.*, pp. 30-31; Obara Satoru "Kirishitan Jidai no Kagaku Shisō" 「キリシタン時代の科学思想」, *Kirishitan Kenkyū* 『キリシタン研究』, vol. 10, pp. 101-178; José Miguel Pinto dos Santos, "As Distâncias dos Céus aos Infernos na Cosmologia Nanban", *Anais de História de Além-Mar*, vol. 5, 2004, pp. 415-479.

[231] Born in Bologna he was admitted into the Jesuits on October 24, 1572. He was ordained in Lisbon and in 1578 moved to India. In 1582 he reached Japan. Pasio worked in several places, notably Sakai and Bungo. In 1600 become Vice-Provincial after the death of Gomes. In the Spring of 1607 he visited Edo and met the Shogun. In 1611 he was appointed Visitador of China but could only leave Japan in May of the following year. Shortly after arriving he would die in Macao. See Schütte, *op. cit*.

Valentim de Carvalho (1558-1631)[232] presided over an expanding Mission and an extraordinary cultural output, the collective work of many of its members. Because the expansion of the Mission and the conversion of many Japanese during this period were helped in no small degree by this output it might be worth to briefly outline the major areas of contribution made by the Jesuit missionaries.

5. Material Church

We turn then to a brief review of a few areas where the Mission had an impact on the Japanese material culture. In the brief considerations that follow, we will omit reference to natural philosophy and astronomy because they will be the focus of most of the remaining chapters.

5.1 Medicine

We may do well by beginning with another science: medicine. In the context of the Japanese Mission medicine bears some resemblance with natural philosophy. First, it was a science of which many Jesuits had an elementary but working knowledge of. Very few Jesuits had formal training in medicine, and the same can also be said of the cultured laymen and friars of the mendicant orders who came to Japan. Still most of them had some knowledge concerning the most common diseases and wounds and about the more common treatments a European doctor would prescribe.

This similarity though real is tenuous in this sense: almost all Jesuit professed priests *did* have formal training in natural philosophy and *did not* have formal training in medicine. As will be argued below, in reality they did know enough about how to care the sick and injured, enough to be sought after by the afflicted in body almost as much as by the ill in the soul. Where they got the necessary practical knowledge

[232] Born in Lisbon he was admitted into the Society in 1576. He was sent to India with Luís Cerqueira in 1594, and arrived at Nagasaki with Valignano in 1598. After spending some time in Miyako leaning the language he returned to Macao in 1601. In 1609 Carvalho returned to Japan to become in 1611 the first Provincial of Japan. In 1614 he returned to Macao, where he stayed until 1625. In that year he would leave to India, where he would die six years later. See João Paulo Oliveira e Costa (direction and introductory study) and Ana Fernandes Pinto (paleographic transcription), *Cartas Ânuas do Colégio de Macau (1594—1627)*, Macao, Comissão Territorial de Macau para as Comemorações dos Descobrimentos Portugueses, 1999, p. 42.

depended on the individual's personal history and in many cases may be subject to some speculation because there is not enough extant information for most of them. However we notice that the Society's *Constitutions* indicated that one of the tests the novices had to undergo was a month of help in a hospital (no. 66). Therefore many must have spent some time in hospitals where they would have some opportunity to see how patients were taken care.[233]

One modern author notes that:

"In Goa by 1546 [the Jesuits] were running a hospital for native Indians. By 1576 enough Jesuits were doctors to prompt Pope Gregory XIII to issue a general exemption for them—provided that other doctors were not available—from the cannons that forbade clerics and religious to practice medicine."[234]

Also, in the annual letter of the *Colégio de Macau* of November 1, 1611 it is noted that:

"Das occupações e ministerios nossos se colhe o fruito acustumado; <acode-se a hospital dos doentes e ao dos incuraveis, ajudando-os com a devida caridade>." [235]

Besides practical experience some Jesuits had books on medicine with them, what meant that, even if they lacked formal training, they might complement practical experience with autodidactic efforts.[236] This ability to learn by individual study would have been earned through their higher education. Anyhow, that many of them had

[233] See also O'Malley, *op. cit*., p. 80.

[234] *Ibid*., p. 172.

[235] João Paulo Oliveira e Costa (direction and introductory study) and Ana Fernandes Pinto (paleographic transcription), *Cartas Ânuas do Colégio de Macau (1594—1627)*, Macao, Comissão Territorial de Macau para as Comemorações dos Descobrimentos Portugueses, 1999, p. 135. There are other examples of Jesuits healing the body as well the soul. The annual letter of the Macao College, of December 28, 1619, relates that this happened also with the Japanese in Vietnam: "hum padre & dous irmãos, occupados no serviço de toda aquella missam, e dos christãos, assi naturais, como jappois moradores na terra e outros, que cada anno vem ali de Jappão. Ouve nella este anno muitos doentes aos quais acodirão os nossos com os remedios possiveis assi corporais como espirituaes", *ibid*., p. 208. For another example see also *ibid*., p. 256.

[236] For example Diogo Valente (1568—1633.10.28), Bishop of Japan, had with him "an old book on medicine": Johannes Damascenus Mesue, *Opera de Medicamentorum Purgantium Delectu*, Venetiis, Luc' Antonio Giunti, 1589. See Noel Golvers, "The Library Catalogue of Diogo Valente's Book Collection in Macao (1633): A Philological and Bibliographical Analysis", *Bulletin of Portuguese-Japanese Studies*, Vol. 13, 2006, pp. 7-43.

earned enough competencies on medicine can be inferred from the accounts of the missionaries. From these accounts it is clear that some of them earned such a reputation that wherever they went they would have many sick and wounded coming to them for treatment. Valignano, in the above cited passage implies that any missionary was expected to treat the ill and the injured.[237]

Second, like natural philosophy medicine was also used by the missionaries as an instrument to reach potential hearers of the gospel. It would bring people into contact with them that otherwise would not approach the foreign *bateren*. Further, it gave the missionaries an opportunity to bestow *on*, benefits, to a large numbers of Japanese, making these more susceptible to accept what they had to say.

Third, the cross-cultural transmission of medical knowledge by the missionaries, just like that of natural philosophy, was eclipsed in latter accounts and research of modern historians by the posterior cultural transmission made trough the Dutch of Deshima. Concerning medicine one of the principal culprits of this state of things is Sugita Genpaku 杉田玄白 (Kyōho 18.9.13—Bunka 14.4.17; 1733.10.20—1817.6.1). In his *Rangaku Koto Hajime* 『蘭学事始』, 1815, although he acknowledged the early transmission of western medicine by the Southern Barbarians, he dismissed it as rudimentary compared with the level of expertise of his time.[238]

Probably the first and one of the most well known medicine practitioners was Luís de Almeida[239] (1525—1583.10). He was singular in that he seems to have studied for this profession before leaving Portugal for a career in trade in the eastern seas, but

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[237] See citation in p. 75 above.

[238] See Wolfgang Michel, "Medicine and Allied Sciences in the Cultural Exchange Between Japan and Europe in the 17th Century", in Hans Dieter Ölschleger (ed.), *Theories and Methods in Japanese studies: Current State and Future Developments—Papers in Honor of Josef Kreiner*, Göttingen, Vandenhoeck & Ruprecht Unipress, 2007, pp. 285-302.

[239] "Among the Jesuits working in Japan in these early years, few were more important and none had a more unusual background than Luis de Almeida. He was by birth Jewish, then a convert to Catholicism from Protestantism. He came to Japan as a merchant in 1552 and entered the Society shortly thereafter as a temporal coadjutor. Among the Jesuits he had the reputation of best understanding the Japanese and was esteemed by them for his other skills, which were manifest in many ways, including the establishment of several medical clinics and orphanages." O'Malley, *op. cit*., p. 77. His skills were multifarious indeed. For an analysis of his many roles in the Japanese Mission see Francisco Figueira de Faria, "The Functions of Procurator in the Society of Jesus. Luís de Almeida, Procurator?", *Bulletin of Portuguese-Japanese Studies*, Vol 15, 2007, pp. 29-46, and Diego Pacheco, S.J., "Luís de Almeida, 1525-1583: Médico, Caminhante, Apóstolo", *Studia*, Vol. 26, 1969, pp. 57-114.

the details concerning this study remain unclear. In the same ship that brought him to Hirado traveled also Baltasar Gago and some other Jesuits who seem to have moved him to an interior conversion. Later, while in Japan, he would help the missionaries whenever he had the opportunity. Impressed by the widespread practice of abortion and baby exposure as well as by the number of lepers and the treatment they met he began collecting the babies and treating the lepers. In 1555 he established an infant care center in Funai, and in the following year he was admitted as a Jesuit. In 1557 he established the first Japanese hospital also in Funai.[240] Concerning this hospital his mentor wrote:

"Nesta povoação de Bungo temos dous campos, scilicet, o de baixo, en que no príncipio se fez huma casa que servia de igreja — é agora hospital dos doentes de boubas e de todo o outro género de chagas — e logo de fronte deste se fez este anno de 1559 huma casa grande pera outro género de doenças, de madeira asentada sobre pedras. Tem seu altar no meio. […]

Tem esta casa logo pegado hum agazalhado pera o físiquo que há-de ter cuidado dos doentes. Tem deredor huma varanda em que vêm todos hos enfermos à vista de todos, e ahi se sarão todos, pera tirarem ocasiõis. Isto quanto aos que são de chagas. E as outras meizinhas de fíziquo á hum japão velho que tem cuidado de lhas dar a seu tempo.

He esta obra hé huma pregação continua que soa até o Meaquo donde está a cabeça dos reis de Japão; e Sacai, que hé como Veneza; e Bandou honde está o estudo geral; e Fiancima, onde está a cabeça dos bonzos de todas estas partes, corre a fama do hospital.

Deste verão pera quá são curados de toda a maneira de doença, de sorgia e phízica, mais de duzentos. Abrio o padre a porta a todos, e vêm todos hos dezemparados e incuráveis; que as doenças que se curão, en que o Senhor obra, é impossível as meizinhas obrarem, em huns de sacenta annos, e muitos muito mais de vinte annos pera sima, comidos de quâncer e afistullados.

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[240] For more information on the medical activities of the Christian missionaries see Pacheco, Diego パチェコ・ディエゴ, *Ruisu Arumeida* 『ルイス・デ・アルメイダ』, Nagasaki, edited by the author, 1964; Ebisawa Arimichi 海老沢有道, *Kirishitan no Shakai Katsudō Oyobi Nanban Igaku* 『切支丹の社会活動及南蛮医学』, 1944; J. E. Nierenberg, "Ruisu de Arumeida Den" 「ルイス・デ・アルメイダ伝」, *Kirishitan Kenkyū* 『キリシタン研究』, vol. 24, 1984, pp. 19—27.

Pera isto tem espicial dom de Nosso Senhor o charíssimo irmão Luis na surgia, o qual ten feito alguns de casa já quase officiais, em que entra ho irmão Duarte da Silva, que por duas maneiras os pode curar, scilicet, com a pregação pera a alma e com os ingentos e cautérios pera o corpo.

Hé de muito respeito esta obra. Hos japões não têm que falar, e com isto se vão amançando, porque achão aqui o remédio pera tudo. Quando se curão hos do hospital vêm tãobém muitos de fora àquellas horas, e lhe poem a meizinha de que têm necesidade, e se tornão pera suas casas.

Como são no hospital folgão de aprender as orações, e depois de curados, e que se vão, tornão a vir algumas vezes. Vendo sua vontade e deligêntia que têm, alguns se bautismão. E desta maneira ao prezente se comvertem, e sempre pella somana e aos domingos se faz algum christão. E asi se exercitão nas obras de misericórdia spirituaes e temporais. [...]

Ay duas maneiras de cura, scilicet, de surgia e físiqua. Porque veio ter a Amagunche hum japão de Miaquo, que o padre fez christão, por nome Paulo. Este vivia e criou-se com bonzos e pagodes. Quadrou-lhe o recolhimento e veio pera este Bungo estar em companhia do padre, muito dado a penitêntias e sempre se mortifiquar. O padre Mestre Melchior vio sua abilidade.

Este era físiquo, o qual declarou algumas meizinhas que tinha en livros, estando doente, de que faleceu, e ficou em seu lugar outro pro nome Migel, que tãobém faleceo, e ambos acabarão santamente. Tomou então ho padre o exercitio destas meizinhas, as quais são da China, e estas dos livros dous chins as aprenden. São faceis e que obrão cousas grandes. Ay alguma que em chegando logo obra, como em febres terçãas, quartans, e asi pera todas as infirmidades."[241]

From this text it is evident that the Funai hospital was the result of the work of a group of people, not only Almeida. It is also interesting to note that a dialogue between two different medical traditions took place: Paulo Sen'yo shared his techniques with his collages, with the *padre*, with the *irmão*, and eventually with the two Chinese Christians working in the hospital, who seem to have actually put them to good work. On the other hand Almeida also shared his European medical knowledge. "He began a course of

[241] Letter from Baltasar Gago to the Jesuits in India, November 1, 1559, Documentos II, pp. 183-186.

lectures and obtained remarkable results with his medical and surgical work and with the treatment of leprosy. His reputation spread from Miyaco to Kwanto, in eastern Japan."[242] Some of his disciples and helpers, which certainly were not restricted to those mentioned in the above letter[243], would continue the tradition of western medicine we may safely assume he introduced into Japan. Besides the pathologies broadly described above by Gago we know that practitioners of western medicine were especially sought after for wounds caused by the musket.[244] Finally it should be noted that the hospital was considered an excellent evangelization instrument: "this work is a continuous preaching whose sound reaches the Miyako". By 1560, however, the Funai hospital was closed as it was decided that it was not a priority for the Mission.[245] This did not stop the Jesuits from their medical practice. In his 1583 *Sumário de las Cosas de Japon*, Valignano would propose:

"Mas para volver a nuestro propósito y a lo que vamos tratando, una de las buenas y provechosas que en Japón se pudiesen hacer, habiendo este caudal, era hacerse en cada una de las tres partes de Shimo, Bungo y Miyako un Monte de Piedad, como en Roma y en otras partes de Italia se usa, al cual estuviese conjunto un hospital para recoger los pobres cristianos dolientes y juntamente los niños que acostumbram las madres matar, como al principio dijimos, por no tener con que los sustentar. Y pudiéndose dar remedio a estas tres cosas seharía muy grande provecho en Japón, y nuestra religión Cristiana alcanzaria muy grande nombre con los cristianos y aun com los mismos gentiles. [...] Cuanto a lo segundo de los hospitales [...] no seria de de menos reputación y provecho, y esto, ahora que ya tenemos reputación y crédito en Japón, sucederia mejor de lo que sucedió en el principio cuando se hizo en Bungo, porque entonces no teníamos ningún crédito."[246]

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[242] Matsuda, *op. cit*., p. 67.

[243] See Tōno Toshio 東野利夫, *Nanban-I Arumeida: Sengoku Nihon wo Ikinuita Porutogarujin* 『南蛮医アルメイダ：戦国日本を生きぬいたポルトガル人』, Tokyo, Kashiwa Shobo 柏書房, 1993, pp. 154-161.

[244] Matsuda, *op. cit*., p. 67.

[245] For an overview of the Jesuits' ministry in hospitals and Jesuit run hospitals during the first generation after the foundation of the Society see John W. O'Malley, *The First Jesuits*, Cambridge, Harvard University Press, 1993, pp. 171-173.

[246] J. L. Alvarez-Taladriz, *op. cit.*, pp. 340-343.

Valignano was aware of the reputation the Jesuits had as doctors and seems to have wanted to capitalize on it and to reverse what appears to have then been the un-organized and unsystematic medical practice that the Jesuits were asked to perform wherever they went. He thought that having that practice organized in a small number of hospitals would greatly enhance the reputation of the Jesuits and heighten their missionary activities. He does not say who the doctors who would staff the hospital would be; maybe he was thinking of some of the disciples of Almeida, but most probably he had in mind some Jesuits with enough medical culture even if without formal training. And it is possible that he also intended to free the other missionaries from their medical activities so that they could concentrate on their evangelization and pastoral duties. Anyway this proposal does not seem to have been put in practice, and it seems that some Jesuit priests continued their individual charitable medical practice. So much so that Francesco Pasio, the Jesuit Visitor, in 1612 felt compelled to order again to the Jesuits to stop practicing medicine. This command had already been given before, and was based on the ancient principle that religious should avoid any activity involving blood (*ecclesia abhorret a sanguine*).[247] This is one example of the opposition between principle and necessity that riddled the action of the Japanese Mission. Let us also note that among the foreigners, it was not just the Jesuits who practiced Southern Barbarian style medicine. In the final years of the sixteenth century Franciscan missionaries opened two hospitals in the Imperial capital.[248]

Although our concern here is with the practice of western medicine by the missionaries, it might be worth to point that probably the Jesuits were catholic in their healing practices. We already noticed that Paulo Sen'yo and two Chinese were practicing eastern style medicine in the Funai hospital. We should be aware that other Japanese doctors joined the Jesuits ranks. One letter reports:

"[O] irmão Jacan Leão japão, natural do reino de Ximosa, de idade de oitenta e nove annos, e quarenta e sete da Companhia, coadjutor temporal formado [levou Deus para si]; foi primeiro bonzo e depois medico, e com estes officios correo quasi todo

[247] For a brief presentation of the thought of Ignatius on the appropriateness of Jesuits learning medicine see Jos V. M. Welie, "Ignatius of Loyola on Medical Education. Or: Should Today's Jesuits Continue to Run Health Sciences Schools?", *Early Science and Medicine*, Vol. 8, no. 1, 2003, pp. 25-43.

[248] João Paulo Oliveira e Costa, "Japão", *História dos Portugueses no Extremo Oriente: De Macau à Periferia*, A. H. de Oliveira Marques, Lisboa, Fundação Oriente, 2000, p. 413.

Japão e sayo deste as ilhas dos lioquios, dezejando achar alguã seita com que se lhe aquietasse o coração, e vindo ao reino de Bungo em tempo que nelle, com o exemplo del rei Francisco, florescia a cristandade. Ouvio as pregações de catesismo com que fitou tão satisfeito que convertido a Deus nunca mais se apartou dos nossos, servindo-os primeiro de dogico e depois irmão nosso."[249]

In the early seventeenth century there were already a number of Japanese practicing the new style western medicine, enough to be thought as forming a school collectively called *Nanban-ryū Geka* 南蛮流外科. They were either the disciples of Almeida or of those other priests that had a reputation of being good doctors. The first book to have been written by a member of this new medical school is thought to have been *Mangai Shūyō* 『萬外集要』 authored by Yamamoto Gensen 山本玄仙 (fl. first half seventeenth century). The contents of this treatise are indeed rudimentary: reference is made to "five plasters, washing wounds with spirits, and a few instruments like scissors and scalpel".[250] But we notice something extraordinary here: that one of the most renowned early seventeenth century doctors would find it meaningful to write a treatise about rudimentary techniques. This fact, coupled with the testimony that almost any Southern Barbarian priest was sought as a doctor, shows that these rudimentary techniques were then in high demand, and that the patients and the doctors of that age trusted them.[251] Further, we also notice something not at all extraordinary: that the medical techniques transmitted by non specialists are rudimentary techniques. As the Jesuits and other Portuguese that practiced medicine were not specialists it is obvious that what they taught was not specialized knowledge. And certainly, at least during the first decades of the Mission, it did not take in account the discoveries presented in the *De Humani Corporis Fabrica*.

One of the Jesuits that certainly kept practicing medicine even after 1612 was Cristovão Ferreira. We will come later to the life and work of this personage. Here we

[249] Annual letter of the Macao College, of November 14, 1627, João Paulo Oliveira e Costa (direction and introductory study) and Ana Fernandes Pinto (paleographic transcription), *Cartas Ânuas do Colégio de Macau (1594—1627)*, Macao, Comissão Territorial de Macau para as Comemorações dos Descobrimentos Portugueses, 1999, p. 265.

[250] Michel, *op. cit*., p. 287.

[251] For a description of pre-*Nanban* cirugical techniques in Japan see Andrew Edmund Goble, "War and Injury: The Emergence of Wound Medicine in Medieval Japan", *Monumenta Nipponica*, Vo. 60 (3), 2005, pp. 297-338.

may note that after he apostatized in 1633 he began practicing western style medicine openly and actively, and in spite of his many other activities. "He was the author of a medical treatise, *Nanban-geka Hidensho*, and acquired many followers, such as Handa Junah, Sugimoto Chukei, Yoshida Ansai, Nishi Kichibei and many others. Ferreira's (Chūan's) book was published under the title of *Oranda-geka-shinan*, because the use of the word *Namban* was disliked by the Japanese authorities due to the isolationist policy of the moment. 'Today (1718) the name of Nanban is to be avoided and its use strictly forbidden by *Kwanto* (the Shogun government). This school shall, for the present, be called *Komo* (Dutch)', which shows that in the 17th and 18th centuries Portuguese medicine was still prospering under the name of Dutch medicine, allowed in those days."[252]

What happened to *nanban* medicine gives us a hint of why so much of Southern Barbarian culture, including natural philosophy, disappeared: like Christian priests it had to *change clothes* to survive. Medicine is representative of what happened in an extensive way to the cultural output resulting from the cross-cultural transfer made by the Japan Mission.

5.2. To feed the hungry

To heal the sick is one of the Christian corporal acts of mercy that the missionaries practiced. The Jesuits and their helpers practiced other acts of mercy also.[253] In the above cited letter, Gago after describing the activities of the hospital wrote:

"Está no campo de baixo aposentada huma molher por nome Clara, de idade de cesenta annos […] e ainda agora das suas mãos e trabalho se mantem, e tem en casa duas molheres de christãos honrrados que falecerão, que mãotem e lhes da obra que fazer. […] Como lhe sobeja alem do seu mantimento, dão logo ao padre, e têm já dado

[252] Matsuda, *op. cit.*, pp. 67-68.

[253] For an overview of how the Jesuits viewed and practiced the works of mercy see O'Malley, *op. cit*., pp. 165-199.

mais de cento e sinquoenta cruzados, e ainda acodem ao hospital com canjas e outras consolações."[254]

In the same way as Clara many other Christians started "works of mercy and compassion", organized themselves into *confrarias*, *irmandades* and *misericordias,* some of which were small informal groups, and some institutionalized, large and rich organizations such as the *Misericórdia* of Nagasaki. [255] Afonso de Lucena (1579—1623) described the founding and the operations of Ōmura's *Misericórdia*:

"There was no confraternity of the *Misericórdia* to provide for the poor and those who lived on charity, as there already was in Nagasaki, but by the teaching of our brothers and preachers, the Christians of Ōmura decided to organize a kind of confraternity that imitated the *Misericórdia*; the Christians elected their officials and these officials enjoined that some of them go every Sunday to the houses of the Christians to ask for donations that were later given to the poor."[256]

In this passage we notice that although the initial stimulus came from the missionaries it were the local Christians who organized themselves and did the actual work of collecting alms and distributing them.

Besides these simple structures that collected from those who had to distribute amongst those who hadn't, other more complex schemes were considered. For example, Valignano proposed the introduction of Roman style *Montes de Piedad* to free the poor from the oppression of the usurers:

"Y haciéndose un Monte de Piedad en que se prestase solamente a los cristianos de seis ducados para bajo, pagando para los gastos de los oficiales y lo demás lo que es costumbre pagarse, y aun por los grandes peligros que hay en Japón en sustentar seguro el caudal y las casas y en cobrar el dinero, se podría bien sin escrúpulo pagar a diez por ciento, y ellos lo tendrían todos por mucha caridad y merced, pues pagan, como se ha dicho, tanto a los usureros."[257]

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[254] Documentos II, p. 187.

[255] See João Paulo Oliveira e Costa, "The *Misericórdias* Among Japanese Christian Communities in the 16th and 17th Centuries", *Bulletin of Portuguese-Japanese Studies*, vol. 5, 2002, pp. 67-79

[256] *Ibid*., p. 72.

[257] J. L. Alvarez-Taladriz, *op. cit.*, pp. 342.

The organized help of the economically disadvantaged was a new practice in Japan that deeply impressed many Japanese if we are to believe the Japanese sources. According to Sōsai:

"By works of charity and by using gentle words they incur the gratitude of the people. At that moment, surreptitiously and stealthily they begin to extol their religion and denigrate the others."

5.3 Printing

One of the best planned and executed technology transfers of all times into Japan was the introduction of western style printing by the Mission. Though the Japanese government would later become famous, and deservedly so, for the success of its policies for acquisition and adoption of foreign technology, in this one case it was the Japanese Mission, and especially Valignano who was the driving force behind this transfer. He ordered that on its return the Embassy of the four nobles to Europe brought with it a printing press. Two Japanese, irmão Jorge de Loyola and irmão Constantino Doyrado, were sent to Portugal to acquire the local technology and transfer it to Japan together with the press. Once in Japan the new technique was spread and several western style printing businesses are known to have operated between Nagasaki and Miyako. The Japanese craftsmen were so good at their job that the quality of their work is justly considered superb using the standards of the age. They were able to work with *romaji* and also to adapt the imported press to type with Japanese characters.

The influence of the Japanese Mission on Japanese society certainly was not confined to these areas. In painting and in music, in engraving (leading to the *fumi-e*!) and in horse ridding, even in mining there are known Japanese outputs brought out thanks to the missionaries inputs. The mention above of several areas of human endeavour had the objective of remembering us that the members of the Mission did engage in dialogues in diverse fields of culture with Japanese counterparts. Further, we can deduce from the surviving sources that these were not superficial encounters but had an important function of knowledge transfer. Had not a systematic destruction effort forced the new arts and sciences then established to move underground and travestied as *Kōmō*, nor kept us from using the documents then produced, a much clearer picture

could be drawn and a larger mountain be seen. Let us now take a brief look at these documents.

6. Source production

During this period a huge amount of historical sources were produced by the Japanese Mission.[258] Much of what was written with the purpose of informing people outside Japan about the general progress of the Mission, or of some aspect or other of its life, or concerning the political or religious situation of the country has been preserved. Documents for use, by the Church or others, inside Japan, and that were not sent abroad, were almost completely destroyed.

Among the documents produced to be sent outside of Japan there were those that were written regularly such as the Jesuit annual letters and catalogues. Though not without thrilling passages, these were on the whole reports with a bureaucratic flavour, and their material is mainly of interest to the religion and mission historian. They usually mentioned who had died and included a short biographical sketch of the deceased, and recounted a few of the more interesting events that had occurred in the previous year: conversions made, dangers overcome, evangelization and pastoral activities, etc. Then there were a large number of letters written by the missionaries, or by laymen at their suggestion, to people in Europe, that were written without any given periodicity but as the opportunity or necessity arouse. They tell of the vicissitudes of their work, their joys and pains, conversions made and persecutions suffered. Most of this material concerns missionary work but the students of Japanese life, including researchers of society, of political and military affairs, and of intellectual history will find valuable pieces of information. Some of them were translated to the several European languages and were printed in the sixteenth and seventeenth centuries, having attained great popularity between European readers by their wealth of information about an exotic country and by the adventures they recounted.

More systematic collections of information are the histories of the Japanese Mission. There is the *Historia de Japam*, of Father Luís Fróis, which should need no

[258] See Rui Manuel Loureiro, "Jesuit Textual Strategies in Japan Between 1549 and 1582", *Bulletin of Portuguese-Japanese Studies*, Vol. 8, 2004, pp. 39-63.

presentation as it has been extensively used by scholars for almost a century.[259] Then there is the first volume of *Del principio y progresso de la religión christiana en Japón* by Alessandro Valignano.[260] Finally we have also *História da Igreja de Japão* of Father Rodrigues, which was based on his encyclopaedic knowledge of Japanese and Chinese cultures. The first, in spite of the many references it makes to Japanese uses and customs, is basically a work of missionary history. What has arrived to us of the third is mainly a cultural history. Valignano work, though intending to be a missionary history, has much of interest about the Japanese culture. This fact allows us to classify it as a hybrid of missionary and cultural history.

Finally there is religious literature, which is an important testimony of what the *padres* actually taught to the Japanese. This can be divided into two categories: on the one hand the works prepared for the initiation of non-Christians; and on the other hand works for the instruction and devotion of the baptized, including the converts and the members of the Japanese Mission, priests and lay members. Generally, the missionaries called *catechism* to the books and to the preaching that had the purpose of taking pagans away from the idols and making the neophytes more firm in the Christian faith, as for example the "catechism which is preached to the unbelievers with the information concerning the Japanese sects and antiquities."[261] To the manuals and lessons meant for

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[259] *Historia do Japam*, edited and anotated by José Wicki, S.J., Luís Fróis, S. J., 5 vols., Lisboa, Biblioteca Nacional, 1976-1984.

[260] *Del principio y progresso de la religión christiana en Japón y de la especial providencia de que Nuestro Señor usa con aquella nueva Iglesia.* It was originally intended to be a work in five volumes, from the beginnings of the Mission to the first years of the seventeenth century. Eventually only the first volume was finished and Valignano's work ended with the death of the second Mission superior, Cosme de Torres (1510—1570.10.2). It includes a number of important chapters on ethnography and the political organization of the country. See M. Antoni J. Üçerler, S.J., "Valignano Come Storico della Missione: La sua Ultima Parola nel *Principio y Progresso* (1601—1603)", in *Alessandro Valignano. Uomo del Rinascimento: Ponte tra Oriente e Occidente*, edited by Adolfo Tamburello, M. M. Antoni J. Üçerler, and Marisa Di Russo, Rome, Institutum Historicum Societatis Iesu, 2008, pp. 261-279.

[261] "Com elle [Yofo Paulo] pelo discurso do tempo se foi depurando o Cathecismo que se prega aos gentios com a noticia que nos dava das seitas e antiguidades de Japão, por nestas materias ser mui rezoluto." Historia, p. 172; in another example: "Pedem me co muita instancia, q se querẽ bautizar, porem vai se lhe dilatando o bautismo ate estarem mais instriuidos no catecismo." Carta do padre Luis Frões pera o padre Francisco Perez & mais irmãos da Cõpanhia de Iesu, na China, escrita em Miàco, a. 6. de Março, de 1565, Cartas, fl. 179.v. One last example of the use of *catechismo* as the teaching for the yet to be baptized, this time from Macao: "Foi hum padre a hua casa onde estava hum gentio china muito doente e quasi morrendo ao desemparo, falou-lhe das cousas de Deus, e depois de cathequizado e instrido comforme ao tempo o bautizou, e dahi a pouco morreo com sinaes de salvação." Annual letter of the Macao College, of January 8, 1618, João Paulo Oliveira e Costa (direction and introductory study) and

the instruction and devotion of the already baptized they called "doctrine".[262] For example, in 1563 "there were in Shimabara, only amongst the Christians, two hundred boys, seventy of whom came to the doctrine [lessons]."[263]

This literature, both catechisms and doctrine, started to be produced very early in the history of the Mission. We know, for example that Yajirō translated into Japanese the Gospel according to St. Matthew while still in Goa. He also translated a catechism of the fundamental Christian doctrines and prayers, two summaries of the Christian doctrine composed by Xavier[264], one Passion of Our Lord, with seven penitential

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Ana Fernandes Pinto (paleographic transcription), *Cartas Ânuas do Colégio de Macau (1594—1627)*, Macao, Comissão Territorial de Macau para as Comemorações dos Descobrimentos Portugueses, 1999, p. 168.

[262] See Pierre Humbertclaude, "Myôtei Mondô: Une apologétique chrétienne japonaise de 1605", *Monumenta Nipponica*, vol. I, 2, 1938, p. 229. Needless to say, there are some examples in the letters and in the Historia of Fróis, where this clear cut distinction was not applied. One of the clearest examples of this distinction of usage is found in the annual letter of the Macao College of November 1, 1611, where we can read: "[E]ste irmão […] se ocupou ajudando muito os padres na obra de conversão com muito zelo, cathequisando e doutrinando os gentios e christãos", João Paulo Oliveira e Costa (direction and introductory study) and Ana Fernandes Pinto (paleographic transcription), *Cartas Ânuas do Colégio de Macau (1594—1627)*, Macao, Comissão Territorial de Macau para as Comemorações dos Descobrimentos Portugueses, 1999, p. 128.

[263] "Havia então em Ximabara, somente entre os christãos, como duzentos meninos, dos quais vinhão 70 à doutrina, e todos mui bem vestidos, por serem filhos de homens ricos; quazi cada dia tinhão disputa sobre a ley de Deos contra os gentios, e andavão tão destros em responder às perguntas que some fazer os gentios, que admirava a quem os via, por todos a huma mão serem discretos e agudos, dos quaes dizia o P.^{e} Cosme de Torres que aquelles erão meninos na idade e velhos no saber." *Historia*, vol. I, pp. 315-316. Another example from Japan: "Os Irmãos João Fernandes e Duarte da Sylva, em Funay, pregavão alternatim aos gentios o cathecismo e aos christãos dos sacramentos da confissão e eucaristia. O Irmão Guilherme teve muitos annos cuidado de ensinar alli a doutrina christã aos meninos, e assim em Bungo, comoem outras partes, persevera neste exercicio há mais de 35 annos, os quaes tem grandissima habilidade para aprender, porque em muitos poucos mezes sabem a doutrina em sua lingua e em latim." Historia, vol. I, p. 199. One last example of the use of *doutrina* as the teaching for the baptized, this time from Macao: "Continuarão tambem as doutrinas pollas freguesias desta çidade no tempo da Quaresma afora a ordinaria dos estudantes & meninos da escola. Estas doutrinas se introduzirão avera dous annos particularmente para a gente commum e de serviço ensinando-lhe nellas o modo para se bem confessarem e viverem christanmente, explicando-lhe os artigos de nossa Sancta Fee, os dez mandamentos, e instruindo-os em outras cousas para o mesmo fim, segundo sua capaçidade, do que se segue não pouco fructo daquellas almas." Annual letter of the Macao College, December 28, 1619, João Paulo Oliveira e Costa (direction and introductory study) and Ana Fernandes Pinto (paleographic transcription), *Cartas Ânuas do Colégio de Macau (1594—1627)*, Macao, Comissão Territorial de Macau para as Comemorações dos Descobrimentos Portugueses, 1999, p. 206.

[264] Although lost, since it was written in India before Xavier had any experience of the Japanese cultural reality, we may admit that it was similar to the catechisms then in use in India. On this subject see Silvana Pires, *A Catequização na Missão Jesuitica de Salsete (1560-1622)*, Master Thesis, Faculdade de Ciências Sociais e Humanas, Universidade Nova de Lisboa, 2009.

psalms, other prayers and a calendar, which certainly was the first solar calendar to be used by a Japanese.[265] Later other catechisms were written. Although most did not survive, the schemata of some of them have survived and are presented in Chapter III.

Though Yajirō's translations were lost, many other books about language, devotion and science would be produced by the Mission. A considerable portion of these works would come to be printed by the Japanese Mission Press.

The Japanese Mission Press was one of the instruments employed by the Mission to spread Christianity and sustain it in the minds and hearts of the Japanese. It answered the need to spread the more widely possible the books that were being composed by the Mission. From the time the printing press arrived in Nagasaki on 21 July 1590 to its dismantling, packing and returning to Macao in 1614, an estimated one hundred titles were published, thirty three of which have survived flames, floods and an assorted host of other human and natural enemies of the printed word. To these we have to add the dozen works printed in Lisbon, Goa and Macao on the behalf of the Japanese Mission. The books produced included dictionaries and grammars, catechisms, prayer books, devotional works, sacramental guides, and eastern and western profane literature selected "to imbibe [into its readers] simultaneously Christian precepts and virtue and to abhor vices". As far as we know, the Mission Press lived up to what can be considered its mission statement, as defined in 1583 by its founder, Alessandro Valignano: "Since in Japan there is no knowledge of any of our authors or our books […] it would seem meet and necessary to compose for the Japanese special books in all sciences, in which would be taught simply the gist of the matters at hand and the pure truths, well-founded and with their proofs, without referring to other divers and dangerous opinions […]".[266] Besides its commercial success, and as was already mentioned, the Press was a technological accomplishment, not so much in the safe handling of the delicate yet heavy components of the printing machinery all the way from Lisbon to Nagasaki via Goa and Macao, but principally in the successful production of new printing types of very high quality in Japan. More importantly, even though the literary, intellectual and

[265] Joseph Jennes, *A History of the Catholic Church in Japan: From its Beginnings to the Early Meiji Era (1549-1873)*, Tokyo, Oriens Institute for Religious Research, 1973, pp. 12-13.

[266] See William J. Farge, *The Japanese Translations of the Jesuit Mission Press, 1590-1614: De Imitatione Christi and Guía de Pecadores*, Lewistown, The Edwin Mallen Press, Studies in The History of Missions, no. 22, 2002, and this book review by José Miguel Pinto dos Santos, *Bulletin of Portuguese-Japanese Studies*, vol. 8, 2004, pp. 122-130.

artistic value of its printed works has been evaluated in the range from "superb" to "exceptional", its main cultural contribution lies in the presentation of Christianity and European culture to a broad Japanese audience, of what was until then an unknown world.

The opportunity to fulfil this necessity arose with the return from Europe of the Embassy of the Kyushu *daimyo*. This embassy was organized by Valignano, and was composed of a group of young men, aged around 14 years old. They were Ito Mancio, Miguel Chijiwa, Julião Nakaura and Hara Martinho. The purpose was their visit to the King of Portugal and to the Pope, as representatives of the three Christian daimyo, Ōtomo Sorin, Ōmura Sumitada and Arima Harunobu. The objective intended by Valignano was to gain support, that is, manpower and money, in Europe for missionary work in Japan and, at the same time, let the Japanese learm from their own compatriots how materially advanced the Christian civilization was.

One is astounded by both the quantity and quality of the works that have come down to us. Some were large and complex, like the *Vocabvlario da Lingoa de Iapam*, which must have required many thousands of men-hours to complete. Others were beautiful renditions into vernacular of old Japanese classics like the *Heike Monogatari* 『平家物語』. Still others, such as *De Imitatione Christi*, were skilful renditions of western religious classics full of untranslatable passages that somehow got translated into Japanese.

Some books that probably were printed have only survived in manuscript. The most important is without doubt the philosophical treatise written by Pedro Gomez, now known as *Compendium catholicae veritatis*.[267] This work is composed of three parts with a total of 432 folios, one about *De Sphaera,* which takes the first 38 folios, another about the *De Anima*, and a third about Christian doctrine. It began to be read to the Portuguese and Japanese students of the Amakusa College in September 1593[268]. It was

[267] Modern edition is *Compendium catholicae veritatis*, 3 vols., Kirishitan Bunko Library, Sophia University, Tokyo, Ozora-sha 大空社, 1997.

[268] "O. P.^{e} Pero Gómez fez hum compéndio que se leo em latim no Collégio em Amacusa aos Irmãos Portugueses. Éramos seis ou sete, e aos Japõis, que durou hum anno e meo. Leo-se de de Setembro de 93 até Fevereiro de 94, que não ouve viagem", in "Pontos do que me alembrar" of Francisco Pírez S.J., Schüte, *op. cit*., p. 408. The same can be confirmed by a letter from Itō Mancio to Claudio Aquaviva, written in Amakusa, dated March 6, 1594, ARSI*: Iap-Sin*., 12 I, fls 178-179v.

translated into Japanese under the supervision of Pedro Ramón (*ca*. 1550—1611.8), probably during 1594, because early in 1595 it was already being used. [269] It was used in Japan for almost twenty years, until the expulsion of 1614, and in Macao for several years after that. The Japanese translation probably was printed.[270]

Some other books never had the chance to be printed and circulated only in manuscript. Most come from the martyrdom literature, for example, *Maruchirio no Kagami* 『マルチリヨの鑑』, *Maruchirio no Susume* 『マルチリヨの勧』, and *Maruchirio no Kokoroe* 『マルチリヨの心得』 that were produced after the persecution became widespread.[271] But there were also other important treatises that were not printed.

The most important of these was *Myōtei Mondō* written by Fucan Fabien (1565?—1621.3). This catechism was composed of three books. The First Book presented Buddhism as a human doctrine without power to save mankind.[272] It is a precious source about the knowledge the Jesuits had gathered about Buddhism and how they viewed it. The Second Book described Confucianism and Shinto. More sympathetic to Confucianism than any other religion or philosophical system outside Christianity, it presented the neo-Confucian world view loosely following the first part of the "Explanation of the Diagram of the Supremely Finite." [273] Confucianism is praised in its closely following natural law but criticized for not acknowledging mankind's need for salvation. The Third Book presents an overview of Christian doctrine, but it is a comparative presentation with Buddhism. The topics around which it is weaved are the existence of a Creator, God, the existence in Man of an immortal soul,

[269] Üçerler, *op. cit.*, p. 41.

[270] See Obara Satoru 尾原悟, "Tenkyūron" 「天球論」, Ebisawa Arimichi (ed.), *Nihon Kirisuto-kyō Rekishi Daijiten* 『日本キリスト教大事典』, Tokyo, Kyōbunkan 教文館, 1988, pp. 905.

[271] These names were given by Anesaki to manuscripts coming from offices of the old Nagasaki Bugyō. See Anesaki Masaharu, "Writings on Martyrdom in Kirishitan Literature", *Transactions of the Asiatic Society of Japan*, Second Series, vol. 7, 8, 1931, pp. 281-283 and by the same author *Kirishitan Shūmon no Hakugai to Senpuku* 『切支丹宗門の迫害と潜伏』, Kokusho Kankōkai 国書刊行会,1926, pp.105-239. See also Ebisawa Arimichi 海老沢有道, Hubert Cieslik チースリク、Doi Takao 土井、Otsuka 大塚, *Kirishitan-sho, Hai-yasho* 『キリシタン書 排耶書』, Tokyo, Iwanami Shoten 岩波書店, 1970, pp. 223-260.

[272] This First Book was lost, but a surviving fragment of a tract of Christain origin presenting Buddhism is supposed to have been the basis of this first chapter.

[273] About this work see Chapter VII bellow.

which can reach Heaven or Hell, the existence of Devil who envies Man, and the creation, fall and redemption of Man and the Ten Commandments. Its exposition of Christian doctrine is extremely brief, and what is presented seems to have as its main aim to refute misconceptions that had grown among the Japanese and the criticisms that the missionaries certainly were then hearing from them, namely that the objective of their proselytism was the conquest of Japan by the king of Southern Barbary. This was a learned treatise, which spurs the question, how learned were the Jesuits?

7. Learned Jesuits

Sixteenth century Jesuits were reportedly learned men. Though friends and foes agreed this much, their evaluation of the worth of their learning has differed most of the time. "Jesuitry, with its sham learning, shameless lying and casuistical economy of sins"[274] has been the standard view of one side. Wherever Jesuits flourished, proponents of this view would add, "art and learning languished; there was not a man who ventured to speak out his thought or write the truth; and over the Dead Sea of social putrefaction floated the sickening oil of Jesuitical hypocrisy." [275]

On the other side, it is pointed that their "accomplishments were […] formidable for such a relatively small number of men"[276]. The fruits of their learning can be appreciated from the learning displayed in their books and by the erudition exhibited by their students, amongst whom we can find "some of their more illustrious and articulate critics […], as Guez de Balzac, d'Urfé, Descartes, Corneille, Bossuet, Molière, Voltaire, and Diderot were, and as Saint-Cyran, the founder and inspiring master of French Jansenism, also was."[277]

Whatever the interpretations, the facts are that indeed the ten initial members of what would become the Society of Jesus knew each other and banded together while pursuing higher learning at the University of Paris, reputedly one of the best of the age,

[274] John Addington Symonds, *The Catholic Reaction*, 2 vols., London, Smith, Elder, and Co., 1886, vol. 1, p. 47.

[275] *Ibid*., p. 48.

[276] O'Malley, *op. cit.*, p. 61.

[277] Aldo Scaglione, *The Liberal Arts and the Jesuit College System*, Amsterdam, John Benjamins Publishing Company, 1986, p. 53.

and earning there higher degrees. Then it is also known that they were actively sought as teachers. Even before papal approval of the new Society, pope Paul III (1468.2.29—1549.9.10) asked Diego Laínez (1512—1565.1.19) and Pierre Favre (1506.4.13—1546.8.1) to lecture theology at the University of Rome. Some time later Favre was invited to lecture also at the University of Mainz and Claude Jay (*c*. 1500—1552.8.6) took the chair of theology at the University of Ingolstadt. In 1547 Simão Rodrigues (1510—1579.6.15) became tutor to the son of João III of Portugal. In 1547 the General was granted permission to send Jesuits to teach theology and other disciplines *anywhere*, a permission not frequently granted by the pope in the seventeenth century.

However, it should be noticed that not all members who joined after the initial ten had the same level of education. The *Formula of the Institute*, 1539, established different degrees of final membership in the Society by allowing the admission of *coadjutors*, laymen and priests, who did not fulfill the requirements for the solemnly professed members. They would become respectively *temporal coadjutors*, whose ministries would be related to temporalities, and spiritual coadjutors, whose function was to help the fully professed members in spiritual ministries that did not require a high level of intellectual capabilities. The main criteria for differentiation between spiritual coadjutors and fully professed members were ability and academic attainment, the most visible aspect being the possession of a degree in theology or not. The ostensive reason for this stratification had to do with the ministries the Jesuits proposed themselves to discharge:

"[P]ublic preaching, lectures, and any other ministrations whatsoever of the Word of God, and further by means of the *Spiritual Exercises*, the education of children and unlettered persons in Christianity, and the spiritual consolation of Christ's faithful through hearing confessions and administering the other sacraments. Moreover, the Society should show itself no less useful in reconciling the estranged, in holily assisting and serving those who are found in prisons and hospitals, and indeed in performing any other works of charity, according to what will seem expedient for the glory of God and the common good."[278]

[278] Ignatius of Loyola, *The Constitutions of the Society of Jesus*, George E. Ganss (trans.), St. Louis, The Institute of Jesuit Sources, 1970, pp. 66-67.

As it is apparent from the ordering in this excerpt, the ministries were divided into two groups. The first pertained to the spiritual good, the second to the temporal good. Those relating to the spiritual good were reserved for priests or those destined to the priesthood. In principle, some of these spiritual ministries, such as public preaching were thought to be proper of those with higher learning. The justification for the division of ordained Jesuits between spiritual coadjutors and solemnly professed priest was based on these different ministries they were supposed to engage. However, this distinction of ministries did not occur in practice and when the "early Jesuits tried to explain the distinction in grades through a distinction in ministries, their very explanation betrayed that in practice it was not holding up."[279]

Another development probably not foreseen by the initial group of ten was that very soon a majority of applicants started entering the Society at a young age.[280] This evolution could have lead to the disappearance of the two degrees of priests inside it.[281] However it did not, as a lighter course of studies was elaborated for those who were going to be spiritual coadjutors, with the full curriculum of arts, philosophy and theology required only of those who would become fully professed.

To all those who were admitted it was inculcated the importance of each one developing to the utmost their gifts:

"The Society wants men who are as accomplished as possible in every discipline that helps it in its purpose. Can you become a good logician? Then become one! A good theologian? Then become one! The same for being a good humanist, and for all the other disciplines that can serve our Institute […] and do not be satisfied with doing it half-way![282]

At the same time, superiors were urged to employ those under their direction according to their talents and natural inclinations.

Of the first three Jesuits to arrive in Japan two were professed priests with higher degrees and one was a temporal coadjutor. Incidentally, as to show that the Spirit

[279] O'Malley, *op. cit.*, p. 346.

[280] *Ibid*., p. 345.

[281] *Ibid*., p. 346.

[282] Words of Nadal at the College of Alcalá, cited in O'Malley, *op. cit.*, p. 61.

blows where it wills, or that the Father provides His sons with gifts appropriate to their vocation, it was the temporal coadjutor who mastered the language.

During the period Torres was Vice-Provincial most priests in Japan were admitted into the Society after reaching their twentieth year and had already completed their studies before entry. These included Padres Balthasar Gago, Melchior Nunes Barreto, Gaspar Vilela, Giovanni Baptista de Monte, and Melchior de Figueiredo. Only a minority were trained by the society after their admission, as happened with Luís Frois.

However, this situation changed radically around the time Cabral became Vice-Provincial: from then on most priests were trained by the Jesuits themselves, molded according to their ideals and their educational methods.

Concerning these, we might begin by noting that the Jesuits shared the humanistic belief in the power of education to better mankind's condition. "All the well-being of Christianity and of the whole world depends on the proper education of youth"[283], would one of them write at the urging of Ignacio de Loyola (1491—1556.7.31). This was a typical statement of a Jesuit of the sixteenth century.[284] Therefore from an early stage of its formation the Society not only established that their higher ranking members should have received the very best education then available but that the Society should have teaching as one of its ministries.

For their schools the Jesuits adopted the best of different educational traditions. On the one hand they put great stress in the use of the classics, a learning method that was proposed by the Italian humanists. On the other hand they adopted the rigorous *modus et ordo* of the Parisian scholasticism, which established a system of classes and made one professor responsible for the teaching in each class. Each class had a daily schedule well defined that included time for lectures, for individual study, for group exercises that included repetitions, argumentations and other competitions. It included further time for prayer and physical exercise. Overall it was a system designed to avoid loss of time and effort on the part of the students, and that ideally would help them progress as fast as possible through a rich curriculum.

[283] Letter of Pedro de Ribadeneira to Philip II of Spain of February, 14, 1556, O'Malley, *op. cit*., p. 209.

[284] See O'Malley, *op. cit*., pp. 208-211.

In the curriculum the Jesuits also adopted the best of the available practices. Five classes of *Studia Inferiora* intended to take approximately two years and included three classes grammar, one of humanities and one of rhetoric.[285] They were placed at the start of college education. In this the Jesuits adopted the emphasis in the study of the language of higher learning, Latin, that was proposed by Italian humanists.

Then, as a rule, three years of philosophy followed.[286] The curriculum was molded on Aristotelism and Parisian Thomism. The first year was for the study of logic. The second would be spent studying the contents of *De Physica*, *De Caelo*, the first part of *De Generatione et Corruptione* and during the summer time the *De Meteorologica*. Concerning the *De Caelo* the professor was recommended to present only the matters related to the four elements and having to do with the heavenly substance and its influence; the remaining subjects should be presented in a summary way or, when possible, left to the professor of mathematics.[287] In the third year the second part of *De Generatione et Corruptione* would be presented after which would come *De Anima* and *Metaphysica*. It was recommended that the matters related to medicine included in *De Anima* should be omitted. Besides philosophy it was expected that students would also have lectures on moral philosophy and mathematics. The professor of moral philosophy was admonished not to deal with theological questions. To the professor of mathematics was recommended to teach the Elements of Euclid, some geography or topics of *De Spheara* while the students were studying *De Caelo* in the second year.

Finally higher studies would be completed with four years of theology for the more gifted, or two years of cases, or moral theology, for the others who were destined to the priesthood.

As we can see from the above curricula, any Jesuit priest would have received an education that, at least in principle, would have enabled him to discuss sensibly according to Aristotelian philosophy a wide range of physical and biological

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[285] See *Ratio Studiorum*, [XII] Regulae Praefecti Studiorum Inferiorum, 8.1, in Margarida Miranda, *Código Pedagógico dos Jesuitas: Ratio Studiorum da Companhia de Jesus [1599], Regime Escolar e Curriculum de Esudos*, Lisboa, Esfera do Caos, 2010, p. 151.

[286] "Universam philosophiam non minus quam triennio praelegat", *Ratio Studiorum*, [IX] Regulae Professoris Philosophiae, 7., Miranda, *op. cit*. p. 135.

[287] "[D]e Coelo autem dumtaxat de eius substantia, et de influentiis, ceterae mathematicae professori relinquantur, vel conferantur in compendium." *Ibid*., p. 139.

phenomena. Whenever he had heard lectures of mathematics he would also have a basic but solid knowledge of geometry.

Moreover, the men trained along these lines would know that these sciences "predispose the intellect towards theology and are at the service of its perfect knowledge and practical application, and contribute by themselves to this end".[288]

How far in their studies did the Jesuits in the Japanese Mission advance? To answer to this question we can take one year for which we have good data and do some simple computations. For example, in the *Catálogo das pessoas da Viceprovíncia da China e Jappão, com os graos e offícios que têm, de Outubro de [1]603*[289] there are named 122 Jesuits, 54 priests and 68 brothers. Of these 17 were priests with four vows, which as a rule had finished their philosophy and theology courses.[290] This represents 14%. There were also 28 spiritual coadjutors, many of whom had studied philosophy.[291] This represents 23%. If we take as base just the number of priests these percentages become 31.5% and 52%. Thus more than 80% of the priests in the vice-province of Japan early in 1603 had almost certainly competency to expound on the various aspects of natural philosophy.

Let us compare these numbers with those for the Colégio de Macau and Colégio de Macau plus China. In the Colégio de Macau there were 62 Jesuits of which 9 had four vows and a further 5 were spiritual coadjutors. The percentages of these categories

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[288] "Quoniam artes vel scientiae naturales ingenia disponunt ad theologiam, et ad perfectam cognitionem at usum illius inserviunt, et per se ipsas ad eundem finem iuvant", *Ratio Studiorum*, [IX] Regulae Professoris Philosophiae, 1., *Miranda*, op. cit. p. 133.

[289] Schütte, *op. cit.*, pp. 441-455.

[290] But not always. Ricci, a four vows Jesuit had not finished his theology course: "P. Mattheus Ricio, Italiano, de Macerata, do mesmo bispado, de 50 annos de idade, 32 da Companhia, de medíocres forças. Acabou o curso de philosophia, ouvio dous annos de theologia. Foi feito Professo de 4 votos no anno de 1596. Agora hé Superior da Missam da China." Catálogo das Informações Commuas dos Padres e Irmãos do Collégio de Macao, feito a 25 de Janeiro de 1604, *ibid*., p. 489.

[291] Two examples: "P. Diogo Pinto, Português, de Quintella, bispado de Miranda, de 57 annos de idade, 38 da Companhia, de medíocres forças. Acabou seu[s] estudos de philosophia. Ouvio dous annos de theologia [just as Mateu Ricci]. Leo latim, e casos. Foi prefeito da igreja de Malaca, e ministro deste Collégio de Macao. Foi feito Coadjutor Espiritual no anno de 1588." *Ibid*, pp. 484-485. "P. Diogo Antunes, Português, do Crato, priorado de S. João, de 51 annos de idade, 33 da Companhia, de medíocres forças. Acabou o curso de philosophia, e ouvio dous annos de theologia. Leo latim. Foi ministro do Collégio de Cochim, e na Casa de Macao. Foi feito Coadjutor Spiritual formado no anno de 1590." *Ibid*., p. 485.

regarding the total number of Jesuits are 14.5% and 8%. As there were 29 priests, the percentage of priests of four vows and spiritual coadjutors is respectively 31% and 17%. As in China there were 13 Jesuits, 7 priests of four vows and 1 spiritual coadjutor the percentages for the College plus China become 21% and 8% when the basis is the total number of Jesuits, and 43% and 16% when the basis is the number of priests. We notice that in China the percentages of Jesuits of four vows are higher than in Japan, especially so when we use the number of priests as base. Correspondingly the number of spiritual coadjutors was higher in Japan.

However this situation changes somewhat if we use the data provided in the *Catálogo das Informações Commuas dos Padres e Irmãos do Collégio de Macao feito a 25 de Janeiro de 1604*. There only 60 people are named as being in the college in January of which only 6 were priest of four vows, a smaller percentage than in Japan in 1603, and a further 23 were priests that had finished their philosophy course. Many of these priests that had finished philosophy were still students of theology but a few others were either spiritual coadjutors or their superiors had not decided yet their final grade. A further 5 brothers had also already finished philosophy. This makes a total of 34 out of 60 Jesuits having completed the philosophy course, or 57% of the total. Most of them were destined to the Japanese Mission.

The clear indication of these numbers is that a considerable percentage of Jesuits in East Asia at the beginning of the seventeenth century should have mastered the basics of natural philosophy. This indication can further substantiated through another count. Using the published biographical notes of a large number of the members of the Japanese Mission[292] we can ascertain that at least some fifty Jesuits with four vows worked in Japan during the *Nanban* century. This number is quite large both in absolute and in relative terms. Moreover it does not express the real magnitude of Jesuits able to teach or argue about natural philosophy, as many other priests with both philosophy and theology degrees but without four vows are not included. For example António Praestino (c. 1541—1589), who taught philosophy and humanities in the Amakusa College in Japan, is not included. Naturally, neither are included there the priests with philosophical education but without theological formation, who certainly could also speak and write knowledgably about natural philosophy.

[292] See João Paulo Oliveira e Costa, *O Cristianismo no Japão e o Episcopado de D. Luís Cerqueira*, Ph.D. Dissertation, Lisboa, Universidade Nova de Lisboa, 1999, pp. 756-813.

The Jesuits would then know that the lady, theology, had a maidservant at its disposition. We now turn our look to the maidservant and onto her accomplishments.

CHAPTER III — THE MAIDSERVANT OF THE MISSION

The Jesuits did not come to Japan to teach western astronomy and natural philosophy. They came to evangelize. If to evangelize or to make more effective their preaching of the word of God it was necessary to engage in other pursuits, they would perform them, be it silk trading or medical practice. However, the activity that was most closely linked to religious proselytism was the presentation, argumentation and teaching of western cosmology. We turn now to how this came to pass.

1. The objective of the Mission

The cultural repercussions resulting from the activities of the members of the Japanese Mission and other representatives of European culture, the Portuguese seamen and merchants and their respective families, had many facets. As expounded above, it included subsidiary but popular aspects, such as the ephemeral influence on Japanese dressing style, as well as in the mark it left on its gastronomy. It also included the transmission of technologies and a certain number of gadgets that, in some way, influenced the productive and commercial activities of the Japanese. However, there can be no doubt that the most important feature of this encounter between these two cultures was the transmission, by the missionaries, of a vision of the Cosmos and of its Creator that was totally new to the Japanese.

Before entering the discussion of what were the missionaries' contributions to Japanese natural philosophy we should clearly establish what was the main goal of their activities in Japan. No one should entertain doubts that the main objective of the Mission was not to facilitate commerce between Portuguese and Japanese. *Nor was it to transmit the European vision of the Cosmos*. Their foremost purpose was to convert the Japanese to Christianity. Xavier, in a letter to Don Pedro da Silva, Captain of Malacca, wrote:

"O Ladrão morreo aqui em Cangoxima. Foi-nos bom em toda a viagem e nós não lhe podemos ser boons, pois morreo em sua infidelidade. Nem despois de morto não lhe podemos ser boons emcomendando-o a Deus, por estar sua alma em inferno."[293]

[293] Letter of November 5, 1549, from Kagoshima, Documentos, p. 184.

In few other places of his writings does Xavier sound as powerless and saddened as in this passage. Sad because he had received a good deed and could not do well in turn. Powerless because the good he had to give to the Ladrão, the captain who brought him from Malacca to Kagoshima, the Ladrão would not take it. Powerless also because once the Ladrão was dead Xavier could not do anything good to him, as he was in hell. As all men of his age and faith Xavier believed that eternal salvation depended on how a man received the Word of the gospel. Those who accepted it would be saved, those who rejected it damned. Accordingly, the work of evangelization was of extreme importance and urgency to all those who, like Xavier, loved other men and wished them their best. The best was not to be found in the material world, but in the spiritual. In the same day Xavier also wrote:

"Lémbre-os siempre aquel dicho del Señor que dize: «Quid prodest homini si universum mundum lucretur, animae vero suae detrimentum patiatur?»"[294]

Therefore we can safely admit that none of the 319 *padres* who went to Japan had any other goal than that of spreading the Gospel. Nor did any of the 37 Portuguese and 1 Spaniard who were admitted to the Society of Jesus in Japan, 21 of them to become priests, had a different purpose. As their actions were patterned on their goals, it is only natural that their main activities were first of all of a religious nature. All other activities they engaged on were instrumental towards the achievement of this main goal.

In this respect we may consider that the Japanese Mission was different from the mission in China, where some Jesuits were sent primarily to become astronomers to the Imperial Court, rather than missionaries working directly on the conversion of the people.[295] The ultimate objective of these astronomer missionaries was, for sure, also to facilitate the conversion to Christianity of as many Chinese as possible, but their immediate goal was to facilitate the more purely religious actions of their brethren. Such an extreme division of work did not happen in Japan.

Still, Christianity was then, as it is now, an integrated vision of the World. It was very difficult, not to say impossible, to present the Christian religion without what

[294] Letter of November 5, 1549, to the Jesuits in Goa, Ducumentos, p. 150.

[295] On the diferent realities of the two Missions see Isabel Pina, "The Jesuit Missions in Japan and in China: Two Distinct Realities: Cultural Adaptation and the Assimilation of Natives", *Bulletin of Portuguese-Japanese Studies*, 2001, vol. 2, pp. 59-76. On the division of labour between the missionaries in China see Liam Matthew Brockey, *Journey to the East: The Jesuit Mission to China, 1579—1724*, Cambridge, The Belknap Press of Harvard University Press, 2007.

was then the Christian view of the cosmos, and the missionaries in Japan did not shy away from speaking about the Cosmos whenever this was a necessary step to be able to speak about its Creator. Therefore, in the dialogue between Christians and the non-Christians in Japan during the 16th and 17th centuries, scientific elements were, if not always mentioned, frequently present.

We can then speak of an integrated cosmovision composed by two elements, different but inseparable, transmitted by the Japanese Mission which, to use a metaphor of that time, were like a lady and her maidservant: a religious element composed by Christian doctrine and the scientific element made up by European natural philosophy of Aristotelian origin, complemented by Ptolemaic astronomical theory. There are two reasons why the two elements were inseparable in transmission and united in perception. One was because the agents of dissemination were basically the same. Another was because in the transmission process, either by speech or by the written word, the two elements were presented simultaneously and interlinked. Natural philosophy was frequently used by the missionaries as a means to gain ascendancy over their listeners, so as to preach with greater efficacy the Gospel later on. It was also yielded by them to destroy belief in the myths that were at the basis of the syncretism of the religious system composed by Shinto and Buddhism, which most Japanese followed. In many of the books produced by the Japanese Mission we can also see this connection. As will be argued later, references to religious topics were common in scientific treatises and mention of natural facts and natural philosophy theories were frequent in religious publications. These theories about nature and cosmos were often in stark opposition to the systems of the Confucian and Buddhist scholars and to the Japanese popular knowledge of ancestral origin. They frequently caused commotion to their hearers, as is recorded in some well known Japanese and European sources that will be presented later. This interconnection between Christian doctrine and European natural philosophy became so strong in the Japanese mind of the 17th century that the simple fact of presenting Ptolemaic theories was considered a sure sign of Christian faith and punished severely, as the cases of Hayashi Kichizaemon 林吉左衛門 (? — Shōhō 3.4.6, ? — 1646.5.20) and Kobayashi Kentei 小林謙貞 (Keichō 5? – Tenwa 3.12.24, approx. 1600? – 1684.2.9) show.[296]

[296] Shigeru Nakayama, *A History of Japanese Astronomy: Chinese Background and Western Impact*, Cambridge, Harvard University Press, 1969, p. 99.

The transmission of religious ideas is generally the most difficult aspect of any encounter between cultures, but it is also the most profound. The difficulty can be caused by various factors amongst which one can mention the lack of an adequate terminology to impart ideas and concepts that were non-existent until then. Another important obstacle hindering the acceptance of a new religion can arise from the necessity of new converts having to adapt or abandon some habits and customs, which were often secular, and upon which the very foundations of the social and political order of the country were based. From this, a host of other problems can follow, such as the hostility of political authorities and opposition on the part of the religions that were already established in these regions. In the case of the introduction of Christianity in Japan during the 16th and 17th centuries, all these factors were present.

It is undeniable that, from a quantitative point of view, Christianity achieved a remarkable success in Japan during the sixteenth and seventeenth centuries. But it is also true that it was unsuccessful in its attempts to maintain its spiritual conquests and even the continuity of the Hierarchical Church.[297] However, one can ask whether, in spite of that failure, it not exerted a momentarily strong impact upon Japan and the Japanese that translated into a lasting influence on some social and cultural aspects. It probably had, if we are to believe in the contemporary reports and treatises of friends and foes of the Japanese Mission. It is my belief that the Japanese reaction to Christian evangelization in the sixteenth and seventeenth centuries was of such a degree, that it is extremely difficult to find any comparable examples in other regions of the Old World,

[297] That, by being crushed under the Tokugawa Shogunate, Christianity did fail in its attempted evangelization of Japan is the thesis of mainstream contemporary historiography, exemplified by works such as George Elison, *Deus Destroyed: The Image of Christianity in Early Modern Japan*, Harvard East Asian Series, 141, Cambridge, Harvard University Press, 1988, and G. B. Sansom, *The Western World and Japan: A Study in the Interaction of European and Asiatic Cultures,* Tokyo, Charles E. Tuttle, 1977. However, for the missionaries, from Xavier to Sidotti, the fundamental objective, to which end everything else was subordinated, was to "win souls". This derives from the idea that one soul is worth the entire material Universe. Thus, for example, they considered martyrdom to be a victory and it is in this context that the thousands of individuals who were martyred during this period are considered by the Japanese Church to be their crowning glory. From another point of view, martyrdom can also be considered a victory, for example, of doctrinal fortitude over the brute force of physical persecution. For this reason, if asked today to evaluate the success of the Japanese Mission, most of its missionaries would probably have considered it a success.

at any time, where Christianity had such an undeniably profound and powerful impact.[298]

The Christian doctrine held an immense attraction for a large number of Japanese from all classes, from *daimyo*[299] to beggars[300], including *bushi*[301], scholars[302],

[298] C. R. Boxer, in *The Christian Century in Japan 1549-1650,* Berkeley, University of California Press, 1951, p. 321, makes the following appraisal: "It would be difficult, if not impossible, to find another highly civilized pagan country where Christianity had made such a mark, not merely in numbers but in influence".

[299] Amongst the politically and economically more powerful *daimyo* who converted to Christianity, one can cite Ōtomo Yoshishige (baptized as Francisco), Takayama Ukon 高山右近 (Dom Justo, Tenmon 21—Keichō 20.1.8, 1552—1615.2.5) and Gamō Ujisato 蒲生氏郷 (Dom Leão, Kōji 2—Bunroku 4.2.7, 1556—1595.3.17), feudal lords in regions as different as Kyushu, Kinki and Northern Honshu. Apart from these individuals, whose conversions can be considered to have been of great importance due to the influence they had upon Japanese society at the time, one knows the names of many other *daimyo*, of lesser social stature, who were baptized. As a curiosity that illustrates the vicissitudes of the historical process, one can further cite the *daimyo* Oda Hidenobu 織田秀信 (Tenshō 8—Keichō 10.5.8, 1580-1605), secretly baptized by Father Gnechi-Soldo Organtino (1533—1609.04.22) in 1595, who was declared the successor to Oda Nobunaga (1534—1582) by the Kiyosu Conference (1982).

[300] The most famous example is undoubtedly that of Brother Lourenço, the first Japanese to become a lay brother of the Society of Jesus, who, before meeting Xavier, earned his livelihood as a *biwa-hōshi*, or wandering minstrel, which placed him solidly in the upper stratum of the vagabond class. For more information about the remarkable life of this exceptional individual, see Arimichi Ebisawa, "Irmão Lourenço: The First Japanese Lay-Brother of the Society of Jesus and his Letter", *Monumenta Nipponica* (1942*)* 5, 225-233, or Kataoka Yakichi, "Life of Brother Lorenço", *The Japan Missionary Bulletin*, Vol. III (1949), pp. 12-25. For further details about the role played by the *biwa-hōshi* in the evangelization of Japan, see the paper presented by Juan Ruiz de Medina, "El papel de los trovadores ciegos en la misión de Japón", presented in the *Colóquio Internacional O Cristianismo no Japão*, UCP/CHAM, Lisboa, November 1999.

[301] Many samurai, of whom only a small proportion is named in the accounts that have survived, converted at the time of the baptism of their feudal lord. Others converted without any influence on the part of their lords. To give a face to the Christians of this class, we can mention two examples: Miki Handayū 三木判大夫 (*fl.* sixteenth century), who was converted by Brother Lourenço, and who was the father of Paulo Miki 三木パウロ (Eiroku 5—Keichō 1.12.19; 1563—1597.2.5), one of the twenty six martyrs of Nagasaki, and Miguel of Ichiku 市来ミゲル (Genki 2—Keichō 9.11.25, 1571—1605.1.14), whose efforts to preserve the Faith of the members of his community during the missionaries' absence is

Buddhist monks[303], farmers and peasants[304], merchants[305] and, almost surely, pariahs: in the words of a 17th century Japanese Buddhist monk, "[t]he people who converted [to Christianity] on this occasion were as numerous as [the stalks of] hemp and millet in the fields."[306] Nevertheless, apart from the fascination that the Christian faith held for many Japanese, it also provoked very violent sentiments of rejection, to the extent that the almost 300 years of history that followed the 1587 Decree by Hideyoshi can be defined by the total repudiation of Christianity.[307] The causal effect between Christianity and

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described in the paper "Xavier and his Ichiku Mission" presented by Hisashi Kishino at the *Colóquio Internacional O Cristianismo no Japão*, UCP/CHAM, Lisboa, November 1999.

[302] For example, Yūki Tadamasa 結城忠正 (also known as Yamashiro 山城, *fl.* sixteenth century) and Kiyohara no Shigetaka 清原枝賢 (Eishō 17—Tenshō 18.11.15, 1520—1590.12.11), two Confucian scholars renowned for their anti-Christian stance, who were nominated by Matsunaga Hisahide 松永久秀 (Eishō 7—Tenshō 5.10.10, 1510—1577.11.19) in 1563, to inquire whether the Christian doctrine would be prejudicial for the state. Representing and defending Christianity during this inquiry, Brother Lourenço, the *biwa-hōshi,* achieved what was humanly improbable: not only did he confound the arguments of the scholars but, at the same time, he won their hearts and converted them.

[303] There are accounts of conversions of a non-negligible number of *bonzos* from different factions, including Zen and Hokke. Amongst members of the former school who became Romanists, we can cite the examples of Kyozen (Paulo) and Sen-yō (Barnabas), who had belonged to the Tōnomine monastery in Yamato. Both of them later became very effective catechizers. Cf. Luís Fróis, S.J., *História do Japam* Lisboa, Biblioteca Nacional, 1976-1984.

[304] Farmers and peasants normally do not leave a trace of their individual names for posterity. Nevertheless, the farmers and peasants of Shimabara who were, for the greater part, Christians who were persecuted religiously and oppressed economically, have collectively left their mark on history in one of the most famous peasant revolts in the history of Japan, the Shimabara Revolt (from December 11th, 1637 to April 12th, 1638).

[305] Scattered throughout the country, many merchants converted to Christianity. As an example, one can cite two of the most prominent names: Fukuda Hibiya Ryōkei of Sakai, a model of Christian virtues, and the exceedingly rich, corrupt, but later reformed Murayama Tōan 村山等安 (António, Eiroku 5—Genna 5.19.26, 1562—161912.1) of Nagasaki, martyr and father of martyrs.

[306] Sessō Sōssai, in *Taiji Jashū-ron*.

[307] This Decree by Toyotomi Hideyoshi, which is probably the oldest Japanese anti-Christian text that is known of, has been reproduced in Ōkubo Toshiaki, Kodama Kota, Yanai Kenji and Inoue Mitsusada, *Shiryō ni Yoru Nihon no Ayumi* 『資料による日本の歩み』, Tokyo, Yoshikawa Kōbunkan 吉川弘文

innumerable internal and external political measures of the *bakufu* is undeniable. During the course of more than two centuries, measures taken as a reaction against the undesirable foreign religion would affect the policies of the shogunal government in areas as diverse as controlling the population by means of the *gonin-gumi* system and regulating relations with the outside world.[308]

The reasons why so many Japanese in the sixteenth and seventeenth centuries converted to Christianity and accepted the European cosmovision were many and multifarious. For a few it was political expediency. Others had mainly in mind facilitating commercial relations and economical interests. Many were led to the Christian faith by one of the central virtues of Japanese Confucianism and *Bushido*, *chū* 忠, the loyalty to one's lord. But many were also led to the Church's door through debates, discussions and disputes about nature and her workings. In all instances there was a formal acceptance by the Japanese converts of a set of new and strange concepts, systematized through an alien dogmatic system, and the initiation into a not purely national organization through an exotic ritual.

No matter what were the reasons that brought each individual Japanese to Christianity, their conversion was operated through an evangelization process that took a very peculiar character, different from the methods used in other mission lands. Very early in their missionary work the Jesuits became aware that, to convert Japanese, they would have to use rational arguments about the whys and hows of the articles of faith. Neither the dogmatic exposition of their Credo nor the simple proclamation of Jesus' Gospel and of the resurrection of the dead would be enough to make an impact on the heart and will of the Japanese. They also understood very early in the process of missionation that nothing brought them so much to the attention of the Japanese, nor

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館, 1951-1960, Vol. 3, p. 51. A Portuguese translation dating back to the same period that is preserved in the Archives of the Society of Jesus in Rome has been reproduced in Matsuda Kiichi 松田毅一, *Taikō to Gaikō: Hideyoshi Bannen no Fūbō*『太閤と外交：秀吉晩年の風貌』, Tokyo, Togensha 桃源社, 1966, p. 65. The most accessible version would probably be the English translation that is found in Boxer, *op. cit*, p. 148.

[308] These themes have been explored in the papers by Annibale Zambarbieri, "Kakure Kirishitan in Tokugawa Period", Valdemar Coutinho, "O Bakufu e os Missionários no Japão entre 1614 and 1640" and Peter Nosco, "State Policies Towards Christianity in 16th and 17th Century Japan", which were presented at the *Colóquio Internacional O Cristianismo no Japão*, UCP/CHAM, Lisboa, November 1999.

brought them more prestige, than their ability to discuss sensibly about natural phenomena, about lunar and solar eclipses, about ice, snow and frost, about quakes on the land and tides on the sea. As we will see later, the letters written by Xavier and by those who immediately followed him to Japan stress the rational character of the Japanese, their curiosity about natural phenomena, and their taste for intellectual argument. Therefore, the Jesuits in Japan asked that the missionaries who would be sent from Europe should not only be good speakers and knowledgeable about the rules and practice of rhetoric, but should also have a very good knowledge of natural philosophy and of astronomy. It was their common conviction that only through the head could they reach the heart of the Japanese, and so attain their conversion. Unnoticed to many is that this awareness about the importance of natural philosophy and astronomy in the conversion process arose much earlier in Japan than in China, and that many of the letters cited below asking for good scholars to be sent to Japan were written before any missionary work had been established in the country of the Ming.

Therefore, the study of the processes concerning the transmission of theories about the natural world, natural philosophy and astronomy, besides their own intrinsic interest, are also important to understand the methods of proselytism used by the Japanese Mission.

The main argument here is that the Japanese were perceived by the missionaries as being especially capable of engaging in rational discussion. Further they showed a marked interest on what the missionaries had to say not only about religion but also about the natural world. Thus, from a very early stage, the missionaries not only willingly accepted to answer questions concerning nature but proactively used natural science as a means to engage the attention of the Japanese to what they wanted to preach: Christianity. Let us see these two points in sequence.

2. The curiosity and reasonability of the Japanese

The main characteristic of the Japanese that caught the attention of Xavier and attracted him to evangelize Japan was their reasonability, a blend of rationality and common sense.[309]

[309] In this section I develop and modify my argument presented in "As Distâncias dos Céus aos Infernos na Cosmologia *Nanban*", *Anais de História de Além-Mar*, Vol. 5, 2003, pp. 415-479.

In a letter written to Padre Mestre Simão, Provincial of Portugal, written from Goa in January 20, 1549, before he had left to Japan, Xavier had asked him to come "to these parts, especially to Ormuz, & Dio" with "seven or eight preachers" because "even if they hadn't great talent to preach, if they are people of great mortification, & with experience of many years, they would achieve much in the conversion of infidels". The reasons for this surprising request, to send preachers who "didn't have much talent to preach" and still be confident that, even so "they would achieve much in the conversion of the infidels" are explained next:

"[P]or quanto os infieis d' algũas destas partes saõ gente muito barbara & ignorante, & isto com terem mediocres letras, & muitas virtudes."[310]

A few days earlier he had conveyed to Ignatio de Loyola a similar message, but with more detail:

"[L]a gente natural destas partes, que son gente, quanto tengo vista, en general hablando, mui bárbara[,...] gente que no conoce a Dios, ni obedece a la razón por la mui grande costumbre de vivir en peccados. [...] Los indios desta tierra, assí moros como gentiles, son mui ignorantes todos los que hasta agora tengo visto. Para los que han de andar entre estos infieles convertiéndolos son necessarias muchas virtudes: obediencia, humildad, perseverancia, patiencia, amor al próximo y mucha castidad[...]. "[311]

Through the times there have been many reasons for conversion into Christianity. A frequent one has been the example of high moral character. Many are impressed by uncompromising righteousness and instinctively try to emulate it and want to forge bonds with those who exhibit it. Many conversions are made through those bonds. Righteousness usually does not come together with great literary or scientific talent but more with "great mortification, & with experience of many years." Xavier seemed to believe that in the evangelization of the countries around the Indian Ocean preachers

[310] *Cartas,* Primeiro Tomo, fl. 1.

[311] G. Schurhammer S.I. and I. Wicki S.I., *Epistolae S. Francisci Xaverii Aliaque Eius Scripta*, Tomus II, Romae, Monumenta Historica Soc. Iesu, 1996, pp. 5-6. However, it should be noticed that the Jesuits were amongst the most benevolent of the European observers of the local peoples and cultures: "The talent of many of the natives in India, Japan, and Brazil elicited praise from the Jesuits who worked with them, as well as comparisons unflattering to their European counterparts." John W. O'Malley, *The First Jesuits*, Cambridge, Harvard University Press, 1993, p. 78.

who were examples of moral virtues and austerity would achieve more than those more learned but more pliable to the beckoning of worldly allures.

In the next paragraph of his letter to the Provincial of Portugal Xavier enters in the main topic of his letter:

"Pola muita enformação que tenho de hũa ilha de Iapão que està alẽ da China dozentas legoas, ou mais, por ser gente de muito juyzo, & curiosa de saber, assi nas cousas de Deos, como nas outras cousas de sciencia, segundo me dão enformação os Portugueses que daquellas partes vierão & tambem hũs homẽs Iapões, que o anno passado vierão de Malaca comigo, & se fizerão Christãos no Collegio de Sancta fé de Goa, me derão enformação daquella ilha, como vereis por hum caderno que la vos mando, que foy tirado pola enformação que nos deu Paulo de Sancta fé, homẽ de muita virtude & verdade." [312]

The contrast, though unintentional, could not be sharper. Contrary to the majority of the peoples between Socotora and Malacca whom he came to know, half a dozen of which are referred by him in this letter, who seemed to Xavier "very primitive & ignorant," the information he got from Alvares and other Portuguese about Japan, its people and society, as well as his personal contact with Yajirō and his group, convinced him that the Japanese were, first, "very sensible people," and second, "curious of knowledge".[313] This curiosity is not only about "things concerning God" but also about "the other things of science". Science, at that time, meant knowledge in general, but we may safely assume that Xavier was meaning here the knowledge concerning natural philosophy and astronomy, a meaning very close to what we call today *science*, as will shortly be confirmed from the citation of another of his letters, where instead of *science* he writes *natural things*.

This was not a rash judgement about the Japanese. Rather it was a mature confirmation of the first impression which he had gathered one year before from the small group of Japanese described above:

[312] Cartas, Primeiro Tomo, fl. 1-1v.

[313] This contrast between Xavier's perception of the people of India and the people of Japan is also mentioned in João Paulo Oliveira e Costa and Teresa Lacerda, *A Interculturidade na Expansão Portuguesa (Séculos XV-XVIII)*, Lisboa, Alto Comissariado para a Imigração e Minorias Étnicas, 2007, pp. 64-65.

"Si así som todos los japones, tan curiosos de saber como Angero, paréceme que es la gente más curiosa de quantas tierras son descubiertas. Este Angero escrivía los artículos de la fee quando venía a la doctrina christiana, y iva muchas vezes a la iglesia a rezar. Fazíame muchas preguntas. Es hombre muy desseoso de saber, que es señal de um hombre se aprovechar mucho y de venire em poco tiempo en conoscimiento de la verdad".[314]

In this passage Xavier besides noticing in the Japanese a strong desire for knowledge discerns also the diligence they put in the act of leaning: Yajirō writes down what he learns, commits it to memory and makes further questions about it.[315] This impression was so strong that Xavier keeps repeating it in his letters. For example, he had already written:

"Por la mucha información que tengo de Japón, [...] es gente muy curiosa y deseosa de saber cosas nuevas, assí de Dios como de otras cosas naturales, determiné de ir a esta tierra [...].[316]

After leaving Japan he warns in a letter to Ignacio de Loyola of January 29, 1552, that those who will come to Japan after him:

"An de ser muy importunados de vissitas y preguntas a todas las oras del día y parte de las de noche, y llamados a casas de personas principales que no se pueden escusar. No an de tener tiempo para orar, meditar y contemplar ni para ningún recogimento espiritual. No pueden dezir missa, a lo menos a los principios. Continuadamente an de ser occupados en responder a preguntas. Para rezar su oficio les ha de faltar tiempo, y aun para comer y dormir. Son muy inportunos, principalmente con estrangeros, que los tienen en poca conta [...]."[317]

This information was based on his own experience. Soon after lading at Kagoshima in 1549, Xavier and João Fernandes started to be called upon to answer to the curiosity of the Japanese:

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[314] Letter of Xavier to the Jesuits in Rome, January 20, 1548, in Juan Ruiz-de-Medina S.J. (ed.), *Documentos del Japon 1547-1557*, Roma, Instituto Histórico de la Compañia de Jesús, 1990, p. 27.

[315] This process of learning was very close to that which the Jesuits strove to implement in their Colleges.

[316] Letter to Ignacio de Loyola, Cochín, January 12, 1549, Documentos I, p. 79.

[317] Documentos I, pp. 320-321.

"A maior parte do dia se ocupavão na comunicação dos proximos, e de noite prolongavão suas vigilias em oração, e nos rudimentos da lingua com grande instancia. O P.^{e} Mestre Francisco, que já sabia alguma couzinha della, por huma parte, e o Irmão João Fernandes, por outra, gastavão o dia todo em responder às perguntas que os gentios lhe fazião, e satisfazer a suas duvidas."[318]

Later, other missionaries will notice the same curiosity. Luís de Frois wrote:

"Em estremo folguei de ver a curiosidade destes quatro fidalgos de casa do Cubòcama, que agora andão pera se fazerem Christãos, porque alem de escreuerem a doutrina de sua letra, & a saberem logo de cor, quando se vão pera casa alguns escreuem as praticas que ouuirão, especialmente sobre a alma, & suas potencias, sobre a criação do vniuerso, & quando tornão, conferem o que escreuem com Damião, pera verem se concorda com o que ouuirão. Hũa das cousas por onde me parece verdadeiramente que os Senhores, que neste reino do Miaco se fizerão Christãos, e fazem ham de ser muito bons, he porque absolutamẽte não se fazem Christãos, senão por lhe constar com clara euidencia, & força da rezão, q os moue não auer outro meo pera se saluarem senão na lei de Deos nosso Senhor."[319]

We may thus conclude that the Japanese set out the means necessary to learn, namely time and effort, and thus they made "the most of an opportunity and in a short time they come to the knowledge of truth" as Xavier had put it. Looking more carefully to this passage we should also notice the following three points.

One is that there is a pattern, which would be described repeatedly in many other letters written by Jesuit missionaries, in the establishment of the relationship between the Japanese and the missionaries that leads the former to become Christians: first, the Japanese are curious; second, moved by this curiosity they seek the missionaries to make them questions or to hear their preaching; third, they actually hear what the missionaries say, they study it, sometimes they commit it to memory and many times they come back with more questions to further their own comprehension; fourth, though missing in this passage, they show satisfaction with what they hear and happiness of finding a teaching that conforms to what they consider to be according to reason; fifth,

[318] História, vol. I, p. 24.

[319] Letter from Luís de Fróis to Francisco Perez, dated March 6, 1565, Cartas, fl. 180.

also missing here, the reputation of the missionaries as scholars who hold truth is established and conversion to Christianity ensues.

Another is that in the questions of the Japanese and in the answers of the missionaries, Christian doctrine and natural philosophy are so closely associated that it is impossible in most instances to separate them. In this particular case, the teaching "about the soul, and its potencies" could have meant a purely exposition of Christian doctrine about the existence, eternity, free will and the final destiny of the soul; it could have been a natural philosophy lecture based on a scholastic treaty on the soul, its three categories of vegetal, animal and rational, its potencies like memory, volition, etc.; but most probably it was a mix of these two aspects. Likewise, the talks about "the creation of the Universe" could have been a preaching on the Genesis, a lecture on the structure of the Heavens and Earth, but most probably was a blend of the two.

The last is the observation that the Japanese, or at least "Japanese noblemen", do not accept Christianity unless they clearly understand and accept what is taught and are moved by the desire of attaining eternal salvation.

This appraisal of the Japanese was not the result of a personal bias of these two missionaries. We have already seen the high opinion which Jorge Alvares made of the Japanese. There is no evidence of a divergence of opinion: no Jesuit or Portuguese is on record of thinking the Japanese ignorant, stupid or passive, though we can find those adjectives applied by Europeans, during that age, to quite a number of other peoples.

For example, an Italian, Nicolao Lancillotto, wrote:

"Sonno gente nobile e discreta, ammatori delle virtù e letre. Tengono in grande veneratione li literati"[320]

We can detect in this simple phrase the highest compliment that a Renaissance man could make: it was a basic premise of this European intellectual movement that virtue and knowledge go together. Being lovers of letters and of literati the Japanese should be virtuous; being virtuous they should love letters.

Very revealing is also what a Spaniard, Cosme de Torres wrote:

"Estes Iapoẽs sam mais aparelhados para que em elles se prante nossa santa fè, que todas as gentes do mundo. Saõ discretos quanto se pode cuidar: gouernãse pola

[320] Documentos, p. 62.

razão tanto, ou mais que os Espanhoes. São curiosos de saber mais que quantas gẽtes eu tenho conhecido, & de praticar de que maneira salvarão suas almas, & servirão quem os criou. Em todo o descuberto não ha homẽs da sua maneira: tem mui linda conuersação, que parece q todos elles se criárão em paços de grãdes senhores: os comprimentos q tem hũs com os outros, he impossiuel poderse escreuer."[321]

By describing the Japanese as discreet Father de Torres is meaning that they are careful and prudent in speech and action, i.e, that they have good sense. Though this is the highest compliment that one may make to a Japanese, this missionary, being a Spanish, goes on to praise their good use of reason, and does not hesitate to place them above his own countrymen.

These testimonials refer to the first years of contact but the appraisal will continue unchanged for the entire period of the Japanese Mission.[322]

As another example of commendatory appraisal, we may remember what Alessandro Valignano wrote some thirty years after these first reports:

"[E]ntre todas estas gentes de Oriente, hasta ahora, vemos que solamente los japones se mueven a hacerse cristianos de su libre voluntad, convencidos de la razón y con deseo de su salvación."

Further, they are:

"[G]ente tal y tan bien inclinada y sujeta a la razón".

Therefore:

"[L]os japones no sólo son capaces de recibir nuestra santa ley mas también de recibir fácilmente nuestras ciencias".[323]

Further, the first motive in his list of reasons for admitting Japanese to the priesthood was:

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[321] Cartas, Primeiro Tomo, fl. 17v.

[322] "They had been defined as 'white like us' from the start, even before the first missionary landed in Japan, and thus they remained chategorised thereafter." Wm. Theodore de Bary, Carol Gluck, and Arthur Tiedmann (compilers), *Sources of Japanese Tradition: 1600 to 2000*, Second Edition, New York, Columbia University Press, 2006, p. 152.

[323] Alessandro Valignano, *Sumario de las Cosas de Japón (1583). Adiciones del Sumario de Japón (1592)*, edited by José Luis Álvarez-Taladriz, Monumenta Nipponica Monographs, no. 9, Tokyo, Sophia University, 1954, pp. 132-133

"[A] ellos no falta nobleza, capacidad y prudencia, autoridad y todo lo demás que es necesario para hombres religiosos".[324]

Similar opinions would also be expressed some time later from Macau. For example, in the annual letter of 1594 from the Colégio de Macau we can read:

"E como os jappões sejão de seu natural de mui bom entendimento e prudençia e mui acomodados para a religião somente lhe[s] faltava esta commodidade de poder entender en lugar mais seguro e apartado de suas terras, com as virtudes e letras, com o recolhimento e segurança de nosos collegios de Europa, [...] ficarão […] muito aventejados nos virtudes e letras."[325]

Another type of conversion, besides that operated through high moral example, is through rational argumentation. The missionaries in Japan, from Xavier to Valignano and their successors, believed that for most Japanese conversion would more easily come through rational argumentation than through moral ideal. Indians are ascetic and like to follow moral trendsetters. Japanese are reasonable and like to follow intellectual leaders. Gurus are from India and *sensei* from Japan.

A principle that is shared by Confucians, Christians and Aristotelians is that knowledge of reality is important, but still more important to them is the knowledge that leads to action. Therefore it is very telling the considerable awe with which Xavier, after returning from Japan to India, writes from Conchin to the Jesuits in Europe, in a letter already mentioned above, dated January 29, 1552:

"Eles sempre praticavão em suas leis, qual delas hera a melhor. Depois que nós láa fomos, deixavão de praticar nas proprias leis e praticavão na ley de Deus. Hera coussa pera nam se poder crer, ver em huma cidade tão grande como por todas as cassas se praticava na ley de Deus. Sprver o número das pregumtas que nos fazião seria numqua acabar." [326]

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[324] *Ibid*., p 181.

[325] Annual letter of the Colégio de Macau, October 28, 1594, in João Paulo Oliveira e Costa (direction and introductory study) and Ana Fernandes Pinto (paleographic transcription), *Cartas Ânuas do Colégio de Macau (1594—1627)*, Macao, Comissão Territorial de Macau para as Comemorações dos Descobrimentos Portugueses, 1999, pp. 59-60.

[326] Documentos, vol. I, p. 304.

The fact that the Japanese were curious played a decisive role in deciding how Christianity was presented to them, was an important factor in its spread, and should have made missionary activity more agreeable as it is easier and more pleasant to speak with somebody who shows interest and eagerness than with someone who is indifferent and apathetic. But more important than curiosity is the willingness to act in accordance to the knowledge that one accepts, and to make one's actions conform with what one believes to be the truth. And what Xavier perceived in the Japanese was precisely this: before they heard about Christianity they sought the Buddhist school that seemed more resonable to them, and would follow its religious prescriptions; after they heard about Christianity, if they believed it, they would follow its commandments.

3. Natural philosophy as maidservant

In a passage cited above we saw that Xavier wrote that the number of questions the Japanese asked to the missionaries was so great that to enumerate them would be an endless task. As he had no hope of being able to write them all he didn't even attempt it in a serious way. Indeed, we notice that although the references to questions by the Japanese are many, the number of their actual questions which the missionaries put down in writing is small. However we are fortunate that in that same letter he wrote the following short paragraph laden with meaning:

"São tam curiosos e emportunos em perguntar, tão desejosos de saber, que numqua acabão de pregumtar e de falar aos outros as cousas que lhes respondemos a as suas pregumtas. Nom sabião eles ho mundo ser redomdo, nem sabião o cursso do sol, pergumtando eles por estas coussas e per outras como das cometas, relámpagos, chuva e neve e outras semelhamtes, a que nós respomdendo e declaramdo-lhas, ficavão muito contemtes e satisffeitos, temdo-nos por homens doctos, o que ajudou não pouquo pera darem crédito a nossas palavras."[327]

This is a perfect example of the pattern of the relation building process leading to conversion with five elements that was described in the previous section. We have here the curiosity, the questioning, the listening, the happiness and the consequent

[327] Letter to the Jesuits in Europe, January 29, 1552, Documentos, vol. I, p. 304.

establishment of credibility by the missionaries. This paragraph is important for several reasons.

One is because it clearly shows that the missionaries did not restrict their activities to religion, to announce, preach and teach the articles of the faith or to the administration of the sacraments. They considered questions about the natural world as an opportunity to engage in a conversation that would eventually lead to a conversation about the Creator of that natural world.

Another is because it is the first avowal in the setting of the Japanese Mission, and probably also the first in the context of the modern missionary movement initiated with the Portuguese age of discoveries,[328] that the credibility earned by a missionary in presenting European natural philosophy theories would allow him to present Christian doctrine with authority later: "it did not help us little so that they would believe in our words [concerning Christian doctrine]".

Further, it is also important because it is one of the few examples where questions about nature appear completely segregated from those concerning Christian doctrine.

Moreover, it is one of the most detailed descriptions of those questions that have arrived down to us. From this passage we learn that the Japanese asked about the shape of the Universe, about the path of the Sun revolution, about comets, lightning, rain, snow and similar things. We notice that while no one needs special knowledge to be able to ask about the shape of the Heavens and Earth, and about the causes of comets, lightning and rain and snow, on the other hand questions about the course of the Sun in the celestial region requires some sophistication on the questioner. And we should notice also that while an educated sixteenth century European that had gone through an arts course, as all Jesuit *padres* had, would easily have been able to reply to most of those questions.

Finally it is important because it demonstrates that the belief that the Earth is not round was dominant among the Japanese, an issue to which we will come later. In fact it was the missionaries who spread wide and far in Japan the theory that the Earth is round. The theory that the Earth is a sphere, as we will see later, was accepted by

[328] About the old and new ways of missionary activity during the first half of the second millennium see João Paulo Oliveira e Costa, *op. cit.*, pp. 29-66.

Genshō, who justified his acceptance with it being an ancient Chinese idea. However the distinct impression that Xavier received, and other missionaries after him confirmed and contemporary Japanese sources makes indisputable is that this was a novel idea for mid-sixteenth century Japanese. Because it was novel and because it was different it was bound to attract the attention of both learned and non-learned.

Given this Xavier decided that the missionaries to be sent to Japan should be learned men. In the same letter Xavier warns:

"La necessidad que ay para mandar padres de la Compañia a las universidades de Japón es porque los seculars se desculpan de sus yerros deziendo que tanbién ellos tienen sus estudios y letrados. [...] Para responder a suas preguntas son necessarias letras, pricipalmente buenos artistas. Y los que fueren sophistas tomarlos han luego en contradiction manifesta. Córrense mucho estes bonzos quando los toman en contradición o quando no saben responder."[329]

According to Xavier they should be men of learning, but especially *buenos artistas*, what means those that were better prepared in a course of arts. This course in the European universities of the time would have included at least an elementary training in natural philosophy. However Xavier was asking that those to be sent into Japan should have gone beyond this barest minimum but should instead have received a good training in this field. They had also to be good rhetoricians and logicians, to spot the weak links in the other's arguments. This policy of asking that learned men should be sent to the Japanese Mission would be kept even after the departure of Xavier.

Men with this preparation would be able to present a discourse about natural phenomena that could earn the confidence of the Japanese. Having earned this confidence they could more easily introduce the more challenging religious doctrines and have greater confidence that these would be accepted. Furthermore, this discourse would enable them to destroy the confidence the Japanese had that Buddhist monks were learned men, as we will presently see.

In a letter written some months later to Ignacio de Loyola, Xavier assembles in one message the several warnings already seen above and makes explicit one further reason why the missionaries should be good artists and good rhetoricians:

[329] *Ibid.*, p. 321.

"También es necessario que tiengan letras para responder a las muchas perguntas que hazen los gipones. Seria bueno que fuesen buenos artistas y no perdirían nadie que fuessem sofistas para en las disputas tomar los gipones en contradición; que supiesem alguna cosa de la esphera, porque huelgan en grande manera los gipones en saber los movimientos del cielo, los eclipsis del sol, mengoar y crescer la luna, cómo se engendra el agua de la lluvia, la nieva y piedra, trovanes, relánpagos, cometas y otras cosas ansí naturales."[330]

In this passage Xavier makes it clear to his superior that besides the Japanese enjoying very much to understand the natural phenomena and making many questions about them, it is important that the missionaries should be knowledgeable about natural philosophy and be good rhetoricians to be able to engage in *disputes* with the Japanese. It is evident that at some point the questioning had been transformed into a dispute. This shows that some of the replies given by the missionaries had not been accepted and that alternative solutions had been proposed, probably by the more learned Buddhist monks, or by the more passionate. One of the most famous cross-cultural disputes of all times is the one described by Brother Juan Fernandez, in his letter of October 20, 1551, to Xavier, and came to be known as *The Disputes of Yamaguchi*.[331]

After the initial salutations Fernandez describes the circumstances of the disputes and how their record survived:

"Después que V.R. de aquí partió, uvo muchos géneros de perguntas que hizieron los japonês, los quales vinieron muy alterados después que vieron ido a V.R., tantos que se enchía la casa desde la mañana asta la noche, pareciéndoles que no quedava aquá quien com la gracia y favor del Spírito Santo lés confudiess. A lás quales perguntas respondió el padre Cosme de Torres, sirviendo yo de léngoa. Y porque el padre me tiene mandado que siempre escriba en léngoa de Japón lo que ellos perguntan

[330] Letter written on April 9, 1552 from Goa, Documentos, vol. I, p. 358.

[331] The record of these debates can be found in Documentos, vol. I, pp. 238-261, and História, vol. I, pp. 53-58. Analysis of the content and comments can be found in Georg Schurhammer, *Die Disputationen des P. Cosme de Torres, S.J. mit den Buddhisten in Yamaguchi im Yahre 1551*, Tokyo, 1929; this has been translated into Japanese by Kamio Shōji 神尾庄治, *Yamaguchi no Tōrōn: 1551 Nen, Iezusu-kai Kozume De Toresu to Bukkyōto tono* 『山口の討論：1551 年、イエズス会士コズメ・デ・トレスと仏教徒との』, Tokyo, Shinseisha 新生社, 1964; see also Georg Schurhammer, *Francis Xavier: His Life, his Times*, vol. 4-Japan (1549-1552), Rome, Jesuit Historical Institute, 1982, pp. 220-290, and Neil Fugita, *Japan's Encounter with Christianity: The catholic Mission in Pre-Modern Japan*, New York, The Paulist Press, 1991, pp. 40-48.

y se lés responde, daquellas perguntas y repuestas que tengo escriptas daré cuenta a V.R. Aunque lás respuestas que lés dimos, para entre los christianos e doctos no parezen del todo concluyentes ni lás más [*illegible*] que podrían dezirse em philosophía e theología, e para estos es menester usar destas razones más manuales y materiales [*three illegible words*].”[332]

The first sentence of this paragraph confirms that the passage from questioning to dispute had occurred while Xavier was still in Yamaguchi. It certainly seemed to Brother Fernandez that the Japanese wanting a dispute felt more comfortable when Xavier was absent, perhaps because the perceived probability of being confounded was smaller. However, we know that even when Xavier was still in Yamaguchi the affluence of people wanting to speak with him or just hear him speak was continuous from morning to night. It is also interesting to note that the translator was not a Japanese anymore but Fernandez himself. This shows that a shift had occurred: instead of relying on a Japanese who could understand Portuguese, Torres was helped by an European missionary who could already speak Japanese. Interesting to note also is the management skill of Torres as well as his customer orientation, if not his historical foresight, in establishing a primitive CRM system and database by asking Fernandez to note down “in the Japanese tongue” the inquires made by the Japanese and the service provided by the missionaries. Finally we note that the replies given by Torres were avowedly simple, not at the level a properly instructed Christian or someone with some knowledge of philosophy or theology would think sophisticated. This was certainly because of the costumer orientation of the missionaries, or as they would call it, their gift of tongues, or the ability to adjust the discourse to the level of understanding of the listener.

The debate is mainly a religious one, as it should have been. However let us have a brief overview of its contents, especially in what concerns natural philosophy.

The first topic recorded is about sanctity of live, which was raised by the padres. The bonzes were not interested in this theme and instead introduced *nada*, a fundamental Buddhist concept, because “aquello que de nada fue hecho no puede dexar de no se converter en nada.”[333] Unfortunately Brother Fernandez did not bother to

[332] Documentos, vol. I, p. 242.

[333] *Ibid*, p. 242.

inform Xavier what was the Japanese word actually used for *nada*. This has left modern scholars guessing whether it was *mu* 無, or *ku* 空 that was actually employed by the Yamaguchi Buddhist monks.[334]

The Jesuits then try to bring the discussion to an *original principle* to prove that everything originated from God. Most probably the word used was *ri* 理, *principle*. The Japanese readily accepted the existence of this *principle*:

"El qual ellos concedieron que havía, diziendo que este es hun pricipio del qual proceden todas las cosas, hombres, bestias, plantas, y cada cosa criada tiene en sí aquel pricipio, y que quando muere el hombre o bestia se convierte en los quatro elementos, en lo que era, y este principio se buelve en lo que era. El qual principio dizen que no es ni bueno ni malo, ni tiene gloria ni pena, ni muere ni bibe, de manera que es hun no ser."[335]

This reply shows how easily a theological discussion fell on the fields of natural philosophy, even if for a moment, with the reference to the four basic elements according to Buddhism. When the Japanese equate *principle* with no being the missionaries did not give up their objective of proving the existence of a personal God creator. They employ the argument of the existence of moral conscience, which is accepted by the bonzes, but apparently not leading to the acceptance of the existence of God; then they use in succession the argument of justice[336], the argument of un-fulfilment of the soul[337] before hearing the Buddhist casting into doubt the existence of the human soul:

"Dixeron ellos que la material del cuerpo bien sabán ellos que eran quarto elementos. Empero Dios, de qué material crió el anima. Respondímosles que Dios,

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[334] Ruiz-de-Medina, opts for *mu* 無, nothingness, in Documentos, vol. 1, p. 242, n. 12. "Mv. Naxi. *Não auer. Ser nada, ou não auer*." Vocabvlario, fl. 169. Fugita, *op. cit*., p. 40 opts for *ku* 空, emptiness. "Cù. Bup. *Hūa cousa imperfectissima, & de minimo ser como material prima, ou vacuo*." Vocabvlario, fl. 62. As will be seen below, Mukai Gensho when characterising Buddhism as "making the four meanings of birth, life, destruction and void a figure of the production of the myriad things", will use *ku* instead of *mu*.

[335] Documentos, vol. I, p. 243. For a more detailed presentation of this important concept see Chapter VII.

[336] "[M]uchos peccados avia que la justicia aqui no castigava, porque muchos furtan y matan, y por no ser aqui discubiertos no son aqui castigados, los quales no podem dexar de tener castigo." *Ibid*., p. 245.

[337] "[P]orque el alma del hombre no cumple sus desos en este mundo ni estando en este cuerpo." *Ibid*, p. 246.

quando crió el mundo, para hazer los elementos, sol, luna y lo demás, no uvo menester buscar material para lo crier, mas con sola su palavra y voluntad los crió de nada, Y así mesmo, sin ninguma material sino con sola su palavra y voluntad cría las animas."[338]

Concerning this answer, and related to the existence of soul, the Buddhist monks raise several difficulties which are answered with some examples taken from the natural world and are firmly based on the framework of Aristotles' natural philosophy. Then the discussion turns to the goodness of God and the moral behaviour of men before coming to the devil. Concerning the tempter the bonzes asked:

"Dixeron que estando el demonio debaxo de la tierra, en el infierno, cómo y por qué camino va y viene a este mundo. Respondímosle que porque es incorpóreo y spíritu, y que así como las almas de los malos quando mueran van al infierno, así el demonio va y viene de allá para aqua. Y más, que el agua, con tener cuerpo, tiene por donde venire de hun monte alto hasta hun abismo. Pues si el ágoa, siendo cosa corpórea, no le falta camino para manar por la tierra, porqué le faltará al demonio y al alma, que no tienen coerpo, lugar par air y venire al infierno."[339]

This particular answer is important and curious. It is important because it a neat and typical example how natural phenomena were easily drawn into theological discussions. It is curious because, one hundred years later, Genshō in arguing against the Aristotelian ordering of the four elements in the sublunary word will use a similar reasoning to that of Padre Torres to dispute that the water is placed above the earth.[340]

Then the dispute goes on to deal with the compatibility of the goodness of God with his omnipotence, the possibility of men knowing God and then some aspects of Buddhist doctrine.

This dispute is a good pretext to remember that the separation between the scientific and religious discourse is a recent phenomenon in the history of mankind. Most religions, including Buddhism and Christianity, very early in their history adopted and developed a cosmovision that included an explanation about the world of matter as well about the world of spirit. From that point on these two aspects become closely

[338] *Ibid*., p. 246.

[339] *Ibid*., p. 254.

[340] See Chapter VI, paragraph 6 of the first volume of the *Kenkon Bensetsu*.

intertwined and inseparable, and therefore the two are frequently found together in the religious narrative. We will turn to Buddhism shortly, but concerning Christianity we may note further that from the earliest times it made the existence of an orderly natural world its most important argument for the existence of God. Starting with Paul's letter to the Romans[341], passing through Tomas of Aquinas five proofs, to the *Introducción del Símbolo de la Fe* of Fray Luis de Granada, which the missionaries would translate into Japanese, it was the constant practice of Christian theologians and preachers of drawing examples and proofs from the natural world.

We do not know if any bonze or Buddhist layman was converted thanks to this dispute. We may doubt it as there was too much heat to allow light to be made, and we know that some bad feelings arouse amongst the monks during these disputes against the missionaries. However we may assume that the missionaries earned some notoriety as some time later two learned bonzes from Yamato came all the way down to Yamaguchi and sought Father Torres to hear the new doctrines:

"Ouvindo muito devagar as pregações do cathecismo, gastarão alguns dias em propor suas duvidas e fazer instancias nas respostas que lhe derão, com tanta viveza, moderação e honestidade, que todos os que os ouvião se admiravão delles; athé que finalmente, fazendo inteiro entendimento, se fizerão ambos chritãos."[342]

Although no mention is made here to natural phenomena nor to theories explaining them, we may be sure both were discussed. There are several reasons why they should have been examined by the two monks and Father Torres. One is the already mentioned tendency for Christian religious discourse to be accompanied by a view on nature. Another is because the two men were learned, one being a doctor, and curious: their drive to hear new theories and docrines are proved by their long and not easy journey to meet the Jesuit *bateren*. And one further reason is it being reported that the two "completely understood everything": *everything* is not everything about Christian doctrine. It is *everything*: the Christian doctrine and its connections to the world and to the life of Man. As Valignano noticed no Japanese would convert through

[341] "For what can be known about God is perfectly plain to them since God himself has made it plain. Ever since God created the world his everlasting power and deity—however invisible—have been there for the mind to see in the things he has made." Romans 1, 19-20.

[342] História, vol. 1, pp. 81-82.

reasoned argument if what Christianity taught made no sense to him in the light of his total personal experience, especially to what he could perceive from the natural world.

It may well be worth to stress that the objective of the missionaries was the Christianization of the Japanese, not their Aristotelization. Therefore they would report on the former not on the latter. The absence of report on the latter in the majority of the cases should not be constructed to imply that it was not present in most of them: in the sixteenth century it was not fashionable to mention the presence of the maidservant when reporting the visit of a lady, though it is absurd to assume that the lady travelled alone. However, sometimes the maidservant is mentioned also. This happened in interactions with Buddhist clergymen:

"Mandou chamar dous bonzos grandes letrados para que viessem ouvir nossa doutrina. Hum delles era superior de hum mosteiro chamado Fôxenji, de hum logar dalli longe, por nome Cavanabe; e o outro da mesma cidade de Cangoxima, do mosteiro de Côcacuji. O de Fôxenji era, segundo a sciencia de Japão, grande mathematico; perguntou-me pelos eclipses do sol e da lua, pelo encher e vazar das mares, e por outras muitas couzas dos mixtos imperfeitos, da região do ar. E como eu trazia todas estas duvidas escrittas em cartapacios, com a resposta dellas, fiz-lhe humas demonstrações pintadas, com que logo ad oculum os convencia. Ficou o bonzo com inteira satisfação."[343]

Another example is found in a letter by Brother Luís de Almeida:

"E asim vim tomar conversação com hum dos principais bonzos que tinha debaixo de si três mosteiros muito grandes, o qual hé tido por santo emtre todos. Hé homem de muito crédito e—antes de bonzo—muito honrrado no mundo, com quem el-rei comonica seus negócios. Era este desejoso estranhamente de saber, dado ao estudo de suas letras em gram maneira, humilde emtre os japões, pelo que de todos hé amado. Será de sinquoemta annos, com quem o padre Mestre Francisco avia tido muita amizade. [...] E asi me comesou a preguntar muitas couzas que elle desejava saber. Scilicet, se ficava alguma cousa despois que o homem morria; se avia criador; por que causa avia estes movimentos de tempo; por que causa tremia a terra, chovia, e outras muitas preguntas, com as respostas; das quais muito se alegrou. Nem me foi dificultoso responder a ellas, pólo exercício que temos em casa de praticar em semelhantes cousas e

[343] História, vol. I, p. 219.

outras que os japões soem a preguntar. [...] A outro dia me despedi delle, e dahí por diante ficou o caminho aberto pêra lhe dar lume em as cousas da fée."[344]

It also happened with *kuge* and professional astronomers:

"[H]um dos mayores astrologos que havia em Japão, que era Cunque, pessoa muito nobre, por nome Aquimasadono; o qual, por ouvir do Padre [Gaspar Vilela] os eclipses do sol e da lua, e alguma couza dos movimentos dos ceos, criou isto nelle tamanho conceito, que foi dos primeiros que no Miaco se fizerão christãos com sua mulher, filhos e família, e chamava-se Aquimasa Manoel. [E]ra douto na sciencia dos chinas."[345]

And it also happened with Buddhist laymen:

"Outro christão houve no Miaco por nome Ximinzu Leão, homem de 50 annos, rico e cazado. Tinha filhos, pay e mãy e parentes, e todos da seita dos foquexus, que entre as outras hé a pior e mais dura de se render, e da qual sempre a ley de Deos recebeo particulares contradições e adversidades. Era muito curiozo, sendo gentio, de saber alguma couza na verdade acerca dos ecclipses do sol e da lua, e dos movimentos dos ceos e dos planetas, porque se não dava por satisfeito da variedade e couzas sem fundamento nem aparência alguma de rezão que lhe os bonzos sobre esta matéria davão. E satisfazendo-lhe os Padres inteiramente as suas duvidas, nas quaes primeiro gastou alguns mezes, daqui tomou motivo para ouvir as couzas de Deos e, feito christão, foi hum dos melhores que houve naquellas partes do Miaco: amigo da oração e da confissão, inclinado a fazer esmolas e em grande maneira escrupulozo."[346]

The above examples show beyond doubt that there were some cases where it was the quenching of curiosity concerning the natural world that lead to interest in Christian doctrine and then eventually to religious conversion. This was made possible because of two reasons: one was that for many Japanese the Buddhist cosmovision did not seem reasonable; another was that the missionaries were ready to answer the questions posed.

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[344] From Yokoseura, in October 25, 1562, to the Jesuits in Europe, Documentos, vol. II, pp. 551-552.

[345] História, vol. I, p. 193.

[346] História, vol. I, p. 204.

We may even assume that there were also some cases where it was the missionaries who sowed the doubt, so as to be able to present the answers. They were ready to answer the questions posed and would be willing to elicit them because the missionaries understood that with discussions about the natural world they would achieve two things necessary for the conversion of the Japanese. One was that they would thereby weaken belief in Buddhism. By showing that Buddhist cosmology was wrong on one point the missionaries could more easily cast doubts on Buddhist soteriology as a whole. Another was that they would establish a reputation for knowledge that would make it easier to present new religious doctrines, the first of which would be that there is a one God Creator.

Although we will present the Buddhist vision of the material universe summarily in Chapter VII below, let us take this opportunity to take a first look at some evidence concerning the first point. Frois recounts the following episode:

"Veio alli ter com o Padre [Gaspar Vilela] hum Xonin[347] foquexu, que hé huma dignidade entre os bonzos grande, o qual se chamava Quózoin, acompanhado de muitos bonzos e alguns 20 ou 30 cidadãos do Miaco da sua seita, e naturalmente era bom homem este e enclinado à rezão. Disse que queria ouvir pregação, salvo se os nossos quizessem primeiro ouvir as couzas de Xaca fotoque, que lhas praticaria. Respondeo-se-lhe que, pois elle de propozito desejava ter noticia das nossas e a isso vinha, que seria bom ouvi-las primeiro.

Depois de se lhe ter pregado por hum bom espaço, disse o bonzo: «Nos livros de Xaca, que são muito[s] milhares, nenhuma mensão se faz desta ley, nem de couza quazi que se pareça com ella: e assim como não hé digno de culpa o Padre pregar e denunciar a ley com que foi instruído e ensinado, assim parece que não devo eu ser culpado ensinar ao povo a doutrina de Xaca, que toda minha vida estudei e aprendi. Pelo que, ficando-se cada hum com seo, desejo saber se concordamos todos no nascer e minguar da lua, porque, conforme os nossos livros, no ceo está posta huma mui grande pedra precioza, a que chamamos Tamanocúden, e esta hé diáfana e transparente; junto

[347] "Xônin. Certa dignidade entre os Bõzos." Vocabvlario, fl. 311v. "Shōnin, uehito. (Lit.: superior man. Title placed after the name of certain bonzes famous for their virtue. Corresponds to 'His Eminence, or His Lordship.'" E. Papinot, *Historical and Geographical Dictionary of Japan*, Tokyo, Charles E. Tuttle Co., p. 590.

della estão trinta anjos[348] que se alternão cada quinze dias, quinze vestidos de branco e quinze de preto: no primeiro dia da lua se põem a par della hum anjo vestido de branco, e assim cada dia se vai mais acrescentando hum athé os quinze, com que pela brancura de seos vestidos ella fica tão clara e fermoza como vemos. Aos 16 dias vem hum anjo vestido de preto e tira a hum dos que alli estão vestidos de branco e põem-se em seo logar, e assim discorrendo athé o cabo do mez, vão cada dia os dos hábitos pretos lançando fora os vestidos de branco, e depois de alli estarem todos 15 fica a lua sem nenhuma claridade, e por isso carecemos então de a poder ver: queria saber se na vossa astrologia correis desta mesma maneira».”[349]

This puerile explanation of the phases of the Moon that Frois transmits was not a figment of the *padres*. It was an usual explanation found in Japanese Buddhist and popular literature.[350] It is also found in the *Vocabvlario da Lingoa de Iapam* the following explanation: “Guecqiŭ. Tçuqinomiya. Casa que imaginão os gẽtios estar dentro da lŭa onde hum como Anjo a faz crescer, & minguar.”[351] Concerning this fantasy, the above mentioned Aquimasa Manoel publicly declared to the Xonin:

“Peza-me de vos ver fallar quimeras e desatinos tão grandes pelo credito e oppinião que eu tinha de vossas letras e authoridade de vossa pessoa, porque ainda em meninos seria notada por couza rediculoza tratar da lua por esses termos.”[352]

This passage also calls into attention an important point to all cross-cultural exchanges: the importance of establishing a common ground before tackling more divisive issues. And it shows that nature may provide such a ground. Though traditions and beliefs may differ, nature is the same and thus can provide a starting point from where a shared understanding may be built. As the Xonin Quózoin said: “We may not agree on matters of spirit and religion, so let everyone remain is his subjective and traditional belief concerning these matters; but at least we should agree about the

[348] The word used certainly was *tennin* 天人, a word employed by the missionaries to designate *angel*, before it was replaced by the Portuguese *anjo*. “Tennin. Tenno fito. *Anjo, ou pessoa celestial*.” Vocabvlario, fl. 255.

[349] História, vol. I, pp. 192-193.

[350] See Hiraoka, *op. cit*., pp. 10-11.

[351] Vocabvlario, fl. 115v.

[352] História, vol. I, p. 193.

objective material world" is the plea that the bonze makes to Vilela. Indeed, nature frequently is the only interserction point two divergent cultures have in the specification of the homeostatic socio-cognitive model presented above.[353] In those cases it makes sense to start an intercultural dialogue with it.

Another example, that occurred with Brother Almeida, shows that some bonzes readily accepted that the Buddhist picture of Heaven and Earth was not reasonable:

"Tem os japões, conforme as leys do Xaca, para sy que há huma serra para a parte do norte que chega aos ceos e se mete muito pela terra, a qual chamão Xumixen, e hé da feição de hum relogio d'area, e dizem que o sol anda semp[r]e ao redor della como cordel de pião de meninos. De maneira que, quando vem fazendo seos circulos solares cada dia, quanto mais desce e se vai chegando para a ponta da piramide que está no meio, tanto mais se vai o mundo aquentando e as calmas sendo maiores e mais intensas; e quando depois vai sobindo e affastando-se de nós, se sente mais o frio por sua remosão. Perguntou-me que era o que disto sentia? Declarei-lhe como o sol não era corpo separado dos ceos, e o mais que o bonzo boamente podia entender da sciencia da nossa esfera. Batião os bonzos com a mão huma na outra, e movião as cabeças assim da novidade da couza, como da satisfação que tinhão, vendo quam regulada hia nossa sciencia pelo fio da rezão. Aquí acodio o bonzo de caza, meo amigo, com outras duvidas; mas como erão de pouco momento, facilmente se lhe deo a solução dellas. E quando me quiz tornar, me disse o bonzo: «Já que tenho estes impedimentos para receber o baptismo, trabalharei por ser christão no coração». Mas elle ficou tam attado a suas idolatrias e enganos, como seu mestre Nenjir."[354]

This example also shows that even if someone accepted "with satisfaction" the reasonability of the cosmology taught by the *padres* it would not follow that all of them would accept Christianity.

From the previous examples we also notice that the fathers and brothers were ready and willing to engage in discussions about natural phenomena. And they were even the more happy to use it when it was their evangelization targets that broght the issue. They had the necessary schooling on the subject, as we saw in the previous chapter. They knew it by heart, by the constant practice of replying to the same

[353] See Chapter I, pp. 41-44.

[354] História, vol. I, pp. 219-220.

questions over and over, and they had with them their *cartapacios*, or manuals, as Brother Almeida mentioned above. They were willing and were able to do it because they had a reason to do it. As Jesuit missionaries they viewed their mission to help others achieve salvation. Faith was the first condition for salvation. Any tool at their disposal to help achieve faith was therefore utilized, even if the tool was the universe itself. One of the manuals they had, written by one of their own in Japan in 1593, gives clearly the reason for them to study natural philosophy and use it in their evangelization:

"Quia, ut Apostolus ait, visibilia haec, mundi scilicet machina, coelorumque perpetuus et immutabilis ordo, invisibilia Dei attributa maxime demonstrant, ideo postquam de notitia illa Dei, quae per fidem habetur, aliquid egimus, nunc etiam de ea, quae per creaturas haberi potest, de coelorum scilicet natura, motu et influentiis, deque elementis et inferiori hoc mundo aliquid brevissime dicemus. De his enim praecipue Propheta canit: 'Coeli enarrant gloria Dei' etc., et licet innumerae circa hoc sint philosophorum observationes, nos tamen non nisi ea, quae facilioea et usui maxime necessaria sunt, in summam redigemus, pleniorem notitiam astronomis relinquentes, aut certe his, qui evacuato, quod ex parte est, perfectam visionis possident scientiam."[355]

The above excerpt is a good example of the ancient tradition among European schoolmen of making references to other disciplines: for example, even though theology and philosophy were considered conceptually independent, and taught and written about separately from each other, it was natural to find explicit references and connexions drawn between them in specialized manuals. There is further evidence for this mingling of theology with natural philosophy in other books written by the Japanese Mission before 1614. Even though manuals on natural philosophy, such as the just cited *De Sphaera*, were about natural phenomena and not about spiritual experience, and religious books were about God and His relation to Men, with some frequency their authors engaged in issues on the border between them. Therefore, not only *De Sphaera* makes references to the Bible and ecclesiastical authors such as St. John Damascene, but also religious books, such as the *Giya do Pekadoru*, and apologetic treaties such as *Myotei Mondo*, make references to Aristotle, Ptolemy and other pagan and Christian philosophers and to their ideas. Obviously works written after 1614, such as *Kenkon*

[355] Pedro Gomez, *De Sphaera*, in "De Sphaera", Satoru Augustino Obara S.J. (ed.), *Kirishitan Kenkyū* 『キリシタン研究』, Vol. 10, 1965, pp. (1)-(78).

Bensetsu and *Nigi Ryakusetsu* avoid making reference to God and topics clearly associated with Christianity.[356]

Let us see some examples of passing references to nature, created by God, that were presented in religious literature in Japan. *Myotei Mondo*, for example, describes the creation of the Heavens thus:

"[The] Lord created the Heavens and the Earth, [He] created the eleven Heavens one above the other, having fixed their rotation up to the tenth Heaven, and called *Paraíso* to the eleventh Heaven."[357]

The focus in *Myotei Mondo* is naturally on the existence of Paradise. However, the insistence with which it repeats the fact, apparently irrelevant from the strictly religious point of view, that the Heaven *Paraíso* is that which is above the other ten nested Heavens, shows that the religious discourse did not avoid making statements pertaining to the natural world, instead it built on then. So it is not surprising that shortly after the above passage we can find the following one:

"The *Paraíso* above the Heavens is the eleventh Heaven of the mutually enveloping clear Heavens where the Moon, Sun and stars are placed and which can now be seen above."[358]

Here we find the statement of some ideas about the nature of Heavens that were different from those of the Japanese traditional cosmovisions: that the several Heavens are distinct bodies, that they envelop each other, and that their substance is clear. Further on we can also read:

"Hell, the place where in the after life the wicked people suffer torments, is placed in the true centre of element earth."[359]

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[356] The *Genna Kokaisho* is an interesting case because, even though written in 1618, it makes clear reference to the Church when dealing with the calendar reform of Pope Gregory XIII.

[357] 「君天地を作り玉ひしに、天の重をば十一天に作り玉ひ、十天までには其循環を定め玉ひ、十一天目をパライソと名付玉へり」, *Myotei Mondo* 『』, Nihon Koten Zenshu 『日本古典全集』, Tokyo, Nihon Koten Zenshu Kankokai 日本全集刊行會, p. 57.

[358] 「天上パライソと云はあの今上に見ゆる月日星の備る蒼蒼として青き天の、重重ある十一天めにてさふらふ」, *Myotei Mondo*, p. 58.

[359] 「インヘルノと云悪人の後世に苦を受べき所は此地大の真中に有事にて侍」, *Myotei Mondo*, p. 59.

A similar thing happens in the *Giya do Pekadoru.* There we can find a reference to the qualities of the substance of the eleventh Heaven:

"The Heaven called *Empirico*, which is the place where glory is received, should be considered. This one, amongst the several Heavens, is that which wins in largeness of substance, and its purity is the most excellent."[360]

This seems reasonable in a religious book. But then we can find a reference to a theory about the relative dimensions of the Earthly and Heavenly spheres that seems superfluous to the discourse on spiritual and moral matters of the work:

"Adding to this, St. Thomas says that the four elements triumph one over another. Larger than the earth is water, larger than water is air, larger than air is fire. Also in the overlapping of Heavens, the higher [a Heaven] is the larger it is. Above the several Heavens there is the Heaven [called] *Empírico*, about whose vastness nothing can be said."[361]

In spite of Valignano and the other missionaries in Japan having decided that only the simple truths without the elaboration and confusion of diverse opinions should be presented to the Japanese in the books to be printed,[362] in some cases the European

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[360]「ぐらうりやの受所と定め給ふいんぴりよといふ天の事を観ずべし。是、諸の天に勝れて其体大きなるごとく、其潔く妙なる事も、又、諸の天よりも勝れたる者也」, *Giya do Pekadoru (Guia do Pecador)*, In Collegio Iaponico Societatis Iesv, 1599, *fl.* 42v. This book is the translation , based in the revised and abridged version published in Salamanca in 1573, of the renowned work by Frei Luís de Granada, *Guía de Pecadores*, first published in Lisbon in 1556. William J. Farge, *The Japanese Translations of the Jesuit Mission Press, 1590-1614:* De Imitatione Christi *and* Guía de Pecadores, Studies in the History of Missions, no. 22, Lewiston, N. Y., The Edwin Mallen Press, 2002, exemplifying with very precise translations from both the Japanese and Salamanca versions, argues convincingly that the Japanese translation was accurate, yet not slavish to the original. He elaborates by describing the work as "a phrase-for-phrase translation", in "the European medieval tradition of imitation", whereby the "editors and translators attempted to recompose the book in Japanese on the exact pattern of the original, while remaining free to adapt or revise the content and modify the authorial intention for their own purposes." (p. 79). As will be argue later, the *Kenkon Bensetsu* should also be considered to belong to this same "tradition of imitation".

[361]「是に付てさんとます譬を引て云く、四大皆勝れたる程大き也。土よりも水は大きに、水より風は大きに、風よりも又火は猶大き也。天の重なりも上程猶々大きなれば、諸の天の上なるいんぴりよといふ天の広大ならん事、更に辞に述べがたし」, *Giya do Pekadoru*, *fl.* 7v

[362] "Y porque en Japón no hay conocimiento de ninguno he nuestros autores y de nuestros libros, y muchas cosas que se hallan en ellos no conviene en ninguna manera saberlas los japones, por ser nuevos y haber muchas opiniones que son conforme a sus sectas, con las cuales se podrían fácilmente pervertir e introducirse diversas heregías, o a lo menos perderían la buena simplicidad y disposición en que están ahora, parece cosa conveniente y necesaria que se hagan libros particulares en todas las ciencias para los japones, en los cuales se enseñe simplemente lo substancial de las cosas y verdades puras bien fundadas

controversies, including debates about natural philosophy, surreptitiously entered into Japan through the printing press of the Mission. The relative dimensions of the spheres is an example of a point where opposite views were transmitted to the Japanese by the Jesuits: the above theory of Aquinas will be vigorously opposed in the *Kenkon Bensetsu*.[363] The above episodes and passages were drawn from Jesuit documents and refer only to the first half of period the Japanese Mission was active. There are also Jesuit testimonies that the Japanese continued interested in western cosmology in the seventeenth century. However this evidence becomes less critical as evidence of the continual interest shown by the Japanese about Southern Barbarian natural philosophy. It is less critical because we have other documental evidence, namely books written by missionaries, by Japanese sailors, by Neo-Confucian scholars, by Japanese *Nanban* scholars, and by apostate Jesuits. This documental evidence shows also that the Jesuits did not lose the interest or their capability to transmit this knowledge. To one of the most important of this documental evidence, the *Kenkon Bensetsu*, we will turn in parts II and III of this work.

What conclusion may be drawn from all of this? We saw in the previous examples that the Japanese questioned the Southern Barbarian Bonzes not only concerning spiritual matters but also about the material world. We saw further that the foreign missionaries willingly replied to both types of questions, certainly not as being questions about the same thing, neither as unrelated questions, rather as two branches of human knowledge closely related. This shows that natural philosophy, or scientific knowledge about the natural world, was employed as one evangelization tool. We saw earlier that medicine was also used as one means to reach the heart of many Japanese. Once healed, many Japanese would feel gratitude, or more precisely, *giri* towards those to whom the cure was attributed, and thus were more willing to give a hearing about their religious doctrines. Not everyone converted but enough did, so much that Valignano could consider it a worthwhile means of evangelization. Likewise, natural

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con sus pruebas, sin referir otras opiniones diversas y peligrosas ni herejías que contra ellos hubo, porque para ellos no es necesario saber ninguna de estas cosas, pues que el saberlo les puede hacer mucho daño y ningún provecho, porque no teniendo ellos ni habiendo de tener ninguna comunicación con otras gentes más doctas, ni siendo Aristóteles ni Cicerón ni otro autor de ninguna autoridad entre ellos, se puede hacer todo esto muy cómodamente", Alessandro Valignano, *Sumario de las cosas de Japón (1583). Adiciones del Sumario de Japón (1592)*, José Luis Álvarez-Taladriz (ed.), Monumenta Nipponica Monographs, no. 9, Tokyo, Sophia University, 1954, p. 171

[363] See book 1, paragraph 7 of the *Kenkon Bensetsu*.

philosophy was used as one means to reach the mind of many Japanese. Once convinced by the missionaries that the Earth was spherical and that the eclipses were the result of a shadow, many Japanese would be more willing to give a hearing to their Christian dogmas. The previous examples show also that, as a rule, it were not the *Nanban* missionaries who pushed the issue: rather they willingly took it. These examples also demonstrate that the missionaries would take scientific matters up to where their Japanese questioners wanted to take them: for some a two minutes explanation would suffice, for others an all night explanation would not be enough and they would still come for more. Having established this much we might consider with a critic eye the theory that in the early-modern Christian missions in East Asia only in China there was a *scientific apostolate*. One proponents of such a view writes:

"Among the Jesuit missions outside China there were few imitators of Ricci's scientific apostolate. The Jesuit Sinologist Pasquale D'Elia unearthed the unspectacular example of Giovanni Antonio Rubino, an early seventeenth century missionary to India who worked on eclipses and the ephemeredes and even presented a world map to the king of Basnaga only to suffer a martyr's fate in Japan. Beyond the China mission, however, Verbiest's advice went largely unheeded. Nor should that come as any surprise. Propagating the Gospel through astrolabes and compasses was a radical technique that was tantamount to admission of defeat: it declared that true religion could not make its own inroads into heathen worlds, that Christianity in and of itself had little intrinsic appeal. For the scrupulously orthodox, it defied those Apostolic models which defined once and for all the only true way of preaching the Word. Would not the heathen convert once they heard the Gospel preached simply and persuasively by humble men with few pretensions? An age that knew intimately the ravages of schism, heresy, and unbelief clung tenaciously to its fondest illusions."[364]

This is the thesis that the Christian missionaries were so taken up by the spiritual aspect of their mission, their spiritual heads and hearts totally immersed in Heaven, and even their material feet already floating above the Earth, that they were unwilling to take up any concern about the material world enveloping them and their

[364] Michael T. Ryan, "The Diffusion of Science and the Conversion of the Gentiles in the Seventeenth Century", *In the Presence of the Past: Essays in Honor of Frank Manuel*, Richard T. Bienvenu and Mordechal Feingold (eds.), Dordrecht, Kluwer Academic Publishers, 1991, pp. 9-40. This paragraph is on pp. 14-15.

prospective converts. On reading it one immediately recalls everything about the material Church we encountered before with its silk, silver and sick healing. But let us look more closely to some points presented in the above paragraph.

First we should consider that Ricci did his scientific apostolate in answer to the demands he found in China as Spinola and Goméz did theirs according to the needs they found in Miyako and Shimo. Both were aware that it was a convenient and necessary instrument of their apostolate. Ricci had not yet reached Nanking when Goméz had already taught and written in Amakusa that natural philosophy "quae facilioea et usui maxime necessaria sunt". We might reasonably guess that had Ricci been to Japan and Spinola or Goméz to China, Ryan's first sentence above would instead have been about *Spinola or Goméz scientific apostolate*. Jesuit missionaries, let us remember, received an education that was quite homogeneous, were imbued with similar principles, of what has been called *Christian humanism*, and were moved by the same purpose. This made them easily interchangeable in their assignments. Just let us remember the cliché of the jesuitical Jesuit we have already met.

Second, preaching the Word with recourse to astrolabes and compasses was not a *radical technique*, if by *radical* is meant new or innovative. It flows directly from apostolic practice, more precisely from Paul of Tarsus (*ca*. 5—*ca*. 67) argument that from the material world the gentiles should be able to reach some conclusions about God. The use of astrolabes and compasses in the propagation of the faith was linked to this apostolic root through a series of churchmen that put a clear emphasis on the rationality of the faith and had as their basic belief concerning human nature that it was composed of body and soul, that it was both material and spiritual. They included Justin the Martyr (100—ca. 165), Augustine of Hippo (354.11.13—430.8.28) and Thomas Aquinas (1225—1274.3.7) just to name a few in a long chain between the *apostolic model* and Xavier and his followers in East Asia. During the sixteenth century the rational character of the faith was indeed denied and the material character of human condition was downplayed by the Reformation, but remained very alive in the Roman Catholic Church. One of the basic tenets of the Reformation was indeed that the accretion of human doctrines between the second and the sixteenth century, *tradition* as it is called, had lead to the defacement of the earlier apostolic doctrine of the first century preserved in *scriptura*. The basic flaw in the above argument by Ryan is to transfer to seventeenth century Catholicism the mindset of seventeenth century

Protestantism with its distaste of rational argumentation applied to anything pertaining to the faith, and its suspicion of the human body and the material world as a source of sin. Its weakness lies in assuming that Xavier, Goméz, Ricci and Spinola approached their faith with the glasses of a puritan such as Samuel Purchas (ca. 1575-1626), whom Ryan cites:

"As for the *Christian* Religion thither carried by the *Jesuits*, you have heard the whole substance of their once large Histories; I meane not of Miracles, and other like stuffe and stuffings, but the meanes of conveying the Gospel to the *Chinois*, which are merchandise, money, and gifts, Mathematiks, Memorative-art […] and other thinges innumerable pertaining rather to *bodily exercise* which profiteth little, than to Godlinesse […]".[365]

Xavier not only paid much attention to the material world, as being one essential component of human existence, but he also had no preconceptions about the Gospel having to be preached "simply and persuasively", "humbly" and "with few pretensions". Or if he ever had them, he shed them very easily as something not important. As we already saw, when he understood that a poor man could not get a hearing from anyone in Japan, he had no qualms in changing clothes. If to try to convert Ōuchi Yoshitaka he had to wear silk he would wear it. And likewise he was ready also to change his discourse and clothe it, within the bounds of faith and morals, in the appropriate way to catch his hearer's attention. This again was no new technique. It had been applied since the earliest days of the Church and even had its designation: to speak tongues—not in the evangelical protestant meaning but in the Catholic meaning in the tradition of Paul: to speak plainly or to adjust one's speech to the level and interest of the hearer. So if Xavier had to speak about Heaven and Earth with recourse to astrolabes and compasses he would do it, and so would his followers.

Meanwhile it might also be worth to consider that this cross-cultural transmission of natural philosophy had benefits for both parts engaged in it, if we define benefit as the attainment of an objective by those seeking it. For the Japanese the benefit

[365] Samuel Purchas, *Pvrchas his Pilgrimage, or Relations of the world and the religions obserued in all ages and places discouered, from the Creation vnto this present. Contayning a theologicall and geographicall historie of Asia, Africa, and America, with the ilands adiacent. Declaring the ancient religions before the Flovd, the heathenish, Iewish, and Saracenicall in all ages since ...*, 4th Edition, III, Book 2, London, Printed by W. Stansby for H. Fetherstone, 1625, p. 401. Cited in Ryan, *op. cit.*, p. 15.

was the ability to hear, evaluate and acquire a new perspective on the world, an opportunity many obviously valuated. For the missionaries it was a chance, frequently attained, of gaining reputation as knowledgeable and profound scholars, at the expense of the native literati. As a by product, it also made them knowledgeable about the traditional Japanese thought. This knowledge can be appreciated in several documents they produced, for example in the *História* of João Rodrigues; and also in the *Vocabvlario da Lingoa de Iapam*, where a considerable number of words related to natural philosophy and astronomy can be found.

4. How to fish a man

The purpose Xavier had in coming to Japan was to convert its people. He knew well he would have to act alone without the benefit of the help of a secular power, a situation seldom faced by Portuguese and Spanish missionaries in the sixteenth century. But he had decided the effort and the risk were worth his while because the Japanese were "the best" of the people discovered until then: honourable, noble, curious and reasonable. Given these qualities of the Japanese, even before leaving for Japan Xavier had already established a plan:

"E por tẽpo prazerá a Deos q muitos da Companhia irão â China, & da China a aquelles grãdes seus estudos, que estão alem da China & Tartão, q se chama Chinguinquo, segũdo nos deu por enformação Paulo, que diz que em todo o Tartão, & China, & Iapão, tem a ley que ensinaõ em Chinguinquo. E por quanto elle não entẽde a lingoa em q he escrita a ley que tem os da sua terra, que he como Latim antre nos, por esta razão naõ nos sabe dar inteira enformaçam da ley q tem escrita em seus liuros impressos. Quando chegar a Iapam, sendo Deus seruido, vos escreuerey muito particularmente as cousas que tem escritas em seus liuros, que elles dizem ser de Deos: porque determino com a ajuda de Deos indo a Iapaõ, de ir aonde está elRei: depois de ter esperiẽcia do que la ha, vos escreuerey muito meudamẽte, assi á India, como aos do Collegio de Coimbra, & de Roma, & de todas as Vniversidades, principalmente a de Paris, para os acordar q não viuão em tanto descuydo, fazendo tanto fundamento de letras, descuidandose das ignorancias dos Gentios." [366]

[366] *Cartas*, Primeiro Tomo, fl. 1-1v.

His plan was not simply to start preaching and making piecemeal conversions. That is how conversions based on moral example work: one behaves as he or she should and makes the others notice it. But to make conversions through rational argument one needs to be prepared to answer the questions that will be made. So it helps to know what those questions are. Xavier knew very early, since at least he first met Yajirō, the main topics of the Japanese questions: they were centred on natural phenomena. But he was aware, as the previous excerpt shows, that Yajirō was not a learned man and thus could not properly and fully guide him through the intellectual tradition of Japan, with its many queries and answers. So he determined to go and learn about it himself and then send detailed information about it to European scholars, those in Coimbra, Rome and Paris. This, of course, was not to feed the hunger of European gentlemen for intellectual curiosities, but to "wake them up so that they do not live so much unworried about the ignorance of the pagans," so that they may help the missionaries answer those questions. Tough in an embryonic stage, one can already notice here the outline of missionary action that will be applied so successfully first in Japan, and then in China, where it will be brought to an extreme division of labour and specialization of missionary activity: answer their questions, earn intellectual ascendancy, expound Christianity. And one of the best ways to do this, better than discourses in the street and disputes in the houses, was through discourses and disputes in the classroom. In other words, through education.

Xavier's enthusiasm with the missionary potential in Japan was heightened when while in Kagoshima he learned about the existence of higher learning institutions:

"Ay daquí [Kagoshima] a Meaco trezentas leguas. Grandes cosas nos dizen de aquella ciudad, afirmándonos que pasa de 90.000 casas y que ay una grande universidad de studiantes en ella que tiene dientro cinco colegios principales, y más de 200 casas de bonzos y de los otros como frailes que llaman gixu, y de monjas las quales llaman amacata.

Fuera desta universidad de Meaco ay otras cinco universidades principales, los nombres de las quales son estos: Coya, Negru, Fieson, Omi. Estas quatro están al derredor de Meaco, y en cada una de las quales nos dizen que ay más de 3.500 studiantes. Ay otra universidad muy lexos de Meaco, la qual se llama Bandu, que es la mayor y más principal de Japán, a la qual van más studiantes que a otra ninguna. (…)

Afuera destas universidades principales nos dizen que ay otras muchas pequeñas por el reino."[367]

It is evident that it was his intent from the beginning to visit the imperial city, and ask the emperor permission to preach and to meet with the scholars of those main Universities. However, in the eleven days he stayed in Miaco in January 1551 he could do neither. Undaunted, he adjusted his plans. He decided to open a school where the missionaries could learn the language and the principal tenets of the Japanese religions:

"De los de la Compañía que están en Amanguchi y de los que acá están, que an de ir assí este año como los otros, Dios nuesto Señor queriendo, no me parece que serán para mandar a estas universidades, mas de aprender la lengua y lo que ellos tienen en sus sectas, para quando vinieren los padres de allá seren intérpretes para hablar fielmente todo los que les dixiere."[368]

The objective was that they could later engage in philosophical and theological debates Xavier still supposed were part of the pedagogical tradition of the Japanese Universities as it was of the University of Paris. He also decided to establish a college where Christian higher education could be ministered to the Japanese youth: plans to catch the Japanese through the head, rather that through the heart. [369] All of this betrays his trust in the reasonableness of the Japanese, and his belief that it would be through natural philosophy that the missionaries had to establish their own intelectual reputation before attempting to catechise the Japanese. When he left Japan he took care to instruct his companions that in any catechetical discourse natural philosophy had to come first, as we will presently see.

[367] Documentos, vol. I, pp. 164-167.

[368] Letter to Ignacio de Loyola, January, 29, 1552. Documentos, vol. I, p. 322.

[369] About Xavier educational plans for Japão see, Satoru Obara, "Jesuit Education in the *Kirishitan* Period: Francis Xavier's Longing for a 'College in the Capital'", Tokyo, Sophia University, Kirishitan Bunko, 1989, pp. 25-54; M. Antoni J. Üçerler, SJ, "Jesuit Humanist Education in Sixteenth-Century Japan: The Latin and Japanese MSS of Pedro Gomez's 'Compendia' on Astronomy, Philosophy, and Theology (1593-95)", *Compendium catholicae veritatis: Commentaries*, Tokyo, Ozorasha 大空社, 1997, pp. 15-16.

5. Catechetical Schemes

In the tradition of the Roman Catholic Church, catechesis should include three points: an exposition of doctrine, an explanation of morals, and the teaching of fundamental prayers. The catechesis of the Japanese Mission was subject to an evolutionary process and only took definite shape with the printing of the first catechisms in the early 1590.[370] This evolution can be studied from the sources that describe the several catechisms that were used from 1549 onwards.

We know that Xavier had Yajirō translate at least three different catechisms which he had composed. They were used in the first couple of years of the mission and were: a catechism with the principal prayers and fundamental Christian doctrines and moral principles; another one similar to the one Xavier had composed at Ternate; and a summary of the Christian faith composed for the mother of Shimazu Takahisa.[371] The purpose of the first two catechisms was straightforward: it would help his and his fellow missionaries' public preaching in a strange and difficult language, as they would basically have to read it and deliver a preordained set of short doctrinal lectures previously defined. This was a fundamental tool, especially while the missionaries did not master the language. This would also ensure that the preacher would not be at loss for any word, that no point considered essential would be forgotten, and that wanderings into marginal matters would be avoided, an important consideration when time was short. Xavier was thereby anticipating by half a millennium the current management craze for the definition of processes in the service industries. In itself the idea seems to have been excellent as it would provide consistency in the way a group of different preachers presented the core ideas of Christian catechesis. Further, Xavier had been very successful before in the business of conversion of other people in many and in very different places. It was only natural that he decided to apply the same methods again in Japan, given the past good results.

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[370] On this topic see, José Lopez Gay, *op. cit.*, pp. 57-71. However in his exposition this author does not touch on Xavier's catechisms.

[371] Jennes, *op. cit*., pp. 12-13; Johannes Laures, S.J., *Kirishitan Bunko: A Manual of Books and Documents on the Early Christian Mission in Japan, with reference to the principal libraries in Japan and more particularly to the collection at Sophia University*, Monumenta Nipponica Monographs, no. 5, Tokyo, Sophia University, pp. 1-3.

Nothing much is known about the third catechism mentioned above, the one composed for the mother of Takahisa. According to Fugita, one of the other two catechisms "was a collection of articles of faith and prayer to be recited and consisted of the following twenty-nine items:

1. An opening prayer

2. The Apostles' Creed

3. Acts of faith

4. The Lord's Prayer

5. The Hail Mary

6. The commandments

7. A statement that those who observe the ecclesiastical law are to ascend to heaven and those who do not are to be cast into hell

8. A prayer of petition for grace to observe the law this day

9. A prayer to the Holy Mother

10. A prayer to Christ, asking for the forgiveness of sins for this day

11. A prayer to the Holy Mother for forgiveness of sins for this day

12. The commandments of the church

13. Salve Regina

14. A prayer of confession

15. Seven capital sins

16. Seven cardinal virtues

17. Three supernatural virtues

18. Four supreme virtues

19. Seven corporal works of mercy

20. Seven spiritual works of mercy

21. Five senses

22. Three functions of the soul

23. Three enemies of the soul

24. The consecrated host

25. The consecrated wine

26. The act of faith and restitution for unbelief

27. A petition for the protection by the Holy Mother and saints

28. A petition for the protection of the Archangel Miguel

29. A prayer before meals"[372]

We immediately notice that this scheme is strong in prayer and weak on philosophy, long in devotion and short in reasoning. Of the twenty nine points fifteen, or about half, are prayers and petitions and another twelve are statements, commandments or other sort of lists. From the point of view of an unbeliever prayers can hardly lead into belief through an intellectual process. All three types of prayer, adoration, thanksgiving and petition presuppose already some kind of faith. Thus, prayers may move him aesthetically, mystically or spiritually, but not intellectually. It seems more appropriate to teach them to someone who has already received the faith than to someone who has not yet accepted belief, or even to one who still needs to be acquainted with the body of dogma. We notice that the Creed, the second prayer in the list, which could have been used as basis for a discourse presenting the Christian world view, most probably was just recited and not expounded about. This was as it was done in India and probably also as it was done in Japan, because we are told that it was a catechism to be read aloud.[373] The same thing can probably be said about the lists that are presented about cardinal sins, cardinal virtues, supernatural virtues, and the others.

The other catechism followed the history of the world: a first part presented the period from Creation to the coming of Christ, and the second described the life of Christ and what comes after it until the Last Judgement. What is known about the contents of this work has been gleaned from short references found in letters and histories of the

[372] Fujita, *op. cit*., pp. 19-20.

[373] For how the catechism was used by Xavier in India see Georg Schurhammer, *Francis Xavier: His Life, his Times*, vol. 2, India (1542-1545), Rome, Jesuit Historical Institute, 1977, pp. 218-224. On the catechetical methods Xavier left in India see Silvana Pires, *A Catequização na Missão Jesuitica de Salsete (1560-1622)*, Master Thesis, Faculdade de Ciências Sociais e Humanas, Universidade Nova de Lisboa, 2009.

Mission. João Rodrigues refers that it "was more expansive on the creation of the world and the immortality of the soul".[374] If this was so the main points about the physical and biologic world would probably have been included.

A fourth catechism was composed by Father Balthasar Gago, upon an earlier draft by Father Melchior Nunes, and translated with the help of Brother Lourenço after the a solution had been given to the problem of Christian terminology in 1555. It stayed in use into the 1570s when Cabral introduced "a lengthy catechism on the mysteries of the faith with a refutation of the pagan sects".[375] This catechism probably was based on the catechetical scheme left by Xavier before leaving Japan, which Luís Froís in his *Historia de Japam* presents in the following way:

"A maneira que, por ordem do Pe. Mestre Francisco, ficou em Japão para se cathequizarem os gentios, era: primeiramente provar-lhes que havia um Criador do universo, e que o mundo teve principio, e não foi ab eterno (como alguns delles sentem), e que o sol e a lua não são seos deozes, nem criaturas viventes; e como a alma apartada do corpo há-de viver para sempre, e a diferença que há da alma racional à sensitiva, cuja distinção elles ignorão. Entendido isto se lhes responde a muitas e varias duvidas, que alguns delles põem, e perguntas que fazem acerca das couzas naturaes. Depois se lhes propoem as seitas do Japão, especialmente a cada hum aquella que segue, para que, cotejando-a com o que athé alli tinha ouvido, vejão a diferença de huma e outra couza, e por razões claras se lhes confutão suas opiniões, mostrando-lhes a falsidade de cada huma dellas. E entendido isto, se lhes declara o mysterio da Santissima Trindade, segundo suas capacidades; a criação do mundo, a queda de Lucifer e o peccado de Adão. E daqui se lhes vai tecendo a vinda do filho de Deos ao mundo, sua sagrada paixão, morte e resurreição, ascensão; e a virtude dos mysterios da cruz, juizo final, penas do inferno e gloria dos bem-aventurados. E feito destas materias entendimento, por certas e determinadas pregações, que para este effeito em sua lingua estam feitas, se lhes declarão antes do baptismo os des mandamentos da ley de Deos, e como hão de detestar os ritos gentilicos em que primeiro vivião, e perseverarem em a

[374] Cited in Schurhammer, *op. cit*, IV, p. 107, n. 11.

[375] *Ibid*., p. 106, n. 9.

ley do Senhor, e terem contrição de seos pecados; e com isto os baptizão declarando-lhes também a necessidade deste primeiro sacramento, e os misterios delle." [376]

Froís attributes this scheme to Xavier, and indeed we notice that its structure is very similar to the second catechism of Xavier that was described above. [377] The main difference is that much of Sacred History that composed the first part, from the Fall until the coming of Christ, is omitted here. This was probably the outline that the catechism authored by Gago followed, and that was also employed in the oral catechesis. It is natural that it was slightly adapted and expanded through time. It is easy to notice the striking difference this catechism has to the "Indian" catechism of Xavier. One may attempt to further summarize this outline so as to bring out the main topics more clearly. In the catechetical plan recommended by Xavier these topics were presented:

1. That the World was created
2. The human soul
3. The natural world in questions and answers
4. The Japanese sects: their doctrines compared with Christian doctrine
5. God is Trinity
6. The Genesis account: Creation and sin
7. The Redemption: Incarnation, Passion, Resurrection and Ascension
8. The Last Things: [Death,] Last Judgment, Hell, and Paradise
9. The Commandments
10. The Sacraments

It is interesting to notice that the first four of these ten topics could easily be laden with explanations concerning the natural world if the missionary making the

[376] Historia, Vol. II, Part I, Chapter 57, pp. 16-17.

[377] An almost verbatim version of this description can be found in a letter from Fróis to Francisco Perez, dated March 6, 1556, Cartas, fl. 179v-180. Some of the differences are that this schema was not attributed to Xavier (it begins thus: "A maneira q se tem em o catecismo he prouarlhe primeiramente, q ha hũ criador do vuiuerso, […]"), that there is no reference to the distinction between the rational and sensitive soul (it refers only that "[…] prouaselhe depois como a alma apartada do corpo hade viuer pera sẽpre, […]"), and there is reference to the Commandements of the Chuch together with the Ten Commandements ("[…] os mandamentos da lei de Deos, os da igreja catolica, […]") which is lacking in the later version presented in the Historia.

exposition so wished. We should also remember that catechisms in the sixteenth century were commonly built around the two topics of Creation and Redemption. The author of a famous one, Fray Luis de Granada, wrote around this time in his very popular *Introduccíon del Símbolo de la Fe*:

"[L]os principales misterios de nuestra fe, que son la obra de la Creación del mundo y la Redención del género humano, que son la principal parte del catecismo y el fundamento de toda la doctrina cristiana. Porque así como el cielo se mueve sobre los dos puntos, o polos que llaman del mundo, así esta celestial doctrina se funda en estas dos tan principales obras de Dios, pues de aquí procede lo demás [...]."[378]

If we analyze the original of this work, which would be partially translated into Japanese and printed by the Japanese Mission Press sometime later, we notice that the first of its four parts is dedicated to the Creation. Looking closer we see that it actually is discourse on natural phenomena according to the Aristotelian system, certainly with many uplifting and spiritual exhortations, but nevertheless it is a simplified exposition on natural philosophy. The remaining three parts, though with much more theological content are also full of allusions to the material universe.

Thus it is possible that the first point in the above schemata was an introductory instruction on natural philosophy. This would not mean that the missionaries would be skipping their main duty of religious proselytism. Rather it was a first step in the effort to prove the existence of one personal God. Frois clearly says that the objective was to prove that the Sun and the Moon were not gods. This they certainly did by explaining the basic principles of scholastic cosmography and astronomy.

Similarly, the second point could also be a simple introduction to the theory of Aristotle's *De Anima*. Frois states clearly that the Japanese did not make a distinction between the several kinds of soul, between sensitive and rational soul. We may safely infer from his wording that the missionaries would make that distinction and then go on to state the spiritual nature of the rational soul and its immortality.

The third point was clearly a space left to help, through further explanations in a Q&A format, the Japanese integrate the new cosmovision with the particular

[378] Fray Luis de Granada, *Introduccíon del Símbolo de la Fe*, Salamanca, Herederos de Matías Gast, 1583.

phenomena they might be interested: eclipses, tides, earthquakes, snow, the saltyness of sea water, etc.

The fourth would be the final uprooting of ancient beliefs, through comparisons of puerile explanations of natural phenomena of Buddhist and Shinto origin with those of the late scholastic period, before the planting of the new tree of Christian faith that would be achieved through the remaining six points.

Finally points five through ten make up what we may call the spiritual teaching of the catechism. There were the theological teachings: the Trinity, the Creation again, but this time from a more *religious* perspective, sin, Redemption. There were the moral teachings: the Ten Commandments. And there were the pastoral teachings: the sacraments.

This scheme is confirmed by a letter from Cosme de Torres to Ignacio de Loyola and Antonio Quadros:

"La manera que tenemos en hazer christianos es la siguimte: primeramente los sacamos de sus erros trayémdolos en conosimento de su segedad. Luego se le da a conoser quién hizo esto mundo, que ellos tienen que sempre fue, e cómo há hum primcipio imfinito, primera causa de todo bien, lo qual crió todo lo visible e invezible con sola su palabra y volumtad; y cómo crió los ángeles y los hombres y todo lo demás; y cómo el hombre es compuesto de dos sustancias, corporal e ispiritual, la qual sempre es viva, lhamada anima, por la qual resibe galardón segundo sus obras.

Loeguo se le muestra cómo Dios crió a Adán en el paraízo terrenal y el mamdamento que le impuzo, y las causas por qué e cómo, por el enganho del diablo, quebramtó el mamdamento de Dios ficando sojeto a el demonio e a todas las penalidades que tenemos aguora; y cómo por causa del pecado fue el ombre apartado de Dios, caíndo en erros, adoramdo criaturas; y cómo fue nesesario, por causa de la justiça y misericordia, que em Deos hes huna cousa, vinir Christo Hijo de Dios a tomar carne humana e recomsiliar a los hombres con Dios por los quales merecimentos todo hombre se puede salvar; y cómo mandó sus apóstoles por todo el mundo a predicar y bautizar, y ensenhamdo los hombres el camino de la verdad, los quales imitamos nos. Y otras cosas semejantes a estas les dizimos. Son buenos christianos y firmes los que se hazem."[379]

[379] Letter of November 7, 1557, Documentos I, pp. 737-738.

The main points mentioned by Torres are:

1. That the World was created
2. The human soul
3. The Genesis account: sin and the devil
4. The Redemption: Incarnation
5. Evangelization

This schema is certainly an abbreviation of the one presented previously rather than an alternative one: as it lacks core Christian beliefs as the Trinity and the Resurrection it surely does not present all the topics of the catechesis. It is certainly a shortened version of the one left by Xavier, where only the points that received more emphasis to are mentioned.[380]

A letter by Gaspar Vilela of 1571 presents briefly a slightly different way in which the catechetical classes were organized after twenty years of missionary experience in Japan, certainly according to another guide or catechism:

"[Q]uan se bautizaõ, he cõ disputa sobre suas religiõe, & nossa santissima fè; agora ja não ha tanto isto como nos principios, os Christaõs saõ firmes, quando se bautizão ja entendem arrezoadamente o que lhe he necessario, porque antes que os bautizem, se traze muitos dias ouuindo o que haõ de receber, primeiramente se lhes declara como ha hum Deos infinito, & Criador de todas as cousas, o segundo como tem alma, & que cousa he alma, & que deffereça ha das mais creaturas ao homẽ; depois de entenderem isto se lhes prega da criaçaõ do mundo conforme ao que está escrito no Genesi, e da caida dos Anjos, & como Adão pecou, depois do misterio da santiísima trindade: depois da vinda de Iesu Christo, e de como padeceo por nossa saluação, pera satisfazer com seu merecimento infinito o pecado infinito em q estauamos, & da Resurreição, & Ascenção, & todos os mais misterios: depois dos dez mandamentos, & depois sobre as ceremonias do bautismo, & isto por muitos dias, & tendo entendido isto

[380] Such is the opinion of José Lopez Gay, *El Catecumenado en la Mission de Japón del Siglo XVI*, Roma, Libreria dell'Universitata Gregoriana, 1966, p. 62.

bem se lhe dá o bautismo, & sem duuida que saõ tão inteiros Christãos que he muito pera admirar [...].”[381]

According to this description the catechetical presentation was divided thus:

1. God Creator
2. The soul of Man and other creatures
3. The Genesis account: Creation and sin
4. God is Trinity
5. The Redemption: Incarnation, Passion, Resurrection and Ascension.
6. The Commandments
7. The Baptism

We notice that the time to answer questions and to delve into Buddhist beliefs has been omitted. On the other hand, according to this new schema, the opportunity to expound on natural physical phenomena and on the basic principles of Aristotelian biology was kept. This shows that religious teaching was frequently accompanied by explanations about the natural world.

It was evident to Xavier and his successors that the missionaries who should come to preach Christianity should be able to teach natural philosophy; that they should be able to present it clearly in preaching, in debates and in the classroom.[382] The challenge to anyone who was preaching Christ and the resurrection of the dead to speak clearly about natural phenomena could arrive anytime. This happened, for example, with Gaspar Vilela (1525?— 1572):

“Veio alli ter hum bonzo, por nome Fonguiojino, homem afamado em letras. E affrontando-se de ouvir dizer que sahião dalli bonzos vencidos, sem tratar nenhuma couza das leys, esteve por hum grande espaço perguntando ao Padre pelas dimensões da terra, pela distancia de huns reinos a outros na India, e pelas qualidades e costumes das

[381] Carta do padre Gaspar Vilela de cousas de Iapaõ, pera os padres do conuẽto de Auis em Portugal, de Goa aos 6. de Outubro de 1571, Cartas, fl. 329v.

[382] Concerning the preparation of the missionaries to speak about natural philosophy see Chapter II above.

terras; e o que ouvia, tomava-o por escritto, e com isto fingio que se queria alevantar e hir-se embora."[383]

Fonguiojino, as many others as we will see later, did not begin by asking questions about the world of the spirit, even though he was a religious. Actually what brought him there was the annoyance that the other bonzes could not appropriately expose and defend the *Shumisen* cosmological system. But the point is that any missionary who wished to speak about the world of spirit would have to answer first concerning the world of matter, even when speaking with a monk. But once the missionary had replied to the satisfaction of the questioner it was the rule of the game that he could ask for reciprocation. After receiving *on* the bonze was bound by *giri*. This was the catechetical *waza* the missionaries used to make sure their hearers had a chance to hear something about Christian belief. The above episode continued thus:

"Antecipou-se o Padre e lhe disse: "Isto que tendes ouvido não servindo de mais que de huma momentania curiozidade, em que vós só vos podeis deleitar no entendimento; mas já que trazeis tanta gente convosco, não seria fora de propozito [saber] que lei hé esta que eu venho pregar a vossas terras, pois totalmente hé oppozita à ley que professais de Xaca". Respondeo o bonzo: Isso era o que dezejava, mas por me parecer que estaveis cansado e enfadado, o dilatava para outra vez; pergunto: este Deos, que vindes denunciar, tem figura corporal que possa ser vista e recebida em nossos olhos?"— (O Padre) "Para vos responder a essa duvida, queria primeiro saber de vós, que hé o que vos parece, e que differença há entre a substancia corporal e espiritual?— (O bonzo) "Parece-me que não há nenhuma, e que a variedade está somente nos nomes, mas que na realidade são huma mesma couza". O Padre lhe declarou conforme a capacidade do bonzo a differença que havia entre huma substancia e a outra, e os absurdos que se seguião dizendo que Deos era substancia corporal e vizivel, composta dos 4 elementos."[384]

In his challenge to the bonze Vilela states something obvious but important from his point of view: "all this talk about the Earth and the kingdoms there are in it may be very interesting but it is no more than a fleeting knowledge; so let's speak of what is really important." However we also notice that even when Fonguiojino accepts the

[383] Historia, ch. 26, p. 164.

[384] *Ibid*, ch. 26, pp. 164-165.

challenge to dialogue about the Law of *Deus*, the discussion remains at the philosophical level, about the distinction between material and spiritual substances. The missionaries would present religious dogma, starting with the Trinity, only when their hearers had accepted, at least in a general way the basics of the Aristotelian vision of the material world. Although catechesis naturally started from physical phenomena, its last objective was to engage in a religious dialogue. In the end, how effective were the *padres* in passing on their cosmovision? Let us hear the testimony given in 1566 by someone who had been baptized thirteen years before and then lost all contact with the Christian priests:

"E ouvindo que em Firando havia igreja e Padres, levou comsigo huma nora e huma neta para as fazer baptizer; e dizendo que havia tantos annos era christão, lhe perguntou o Irmão Fernandes, que era o que tinha entendido? Respondeo: 'Entendi que há hum Criador do ceo e da terra que me deo o ser que tenho, o qual só me pode salvar, e que há Gloria e salvação, aonde o Criador dá alegria eterna aos que nesta vida guardão sua ley; e que há inferno onde eternamente são atormentados os que a não guardarem'. E que se lembrava dos nomes de Adão e Eva, primeiros homens que Deos criou, e de Jesus, Maria que sempre invocava. Perguntou o Irmão que orações sabia? Disse que o Pater noster e Ave Maria e a confissão geral."[385]

As it is proper, the maidservant opened the door and let the lady enter the room. Then she became invisible. But from the first sentence we know that it was she who opened the door: "there is a Creator of Heaven and Earth who gave me the being I have".

In 1591 a catechetical manual was printed for the first time in Japanese.[386] Its structure is very similar to the ones presented above. It was as follows:

1. God Creator
2. The Holy Trinity

[385] Historia, II, p. 160.

[386] See Pierre Humbertclaude, "Doctrina en Dix Articles et Doctrina en Onze Articles", *Monumenta Nipponica*, vol. 5, 1942, pp. 234-243; Johannes Laures, *Kirishitan Bunko: A Manual of Books and Documents on the Early Christian Mission in Japan, with reference to the principal libraries in Japan and more particularly to the collection at Sophia University*, Monumenta Nipponica Monographs, no. 5, Tokyo, Sophia University, pp. 41-43, 84-85, Lopez Gay, *op. cit*., pp. 62-65.

3. The Incarnation
4. The eternal destiny of the soul
5. The teaching of Jesus in the Commandments, Sacraments, and the Church
6. Passion and redemption
7. Resurrection
8. Resurrection of all men and Final Judgment
9. Baptism and confession
10. The Eucharist
11. Omnipresent God

Similarly to the other schemata seen above it starts with God the Creator and the Creation, and then it moves to the Trinity and so on. It is known that even then these topics would only be presented after an initial conversation where the reasonability of Japanese religions and views of the natural world would be discussed first.[387]

The Jesuits did not wish that the conversion of Japan be operated only through catechesis in their houses and preaching in the streets. They continued to long for schools were theological and profane subjects, including natural philosophy, could be taught in depth.

6. Jesuit teaching

When Xavier arrived in Japan he found a long tradition of learning and teaching.[388] His aim was to reach to the highest levels, to the *Universities* whose existence he heard about in Kagoshima. But he was aware of the existence and of the methods of the basic instruction. In one letter he wrote:

[387] Lopez Gay, *op. cit*., p. 63.

[388] Curiously, it is not easy to find a description of the educational reality of Japan, for the Muromachi period and before, in English language books on Japanese history. For example, the word *education* does not appear in the index of the first three volumes of the monumental and supposedly comprehensive *The Cambridge History of Japan*, namely in *Ancient Japan*, *Heian Japan* or *Medieval Japan*. The word appears for the first time in the index to volume 4, *Early Modern Japan*, but related to the Christian mission. Neither does *school* appear in those volumes.

"Hai em Japão duas maneiras de letras: huma que husão os homens e outra que husão as molheres. Muita parte da gemte sabe ler e escrever asi homens como molheres, primcipalmente os fidalgos e fidalgas, e mercadores. As bomzas em seus mosteiros emsinão a sprever às meninas, e os bomzos aos moços. E os fidalgos que têm maneira têm mestres que lhes emsinão em suas casas a seus filhos."[389]

As Xavier noted, besides the *terakoya* 寺子屋 basic instruction was also imparted by private tutors in the houses of the economically more advantaged samurai. After knowing how to read and how to write, anyone wishing to follow Buddhist religious life or become a scholar would as a rule enroll in one of the schools Xavier called *Universities*. Those with most repute were the *University* of Ashikaga, funded and protected by the Uesugi family where Zen monks taught, and those of four large religious complexes around Miyako. In these higher schools the teaching followed two basic methods: *kunkogaku* 訓詁学, or exegesis of Chinese classical texts, and *bunsō* 文藻, or literary rhetoric. Basic texts included Chinese poetry and Chinese histories. Besides Buddhist sutras in Chinese, sometimes students could study other philosophical texts mainly from the Confucian school.[390]

Four characteristics, not immediately apparent to Xavier and the earlier missionaries, made the learning in these schools very different from that in European Universities. The first was the limited character of the subjects taught in the Japanese schools versus the intended objective of encompassing all learning in the European *universititas*.[391] The second was the centrality of the text in the Japanese teaching, against the orality in European teaching, where the *lectio* of the lecturer was followed

[389] Letter from Xavier to the Jesuits in Europa, from Conchín, Janeiro 29, 1552, Documentos I, p. 312.

[390] This and the following paragraphs are a digest of my communication: "A Contribuição do Cristianismo no Ensino no Japão, Séc. XVI-XXI", *Cristianismo no Japão: Universalismo Cristão e Cultura Nipónica*, Actas do Colóquio, 2009, pp. 125-154.

[391] John Henry Cardeal Newman (1801.2.21—1890.8.11) in defending the classical ideal of University wrote in *The Idea of a University, Defined and Illustrated: I. In Nine Discourses Delivered to the Catholics of Dublin, II. In Occasional Lectures and Essays Addressed to the Members of the Catholic University*, London, Longmans, Green, and Co. 1907, p. ix, the following: "The view taken of a University in these Discourses is the following: - That it is a place of *teaching* universal *knowledge*. This implies that its object is, on the one hand, intellectual, not moral (…). Such is a University in its essence, and independently of its relation to the Church. But, practically speaking, it cannot fulfill its object duly, such as I have described it, without the Church's assistance; or, to use the theological term, the Church is necessary for its *integrity*. Not that its main characters are changed by this incorporation: it still has the office of intellectual education, but the Church steadies it in the performance of that office."

by *questio* and often completed with *disputacio* or *quodlibet*. The third was that in the Buddhist monastery *Universities* the main aim of the education was the spiritual or moral cultivation of the student, while the European Universities the focus was his intellectual development, the spiritual formation being left to other institutions. The fourth was that in the Japanese tradition knowledge is bestowed on the student by the master and received by the student as *on*, and thus it is not something that should be discussed and argumented as it is proper in the European culture.

Later missionaries came to understand these differences. Frois would write:

"Quando se falla nas cartas ou se aponta em as universidades de Japão, da mesma maneira se não há-de formar conceito que reprezentem as de Japão a autoridade, nobreza, sciencias, renda e grao, que tem as de Europa; porque, pela maior parte, os estudantes de Japão ou são bonzos, ou estudão para o ser; e a couza em que mais tempo consumem, e em que poem maior cuidado e vigilancia, hé aprenderem os caracteres da China e Japão, que são quazi infinitos em numero, e hum tem às vezes quinze e vinte significações distintas huma da outra. Aprendem mais as couzas das mesmas seitas, que hé sua theologia, e algumas dos costumes moraes tirados dos livros de alguns homens espirituaes e filozofos antigos que houve na China, mas isto não por arte nem argumentos em forma, mas por modo de doutrina, e alguma couza de astrologia e medicina. E destas sciencias todas, não há mais, em todo Japão, que huma só Universidade e escolas publicas nas partes de Bando no reino de Ximocçuque, em hum logar por nome Axicanga; e o que se aprende nos outros reinos, nos mosteiros dos bonzos, hé couza particular e privada, sem quazi nenhuma ostentação nem aparato."[392]

Besides the *terakoya* and the *universities*, in the sixteenth century there were also *schools* that transmitted specialized knowledge that would allow one to practice, what we may loosely call a *liberal art*. Someone who wished to follow a career in astronomy, calligraphy, medicine, painting, *onmyō* 陰陽 or fortune telling, or in Confucian teaching would join a master of one of these *arts* and *sciences*. Because these schools were closely associated to a family, in the sense presented in Chapter I of a social group established on a frame of commonalty of residence and economic activity, these schools are commonly described as *iemoto seido* 家元制度, or *family schools*. Typically the student would enter as an apprentice, and would perform the tasks

[392] História, vol. I, p. 9.

assigned to him by the master or by his *senpai* 先輩, or more advanced students. This way he would familiarize himself with the art. Depending on the goodwill of the master and *senpai* he would then be gradually initiated in the practices of the art. Seldom would he have the chance to hear a lecture from the master as the learning process would be based on seeing how to do and trying to do it. When the student attained the required level of competency, he would be ready to leave the *sensei* and practice the art on his own. Usually he would receive a license from the master certifying that he able to exercise the art. His practice would thus be associated with that of his master. He would be known as a doctor in the tradition of the family Mukai, or a *Mukay-ryū* 向井流 doctor; or a painter in the tradition of the Kanō family, or a *Kanō-ryū* 狩野流 painter, or a *ikebana* master in the tradition of the Sōgetsu family, or a *Sōgetsu-ryū* 草月流 flower arrangement master, or a master in tea ceremony in the tradition of Sen-no-Rikyū 千利休 (Daiei 2—Tenshō 19.2.28, 1522—1591.4.21), for example *Urasenke* 裏千家.

One of the most important characteristics of these *iemoto schools* was the position of master being hereditary. However, there are cases when an especially competent disciple without blood relation with the master would be chosen to succeed him instead of the master's biological sons, what was made possible through the practice of adoption. One such case, famous because exceptional, happened at the end of the 10th century when Kamo no Yasunori 加茂保徳 (Engi 17—Jōgen 2, 917—977) perceived that his disciple Abe no Seimei was more able than his son Mitsuyoshi 光榮. Therefore he decided to train Seimei to succeed him in the more important art of *onmyō*, and Mitsuyoshi to replace him in calendar making. That Yasunori was able to put *chū* and *kō* ahead of paternal affection would make him a paragon of Confucian virtue in the view of later generation Confucians. Kaibara Atsunobu 貝原篤信 (Kan'ei 7.11.14 – Shōtoku 4.8.27, 1630.12.17 – 1714.10.5) would relate this as follows:

"Long ago, the *yin-yang* art, which included both astrology and calendar-making, was kept in the hands of one family. Later, Kamo no Yasunori, a celebrated master, indoctrinated his disciple Abe no Seimei in astrology and his son Mitsuyoshi in calendar-making. Since then the *yin-yang* art has been divided into these two families. The meaning of astrology is that which clarifies the propitiousness of certain portents, when something extraordinary happens in heaven or on earth. These judgements, so

important in the world, should not be entrusted to mediocre talent. On the other hand, calendar-making is done in order to publish the calendar of each year—a mere matter of routine calculation. Kamo no Yasunori, a well-known authority, was at the same time a shrewd judge of talent. He might have wished to initiate his own son Mitsuyoshi into astrology. Nevertheless, because of his son's limited ability, he instructed him only in calendar-making. His disciple Seimei was initiated into the way of astrology, because he had excellent talent. If Yasunori had misjudged his son, blinded by parental love, and given the position of Court Astrologer to him, it would definitely have been against the country's interest. Furthermore, his family might have been defamed long since. Yasunori's decision was really fair, and deserves to be praised.

It is not known clearly whether the calendrical skills were handed down through the descendants of Mitsuyoshi. On the other hand, the Abe family still flourishes in the service of astrology and the reporting of cosmic phenomena."[393]

This is a very interesting text not least because it is a testimonial of what was considered an ideal in contraposition to what was current practice.[394] It is also a useful remainder of the lower status of the more mathematical, or *scientific*, discipline of calendar making as compared with portent clarification, in the late seventeenth century.

Another characteristic of these *iemoto* schools was their monopoly over certain aspects of their learning. While what was taught at a *terakoya* was considered common knowledge, the most essential parts of the art or science practiced in *iemoto* schools were particular to that family, at least in its origins. From here two other important characteristics emerged. One was *heisasei* 閉鎖性, or the closed nature of these schools: prospective students would be accepted depending on the will of the master. Another was *hidensei* 秘伝性, or the reserved or secret nature of the core knowledge: there were two levels of learning, a basic level that was transmitted to all students, and another level, more profound and mysterious, which would be reserved for the successor of the

[393] Kaibara Atsunobu, *Kan-I Kun*『官位訓』, translation in Shigeru Nakayama, *A History of Japanese Astronomy: Chinese Background and Western Impact*, Cambridge, Harvard University Press, 1969, pp. 21-22.

[394] The Japanese tradition of hereditary succession in public as well as in private positions, in parliament, in the arts, in universities and in commerce and industry is being preserved even nowadays. At the same time, examples such as that of Honda Soichirō, who expressly wished that for the good of the Honda Corporation, his son should not succeed him in management, keep drawing admiration and laudatory remarks.

master. Cabral was referring to this reserved nature of the essential knowledge when he wrote in an already cited letter:

"Even the bonzes do not teach their pupils the real kernel and essence of their doctrine right from the beginning."[395]

Not able to able to enter into the Japanese universities, the first missionaries turned their sights to elementary education. On one hand it was easier to establish elementary schools with the resources that could then be had in Japan than higher education for which the necessary men and money were not available. On the other hand it was not thought convenient to leave the teaching of reading and writing of the sons of the converted Japanese to the Buddhist clergy. According to a record there was already in 1552 "hum menino christão que sabia ler a nossa letra"[396] in Yamaguchi, what presupposes that some kind of teaching was already taking place at that early stage of the Japan Mission. Nine years later "o Irmão Ayres Sanches tinha cuidado de [...] ensinar a ler e escrever, cantar e tanger violas de arco a quinze meninos japões e chinas".[397] In 1563 the Bonzes had "enveja e pezar [...] de verem os meninos hir à doutrina com tanta frequência e aprenderem com o Irmão a ler e escrever as letras de Japão".[398] The objective of Christian schools was then twofold: to teach Christian doctrine, and impart the first letters. The first objective would reinforce in the younger generations the message transmitted to adults, who were the first recipients of evangelization. The second objective would kept them from the nefarious influence of the Buddhist clergy.

The first Christian elementary school was already functioning, in Funai, at least since the early 1560s. In a letter of Irmão Juan Fernández we can read:

"Tiene [Danián] además officio de enseñar las letras de Japón a los hijos de los christianos. Porque antes las aprendían em los monasterios de suus bonzes, donde después de averlas aprendido quedavan hijos del demonio, por las muchas malas

[395] Letter to João Álvares, from Goa, December 10, 1596, Schütte, *op. cit*., p. 244.

[396] História, vol I, p. 60.

[397] *Ibid*., p. 206.

[398] *Ibid*., p. 321.

costumbres y vitios, spicialmente sensuales, que los bomzes de Japán enseñan a losninhos que tienem en sus monasterios.

Y para tirar este scándalo ordenó el padre que todos los hijos de los christianos viniesen a aprender suus mismas letras aquí em casa, y assí com ellas beviessen la doctrina christiana. Avrá obra de 10 meses que se comensó este exercitio, y en este breve tiempo aprendieron más letras suias que aprenderam em suus monasterios em dos o tres años."[399]

One notices the innocent remark that the Christian school was three times as efficient as the nearby *terakoya* and realizes that school performance measures are not a modern invention.

It is estimated that some twenty years later, in 1581, some 200 such schools, spread over the country but concentrated in Kyushū, would have been in operation.[400] It is probable that this number would then have remained constant before starting to fall as persecutions became more widespread and intense. It is thought that as a rule there was one such a school were there was a church, and that the vast majority had Japanese teachers who belonged to the Christian community. There children would learn how to read and write Japanese, arithmetic, and catechism. This was probably a minimum as

[399] Letter from Juan Fernández to Antonio Quadros, from Funai, dated October 8, 1561, Documentos II, pp. 412-413.

[400] See Drotheus Schilling, *Das Schulwesen der Jesuiten in Japan (1551—1614): Teildruck*, Münster, Regensberg, 1931, p. 30, and Ebisawa Arimichi 海老沢有道, *Nanban gakutō no kenkyū: Kindai Nihon Bunka no Keifu*『南蛮学統の研究―近代日本文化の系譜』, Tokyo, Zobun-sha 創文社, 1958, p. 15. Elison, *op. cit.*, pp. 64-65 considers that there were at most two schools operated by the missionaries in Japan, conceding that "[s]ome simple catechetical training must have gone on at each Christian center. But such elementary indoctrination is not tantamount to formal schooling." However he is thus implicitly imposing a twentieth century OECD country school administrator criteria to what must have been a school in the sixteenth century. At that time, as in many places even today, a school was defined simply as a meeting place of a teacher and some students where the latter learned to read, write and count. In the sixteenth century in Europe many schools' premises were the house of the teacher. In some other places in Europe they were churches, and in Japan they were a building belonging to a Buddhist temple. Therefore it is not reasonable to say that any instruction in the churches was "simple catechetical training" just because it took place in a church. In most of the around two hundred churches existing in the 1580s (see letter of Valignano of December 17, 1583 to the Archbishop of Evora, Cartas II fl. 89), there must have been a school with a level at least similar to that of the *terakoya*. This can be deduced from two known facts. One is that the missionaries did not consider appropriate that Christian children studied in the temples' schools. Another is that many of the churches' teachers were former bonzes. In a letter of Frois of January 2, 1583, we can read that "& ajuntando a estes a gente que serue em todas as casas da companhia, & os Bonzos que ella ostenta em muitas igrejas, depois que se fazem Christãos, pera o ensino dos mininos, & enterramentos, serão por todos perto de quinhentas possoas", Cartas II, fl. 89v.

there is evidence that in some places children learnt Portuguese, Latin, music and painting.

Meanwhile the Jesuits did not abandon Xavier's wish to have higher Christian learning institutions in Japan. At the urging of Valignano then in India, Cabral held a consultation with other Jesuits in 1576, where it was concluded not only that a novitiate, where Japanese candidates would be admitted, but a college for higher studies were necessary for the survival and growth of the Church. This conclusion was reached by the missionaries because they believed that it was not enough to impart religious knowledge at the higher education level to their Japanese neophytes. Rather, theology to be properly understood and learned should be accompanied by the knowledge of the profane sciences at higher education level, especially by natural philosophy, the handmaid of theology.

It was with this background of an elementary school system already working and belief that Japanese priests were necessary for the preservation and growth of the Church that Valignano felt keenly the lack of Christian medium and higher education when he first came to Japan. To better deal with this and other issues he held a Consultation that had three sessions between October 1580 and December 1581. Some of the *preguntas*, or questions, dealt with educational issues. One was:

"Pregunta 5a: Si se deben hacer seminarios de los naturales japones." [401]

Another was:

"Pregunta 8a: Si es bien hacer en Japón algunas casas en las cuales los nuestros vivan juntos a manera de colegio"[402].

The answer to these questions was affirmative, having the assembled fathers concluded that it was the only possible way of expanding and guaranteeing the survival of the new Christian community:

"Acerca de lo cual, aunque en una vez concluyeron todos que este era único y verdadero remedio para la conversion y conservación de Japón."[403]

[401] See Valignano, *op. cit*., pp. 172-174, footnote 6.

[402] *Ibid*, pp. 106-110, footnote 17.

[403] *Ibid*., p. 172, footnote 6.

It was then decided to create three types of schools. The first was a novitiate which was intended to train future Jesuits in the customs and spirituality of the Society. The only to be created was the Usuki novitiate, which opened in December 1580 with Japanese and non-Japanese novices. Valignano valued so much this school that he decided to be its first instructor, giving lectures there during two months.[404]

The second was seminaries. These were intermediate level schools whose purpose was to receive the sons of samurai and of some foreigners as interns and develop their reading and writing abilities in Japanese and Latin, as well as solid groundings in humanities and the other sciences. Valignano determined that in the seminaries:

"se han de enseñar a leer y escribir en japón y en latin, con la Humanidad y más ciencias […]".[405]

The plan of studies was planned to last two years and was based on the European practice of humanistic studies, but adapted to the Japanese circumstances. The study of Latin was kept and was ministered using chosen extracts from Latin and patristic classics. Two texts however would become central to the teaching of Latin. One was *De Honesta Puerorum Institutione* by João Bonifácio. Another was *De Missione Legatorvm Iaponensivm ad Romanam Cvriam*, written on purpose so that it would serve as a Latin book of readings to the seminary students, serving at the same time "to teach the matters about Europe, so related to the Christian piety, and in large part coming from the same source".[406] Greek was replaced by the study of Japanese, for

[404] Notes on these Valignano's lectures were found half a century ago in a Japanese folding screen in Évora and were published by Ebisawa Arimichi 海老沢有道 in *Kirishitan Kyōrisho* 『キリシタン教理書』, Tōkyo, Kyobunkan 教文館, pp. 259-285. About this document see also Ebisawa Arimichi 海老沢有道 e Matsuda Ki-ichi 松田毅一, *Ebora Biōbu Bunsho no Kenkyū* 『エヴォラ屏風文書の研究』, Tōkyo, Natsumesha ナツメ社, 1963.

[405] Valignano, *op. cit.*, p. 171.

[406] Valignano in his preface to the *De Missione Legatorvm Iaponensivm ad Romanam Cvriam*, Macao, 1590. In the opening lines of this preface dedicated to the students of the Japanese Seminary, Valignano says that this was the third book in Latin that he had laboured to produce for their use: "Tertium ecce uobis adolescents optimi, mei amoris erga uos testimonium, […]" Ebisawa Arimichi 海老沢有道, *Nanban gakutō no kenkyū: Kindai Nihon bunka no keifu*『南蛮学統の研究—近代日本文化の系譜』, Tokyo, Zobun-sha 創文社, 1958, p. 16, argues that this book was used as a text (テキスト) in the seminary. Concerning the authorship of this text see J. F. Moran, "The Real Author of the *De Missione Legatorum Iaponensium ad Romanam Curiam…Dialogus:* A Reconsideration", *Bulletin of Portuguese-Japanese Studies*, vol. 2, 2001, pp. 7-21.

which several Japanese classical texts were adapted, and even some Buddhist texts were also employed. Further, study about the teachings of several Buddhist sects and how to refute them was made.[407] Furthermore, one can safely assume from the above citation of the *Sumario*, that some basic aspects of European sciences would have been exposed, at least incorporated in the literary works that served as study texts. In the above mentioned *De Missione Legatorvm* the basics of astronomical navigation are exposed, its main instruments such as the astrolabe and the magnetic compass are described, and their use explained with recourse some basic concepts of western astronomy.[408]

A first seminary was opened in Arima in the spring of 1580, and a second one in the Miyako in May of 1580, soon being transferred to Azuchi. Due to the political convulsions the two seminaries faced difficult management problems that involved multiple changes of location and their merger in 1587. However the resulting seminary remained in operation until the expulsion of the missionaries in 1614.

The third type of school that was then created was a College. Its objective was to provide higher education according to the European usual curriculum. The *Colégio de São Paulo*, the only one erected in Japan, was founded on October 1580. The *Colégio da Madre de Deus* was established in 1594 as a school of the Jesuit Japanese Vice-Province with the purpose of educating westerners and Japanese to become future missionaries in Japan.[409] The purpose this college had for its Japanese students was stated in the following way:

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[407] Valignano thought this study so important that he wrote on purpose, in 1580, a catechism to be used as a textbook on this subject. It would be printed as the *Catechismus Christianae Fidei, in quo veritas nostrae religionis ostenditor, et sectae Iaponenses confutantur, editus a Patre Alexandro Valignano Societatis Iesus*, Lisboa, António Ribeiro (vol. I) and Manoel de Lyra (vol. 2). The Japanese version of this catechism was discovered some fifty years ago and is published by Ebisawa Arimichi 海老沢有道 in *Kirishitan Kyōrisho* 『キリシタン教理書』, Tōkyo, Kyobunkan 教文館, pp. 221-255.

[408] Duarte de Sande, S.I., *Diálogo Sobre a Missão dos Embaixadores Japoneses à Cúria Romana*, 2 vols., Américo da Costa Ramalho (trans.), Portvgaliae Monvmenta Neolatina, vol. I, pp. 128-136.

[409] "[O] Colégio de Macau, localizado num ponto de confluência de culturas, foi criado para ser um centro formador tradicional, mas foi simultaneamente concebido como uma instituição capaz de 'orientalizar' os Ocidentais e de 'ocidentalizar' os Orientais." João Paulo Oliveira e Costa (direction and introductory study) and Ana Fernandes Pinto (paleographic transcription), *Cartas Ânuas do Colégio de Macau (1594—1627)*, Macao, Comissão Territorial de Macau para as Comemorações dos Descobrimentos Portugueses, 1999, p. 24. See *ibid*., pp. 18-28 for a brief history of the this college by João Paulo de Oliveira e Costa, and also by the same author "O Colégio de Macau e a Missão do Japão (1594-1614)", *Portugal e a China. Conferencias nos Encontros de História Luso-Chinesa*, Jorge M. dos Santos (coord.), Alver, Fundação Oriente, 2000, pp. 61-87.

"Os fins polo qual se fes este Collegio foi, o primeiro para que os irmãos jappoens saisem como Deus mandou a Abraham por algum tempo de sua propria terra natural e da vista e convercassão da sua gentilidade e dos outros custumes em conversações e modo de viver natural tão diferentes e contrarios dos nosos custumes e modo de proçeder em Europa, para que vivendo entre portugezes onde o governo asi temporal como spiritual he de christãos se viesem melhor a acustumar e afeiçoar [a] nosas cousas e se viesem a meter com mui novo molde para se reformar nas virtudes e nas letras conforme ao proprio instituto da Companhia, com mais recolhimento e ordem do que se pode ter en Jappão, onde contão continuas gerras e mudanças e tanta liberdade e destraçõens como nelle hai, mal se pode ir criando gente nova bem fundada nas virtudes e nas letras."[410]

Although located in Macao, to keep its professors and students away from the continuous hassle arising from having to move from place to place to avoid war and strife, this college was a "pure member of Japan" and independent from the residence the Jesuits had there, as Duarte de Sande explains in one of his letters:

"Alem do Collegio e destas residencias que estam pela China dentro temos nesta cidade de Macao a Casa de Madre de Madre de Deus que nella primeiro tinhamos a qual ficou de todo dividida e apartada do Collegio, assi por ser casa antiga que entende com os proximos e viveo sempre de esmolla, ajundando a mesma gente da cidade que a sostenta, como tambem pera que o Collegio que he puro membro de Japão podesse melhor entender com criar os irmãos japõnes e os europeos que são mandados para Japão com mais recolhimento nas virtudes, e nas letras, sem ter outra obrigação de igreja nem de tratar com os proximos, mais que as que são proprias e comodadas a este Collegio e o superior de Japão podesse a sua vontade despor dos sugeitos que se crião neste Collegio mandando-os hir a Japão ou pela China dentro sem quixume nem dano do povo, e sem desgosto dos nossos, que ficão entendendo com os proximos, porque ficando este assunto e obrigação ao reitor e padres que estão nesta casa, nem elles nem o pouvo se pode queixar quando se mandão para Japão e para a China os que se crião no

[410] *Ibid*., p. 59.

Collegio, nem estes sam de nenhuã maneira empedidos para o que delles se pretende no Collegio."[411]

This, of course, would not hinder the usual participation in the proper ministries of the Society as long as it as it did not affect the studies. In the same letter we can read:

"[E] como este Collegio não tem nem a-de ter igreja nem outras ocupações exteriores por estas ficarem aos padres que estam na casa, por se ter este Collegio feito principalmente para bem da Companhia e christandade de Japão, e dar tambem obreiros as residencias que ja temos pela China dentro, vão assi os estudos como o aprovitamento do espiritu muito bem sem ter nenhuas distracões que divirtão os padres e irmãos, nem os mesmos superiores, de entender bem nestas cousas, e posto que o principal fim do Collegio seja este, não deixa contudo isto de se dar tambem boa ajuda as almas asi nas pregações, que pelos padres deste Collegio se fazem na nossa casa de Madre de Deus, e em outras partes da cidade, sem incomodidade dos estudos, como fizerão alguãs vezes neste tempo na igreja de Mizericordia e em Sam Francisco, a pitição dos frades, e na See e na fregasia de Sam Lourenco, como tambem em hir ajudar a comfessar aos padres da casa no tempo que ha muito comcurso das comficoins, como nos dias dos jubeleus e outras festas principaes entre anno, e tambem na Somana Santca e nos domingos da Quaresma, e em dar conselho e resolução a muitos cazos que se vem preguntar aos mestres, e padres letrados que estam neste Collegio".[412]

The level and the subjects were be similar to that prescribed in the *Ratio Studiorum,* although some adaptations would be made, namely in the duration of the

[411] Annual letter of the Macao College, of January 16, 1596, *ibid*., pp. 76-77. See also the annual letter of the Macao College, of January 27, 1604: "[O padre vizitador] dizendo, […] que sempre entendera *in Domino* ser este Collegio unico remedio para o bom governo desta vice-provincia, aperfeiçoando-se nelle os sogeitos que vem da India e Europa sem acabarem seos estudos, e para os que de Japão se mandão poderem aqui estudar cam maior quietação e proveito, do que em Japão por hora pode ser; ao qual Collegio tambem hão-de vir estudar os que na China por terra dentro se receberem." *Ibid*., p. 116. However, some time later, after the expulsion ordered in 1614, another reason was added; in the annual letter of January 2, 1615 we can read: "Pera dous fins prinçipalmente se fez aqui este Collegio. Pera criar os irmãos japões que virião a elle estudar e formasse na vida relegioza porque as ocupações da conversão tam continuas na sua terra favorecem pouco estas duas. E pera recolher os padres que andão naquella christandade se os gentios os deitassem della. Porque em Malaca não caberião alem de ficar muito longe, e na India muito mais, aqui estavão a porta e poderião tornar mais depressa como lhes dessem lugar. Agora se alcançarão ambos mas por meyo que não quiseramos." *Ibid*., p. 142. Latter its geographical reach would be expanded: "Porquanto este Collegio de Amachao he como seminario destas tres missões de Japão, China e Cochinchina", annual letter of December 28, 1619, *ibid*., p. 197.

[412] *Ibid*., p. 73

courses that was limited to two years for philosophy and another two for theology. For example, in the annual letter of the Colégio da Madre de Deus of 1598, we can read:

"Os estudos vão em cre<ci>mento; procura-se, e da-se ordem para que se executem as cousas que se ordenão em o livro de ratione studiorum conforme a terra e as poucas claçes sofrem."[413]

Something similar must have occurred in the Colégio de São Paulo. Although it started operating before the *Ratio Studiorum* was issued, certainly the pedagogy and contents there did not differ much of what was then a quite uniform practice in all Jesuit colleges, which the *Ratio* just mirrored.

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[413] *Ibid*., p. 83. The Colégio da Madre de Deus started its operations gradually. In the year of its founding, in 1594, there were no public lectures of philosophy or theology: "Estamos agora neste Collegio dezanove pessoas da Companhia e o padre visitador tem mandado vir outros oito ou des irmãos japõens de Jappão e alguns mais esperamos da India. Temos nelle athe agora coatro classes *scilicet* hua de ler e escrever en que se ensina aos meninos, que serão mais de duzentos e sincoenta, a qual sempre tivemos na China, hua clase de Gramatica, que tambem tinhamos primeiro, e outra de Humanidade que se acrescentou este anno, en que alem dos de fora estão sete irmãos dos nossos que este anno vierão da India, os quaes com alguns outros que da India e Jappão esperamos, comesarão a ouvir o curso das Artes para o anno que vem; na outra classe se lem Cazos e o tempo com ajuda de Deus e com a tornada do padre Visitador dará a entender se sera bem acresentar mais classes e de outras sçiencias maiores. Alem destas liçoens privadamente se lee Theologia a dous padres que estão neste Collegio, a conta da mição da China, e esperamos que este anno vieçem outros para se poder ler com mais fervor e proveito, […]", Annual letter of October 28, 1594, *ibid*., p. 62. In the following year there were still no classes of philosophy: "No pateo dos estudos ficão agora quatro clases comvem a saber: duas em que se le Latim, e hua mui grande onde se ensina ler e escrever aos meninos e outra em que se leem Cazos de Consiencia, e alem destas quarto classes, que são publicas, se le tambem Theologia dentro de casa a outros sinco padres nossos que estudão tendo suas licoins pela menhã e pela a tarde com suas repetições , desputas e outros exerci[ci]os ordenarios, como na Companhia se usão, por terem dous mestres que lem Theologia muito de proposito, e tambem se havia de comesar este anno o curso, mas para que os irmãos se aproveitassem mais na Retorica que se lee na primeira classe, escreveo o padre visitador da India que se dilatassem por este anno que vem." Annual letter of January 16, 1596, *ibid*., p. 69. By the end of 1598 there was already a class of philosophy; of the sixty-two Jesuits in the College of Macao and working in China: "vinte e sete sacerdotes, trinta e sinco irmãos. Dos sacerdotes—6—são mestres, hum de Theologia, dous de Cazos de Consiença, hum de curso, dous de Latim; hum ouve Theologia, seis fazem seu treceiro anno de provação, os demais se ocupão em confesar, preguar, e em outros ministerios proprios da Companhia. Dos Irmãos, 9 ouvem Casos, 3—delles são jappões, 7—ouvem Filosophia, 8—Latim, dos quais 6—são jappões; irmãos coadjutores são nove." Annual letter written at the end of 1598, *ibid*., p. 81. The situation is similar in 1600: "29 são sacerdotes, hum lee Theologia, dous Casos, hum Filosophia, outro Humanidade e o sexto lee Gramatica, e outros dous ouvem ainda hum Theologia, outro Casos. Os irmãos são 32 (afora hum novicio coadjutor que o padre visitador mandou agora de Jappão que recebesse aqui); 23 são estudantes, seis de Casos, seis de Filosophia e oyto de Humaninadade e tres jappoins subdiaconos que tem jaa acabados seus estudos e fazem o terceyro anno; os outros nove são coadjutors de que hum he mestre de escola, e oito andão nos officios." Annual letter of January 17, 1600, *ibid*., p. 88. More information about the the number of Jesuits in this college is presented in Chapter IV.

Fortunately, this can be confirmed because the basic textbook that was used there to teach both the philosophy course and the theology course has survived to this day, in its Latin and Japanese versions. First it was composed in Latin by Father Pedro Gómez around 1593. This version in Latin is known nowadays as *Compendium catholicae veritatis*. According to Francisco Pirez:

"O. P.^{e} Pero Gómez fez hum compéndio que se leo em latim no Collégio em Amacusa aos Irmãos Portugueses. Éramos seis ou sete, e aos Japõis, que durou hum anno e meo. Leo-se de Setembro de 93 até Fevereiro de 94, que não ouve viagem".[414]

Then, it was translated into Japanese under the direction of father Pedro Ramón during 1594, and it began to be used in the early 1595.[415] It would be used for twenty years in the *Colégio* in Japan, up to the expulsion of the missionaries in 1614, and then for some more years in the Japanese *Colégio* in Macao.[416] It was composed of three treatises.

The first was a *De Sphaera* treatise, where the basic sixteenth century European cosmologic ideas were presented. In the first part the celestial world is presented, and in the second the sublunary realm is studied. Its table of contents, presented in Appendix I, allows one to appreciate with some detail the range of matters it presented. Overall the exposition follows Aristotle. One theory presented here proved to be especially contentious amongst the Japanese: that the Earth is spherical. This theory had already been presented by Xavier and the missionaries would continue presenting it in Japan until forced to leave the country. The Jesuits proved adept at accommodating many aspects of their behaviour and adjusting the presentation of their religious doctrines to the needs of the Japanese. However their strongly Eurocentric world view surfaced in their incapacity to soften their doctrinal position that the Earth is spherical and to

[414] In "Pontos do que me alembrar" of Francisco Pírez S.J., Schüte, *op. cit*., p. 408. This is confirmed by a letter of Itō Mancio to Claudio Aquaviva, Amakusa, March 6, 1594, ARSI*: Iap-Sin*., 12 I, fls 178-179v.

[415] Üçerler, *op. cit.*, p. 41.

[416] In the annual letter of the Colégio de Macau of January 27, 1616, we can read: "Os irmãos japões huns são estudantes, outros não; o exercicio delles em geral he aprenderem de novo neste Collegio alguns livros escritos em letras e lingoa de Japão, cuja noticia pode server para melhor ajudarem na cultivação da christandade." João Paulo Oliveira e Costa (direction and introductory study) and Ana Fernandes Pinto (paleographic transcription), *Cartas Ânuas do Colégio de Macau (1594—1627)*, Macao, Comissão Territorial de Macau para as Comemorações dos Descobrimentos Portugueses, 1999, p. 145.

accommodate into their teaching the alternative traditions, which were old, venerable and firmly believed in Japan, which held that the Earth is, in fact, flat.

The second was a *De Anima* treatise, which would make up the second part of the philosophy course. Its main objective was to demonstrate that the human soul was rational, had free will and that, unlike what was the case with the soul of other animals, the human soul had a spiritual character that made it able to overcome its environment and reach God. The treatise was composed of three parts, the first dealing about the vegetative soul, the second concerning the sensitive soul, and the third analyzing the rational soul and its potencies.

The third was the *De Fide* treatise. It was written following the determinations of the Council of Trent concerning the teaching of Christian doctrine. It was composed of four parts. The first presented faith and the Symbol of the Apostles, the second the sacraments, the third the Ten Commandments and the fourth the virtues.

In 1614, with the order of expulsion of the missionaries, the novitiate, the seminary and the college could not operate any longer as they had their professors and students publicly expelled to Macao or secretly scattered underground all over Japan. Some primary schools continued their operations but also disappeared rapidly. These schools taught three generations of Japanese and were without doubt one of the main media in the propagation of the core ideas of Southern Barbarian natural philosophy. The teaching in their classrooms was more formal than that of the sermons in the churches, and their pupils were better prepared to accept the novel ideas than the participants in the debates at street corners. And it was from them that the best Japanese texts about western natural philosophy were produced.

7. The maidservant loses her lady

The decision to forbid public and private Christian practice announced by the shogunate in January 27, 1614, was expected by everyone.[417] Ieyasu's unsympathetic view of Christianity was well known. It had been carefully reared by intellectual and practical men. In the first group were Ishin Sūden 以心崇伝 (Eiroku 12—Kan'ei 10.1.20, 1569—1633.2.28) and Hayashi Razan. In the second were Hasegawa Sahyōe

[417] Jennes, *op. cit*., pp. 114-115.

長谷川左兵衛 (Eiroku 10—Genna 3.10.26, 1567—1617.11.24) and William Adams (1564—1620.5.26).

The missionaries were all asked to leave the country. Most that did not choose to go into hiding were assembled in Nagasaki by early spring, where they waited for the departure of the Portuguese *nau*. Early in November the *nau* and a junk left for Macao with sixty three Jesuits, a diocesan priest and a group of numerous *dojuku* and seminarians. Some time later two other junks left for Manila with a further twenty three Jesuits, eight friars of the three mendicant orders and a diocesan priest.

The missionaries that stayed started living in hiding, first in the houses of Christians, later, when surveillance increased, in boats and in the woods. Their churches were no more, being destroyed together with their wealth of records. Their flock was dispersed: many Christians were forced to internal and external exile. Those who were sent to internal exile, from Sado to Tsugaru, had their religious books and other religious materials confiscated and destroyed. Those that went to Macao and Manila were able to bring with them a few items.

Still, even if the lady was expelled the maidservant was allowed to stay. Scientific transmission continued through Southern Barbarian sailors, as the composition of the *Genna Kokaisho* in the years immediately after the Edict of Expulsion bears out. The natural philosophy taught in the schools continued to live and be taught by those who found it more sensible than the alternative worldviews, by Hayashi Kichizaemon and Kobayashi Kentei and the others whose name has not arrived to our day.

After the strict and rigorous prohibition of Christianity in 1614 the documental production of the Church decreased markedly to cease completely in the 1630s. But it was around this time that the *shumon aratame no yaku*, 宗門改役, or official for the correction of religion, started commissioning works and composing manuals on its own about the proscribed religion. Several reasons might have induced this policy. One was to gather material for anti-Christian propaganda. This propaganda was so successful that even today the popular image of Christianity reflects to a large extent the misconceptions spread then. These works are most valuable to know the image that was constructed about Christianity and to which many Japanese came to adhere. Another reason, which became more important as its eradication policies bore fruit and

Christians became scarcer, was the fear that the office would gradually lose the necessary knowledge to the proper discharge of its functions in the future—a common fear of bureaucrats of any age and in everywhere.

Amongst those commissioned there is *Kengiroku* (1636), by the *korobi bateren*, or fallen priest, Sawano Chūan, previously known as Cristovão Ferreira. Another interesting example is the *Okamoto San-emon Hikki*『岡本三衛門筆記』, based on information given by the also *korobi bateren* Giussepe Chiara (1602—1685.08.24). The *Kengiroku* has the special interest of having been composed by the author of the *Kenkon Bensetsu*. Furthermore it is one example that when speaking about Christianity even an ex-missionary would make numerous references to the material World and to the natural philosophy that informs his view of nature. For example we can find there this explanation:

"Moreover, […] there lived in South Barbary a great scholar named Aristotle, who in discussing the beginning of heaven and earth correctly noted that heaven and earth have no beginning. The category known as *mixta* (by which is meant to say, compounded things) are things resulting from the conjunction of the Four Basic Elements. Such are termed *artificial* (by which is meant to say, made by man). Since they are things produced by the artifice of human beings, created by a superior borrowing the skill of another in applying his own contrived plan, and because their existence is inconceivable without a creator, they have a beginning and an end. The category known as *simplex* (uncompounded things)—earth, water, fire, air and heaven—are not created things and therefore have neither beginning nor end: they are the mysterious effects of the conjunction of Yin and Yang."[418]

As an example of those works composed by the *yakunin*, or bureaucrats, it will be enough to refer the *Kirishito-ki*『契利斯督記』, the memorandum the *ōmetsuke* Inoue Masashige 井上政重 (Tenshō 13— Kambun 1.2.27, approx. 1585—1661.3.27) left to his successor concerning the best practices of his office.

It was not only the government who started to compile information on Christianity and its perceived vices. Private individuals also wrote anti-Christian treatises that became an invaluable source to how the Japanese of different social strata

[418] Elison, *op. cit.*, p. 298.

understood and evaluated the foreign religion. Two of them are worth special mention, because together with *Kengiroku* just mentioned, they helped to establish in Japanese historiography the enduring view that the ultimate purpose of the Christianization of the country was its "stealing" or conquest by the King of Southern Barbary. Moreover they share the view that Christian and Southern Barbarian knowledge, be it religious of scientific, is intrinsically inferior to Japanese knowledge. They generally hold that while the Confucian and Medical Schools' views of nature, and the Japanese religions', whether Buddhism or Shinto, view of the human condition reach the inner reality of this world and of the hereafter, western theories about nature and religion are formalist and based on mere appearances, having just taken or "stolen" the superficial elements of eastern wisdom. They are also important to us here because they are the intellectual products of an age that can be defined by the political decision to eradicate Christianity and all were composed in a forty-year time span when the memory of the influence of the foreign religion was still alive. They were the *Ha-Deus* and the *Taiji Jashū-ron*.

The first to be published was *Ha-Deus* or *Ha-Daiuso*『破提宇子』, a treatise written in 1620, authored by the then former Jesuit brother Fukan Fabian. Fabian was knowledgeable about Buddhism, Christianity and Confucianism. Moreover he was a master of the language and had a grudge against the Jesuits.[419] He was thus in a better position than anyone else to write an anti-Christian treatise.

In his title he subtly makes use of the old name the Buddhist monks of Yamaguchi started using for the Christian God when they fell out with Xavier: *Daiuso*, or Big Lie. The work is divided into seven "steps" 段, or chapters, where the Christian doctrine is presented first and refuted next, and finishes with "One Evening Conversation" in dialogue form. The structure of the seven steps is very similar to the framework usually proposed to the catechumens, and that he had used himself in *Myōtei Mondō*. This was, perhaps, what one should have expected of a book whose purpose was to dissuade more people entering the Christian ranks. The argumentative line he uses throughout the book is to try to show the contradictions between the different points of doctrine. For example, God's mercifulness is not compatible with the punishments he hands out; the Fall is incompatible with God's omniscience and benevolence, etc. Especially interesting is how the Aristotle's natural philosophy is

[419] Elison, *op. cit.*, p. 155.

interwoven with the Christian doctrine of immortality of the soul in the second step, and how the peripatetic theory of the soul is rejected so vehemently that the Christian doctrine is almost forgotten. It is also important to notice that even from anti-Christian tracts like this we can deduct that the missionaries followed the recommendation of Paul of Tarsus to start by establishing the existence of God from the created World. In the opening lines of the book we can read the thesis Fukan will refute and that certainly had been used innumerable times by the missionaries:

"In the myriad phenomena of heaven and earth, we recognize an all-powerful creator; in the unfaltering change of seasons, we recognize his regulating hand. To use an analogy: When we see a splendid palace, we realize that there existed a skilled craftsman who built it; when we see that house laws exist within a family and the family is governed according to their intention, we realize that the family must certainly have a household head. Such realization is the universal rule. Therefore, since there was a time when heaven did not exist and earth did not exist and nothing existed and all was a lonely void, then the fact that heaven and earth emerged, that the sun, the moon, and the stars with boundless brilliance shed their light in the heavens, rising in the east and setting in the west in unaltered sequence, that the thousand grasses and the myriad trees grow on earth, sprouting fresh buds and shedding old leaves in the appointed season—this fact would be inconceivable without the existence of an all-powerful creator. This all-powerful creator we call *Deus*."[420]

The second, the *Taiji Jashū-ron* 『対治邪執論』, was published in 1648, the work a Buddhist preacher, also of the Rinzai branch of Zen as the young Fabian Fukan had been, and monk of the Nanzenji. Very little is known from direct references concerning him. Thus, for example, neither the date nor place of his birth and death are known. Nevertheless, one can form an image of his life, even if it is an imprecise one, by using indirect references. Thus, it is known that he was probably a disciple in the Nanzenji monastery, in Kyoto, of the Zen monk Ishin Sūden, a Rinzai sectarian, who was an important figure in the religious and political scene during the first three decades of the Edo Period (1603-1868). That Sessō belonged to the Rinzai branch of Zen Buddhism is also directly confirmed by Echu. This 17th century scribe refers to a visit to the Hōryūji temple, "by the monk Sessō of Bungo", that is hierarchically

[420] Translation from Elison, *op. cit.*, p. 261.

"subordinate to Kanzan", which refers to the Rinzai branch of Zen. It is also known that "the famous Sessō Sōsai" lived in the Tafukuji temple in Usuki, a town in the province of Bungo, when, in 1647, at the invitation of the Governor of Nagasaki, Baba Toshishige (?—1657), went to preach a series of twenty one sermons "against the pernicious doctrine" at Kōfukuji, a temple in Nagasaki built by the Chinese community. The *Taiji Jashū-ron* was written in 1648, shortly after Sessō went to preach at Nagasaki. However, it has already been noted that it does not have a homiletic character but, rather, is of an expository nature[421], which would indicate that the direct origin of the text could not have been in the preparatory notes for the aforementioned sermons. This is a plausible argument, which however, does not take into account the expository quality of the majority of Buddhist sermons. This work seems to have been aimed at the members of the Buddhist clergy, who had been entrusted with the task of ensuring compliance with the anti-Christian laws[422]. The text is difficult to read and to interpret, which greatly limited its readership and excluded the vast majority of Buddhist laymen as a potential audience. Its importance lies in giving us a glimpse of how a Buddhist monk perceived Christianity. The few references it makes to the cosmovision of the Christians constitute further evidence that the handmaid was never far away from her lady:

"Above the tenth Heaven, there exists yet another, called *Paraíso*. In this Heaven there is a Lord called *Deus*. This is an entity without beginning and without end, the Creator of the Universe and everything contained therein. Wellspring of Knowledge, Wellspring of Compassion, Wellspring of Justice, the Lord of All Virtues, completely free and self-existent. [To this entity] they call it body of *espirito*. Which we translate here as That Which Is Not Born and Is Indestructible."[423]

All the above-mentioned works had Christianity as their main subject. A number of other books were written with objectives other that to refute Christianity but still reserved some lines or pages to present the threat that Christianity made to Japan

[421] George Elison, *op. cit.,* p. 231.

[422] Joseph Jennes, *op. cit*, p. 176.

[423] Translation in José Miguel Pinto dos Santos, "About a 17th Century Buddhist Treatise Refuting Christianity: A Testimony to the Early Interaction Between Europe and Japan", *Bulletin of Portuguese-Japanese Studies*, vol. 4, 2002, pp. 91-110.

and its undue influence on everyday customs and on the thought of common people. One example, which was already cited above, was *Chiji-hen* 『知恥篇』, by Mukai Genshō. Another is *Daigaku Wakumon* 『大學或問』, completed in 1687, by Kumazawa Banzan 熊沢蕃山 (Genna 5—Genroku 4.8.17, 1619—1691.9.9), the official Confucian scholar of the Okayama daimyo Ikeda Mitsumasa 池田光政 (Keichō 14.4.4—Tenwa 2.5.22, 1609.5.10—1682.6.27).[424]

In Japan, upon entering the 18th century, two facts mark a shift away from absolute abhorrence of Christianity. One was the unlawful entry and consequent imprisonment of Sidotti, which led to his interrogation by Arai Hakuseki. This ushered the production of two major works by this leading Confucian scholar, *Seiyō Kibun* 『西洋紀聞』 and *Tenshukyō Tai-i* 『天主教大意』 where Christian countries and their sciences are appreciated in a generally appreciative vein, a sincere appraisal of Christianity is attempted, and the imperialistic motivation of Christian proselytism is denied for the first time by a Japanese scholar with close ties to the highest officials of the *bakufu*. Another was the enlightened government of the eighth Tokugawa shogun, Yoshimune 徳川吉宗, who encouraged learning, what brought the partial lifting of the ban of books written by Chinese Jesuits. This allowed an increased interest on Christianity on the part of the cultured classes and to the emergence among some of them of a more benevolent view towards the forbidden religion. One example of this can be found in *Sei-iki Monogatari* 『西域物語』 (1798), by Honda Toshiaki 本多利明 (Kanpō 3—Bunsei 3.12.22, 1743—1821.1.25), which includes the following one line comment: "Catholicism compared with Buddhism is by far a better Law".[425] Still, violent tracts against Christianity continued to be published in the eighteenth century, the best example being *Samidare-shō* 『五月雨抄』, by Miura Baien 三浦梅園 (Kyōhō 8.8.2—Kansei 1.3.14, 1723.9.1—1789.4.9), a book based, not on first hand knowledge he might have acquired, but on previous anti-Christian literature, mainly the *Ha-Kirishitan* and *Ibuki Mogusa*, and on the author's own biases. Still it is a valuable

[424] Though Banzan had no sympathy whatsover for Christianity he criticized the *bakufu*'s anti-Christian policy. This and other swipes at the regime were not interpreted gently by the government and Banzan was sent incommunicado to Koga, where he died.

[425] 「(天主教は)仏法に比すれば遙かに良法也」, cited in Hubert Cieslik and Ōta Yoshiko 太田淑子, *Kirishitan*『キリシタン』, Tokyo, Tokyo-do Shuppan 東京堂出版, 1999, p. 9.

testimonial concerning how Christianity was viewed by the many who continued to feed on the classics of anti-Christian literature. It also helps us understand why the *change of clothes* of everything associated with Christianity had to be a permanent change.

8. The expulsion of the Portuguese

"Investigating the origins [of the arrival of the Kirishitan], it took place in the last year of *Tenmon*, with the arrival of some merchants".

So did begin the account by Sessō Sōsai. From the beginning, *Nanban* commerce and Christian proselytism appeared connected to most Japanese. Merchants and missionaries came in the same vessels. Carracks with merchandise came to the ports where priests were staying or where they were willing to go. The missionaries searched for appropriate ports for ships to moor and for merchants to trade.[426] They even chose Nagasaki, founded it, organized it and received it not only as their base of operations but also to further the Southern Barbarian merchants' interests in Japan. The Japanese Mission not only had an interest in the silk trade but its members acted as intermediaries in the negotiations between the *Nanban* and the Japanese merchants.[427] The association was so strong that the Jesuit missionaries would never be able to dispel the image of dealing as much with silk and silver as with the souls of human beings. Nor the Portuguese merchants would ever be able to dissociate themselves from the Japanese perception that they were the shadow that follows the priests.[428] The Edict of

[426] "[O] P.e Cosme de Torres [...] mandou o Irmão Luiz de Almeida com dois japões […] e que visse se havia maneira para se fazer algum dos senhors do Ximo, christão, dando-lhes esperanças que a nao de carreira hiria a seos portos, se os tivessem acomodados, porque para estas couzas tinha o Irmão Luiz de Almeida estranha industria e habilidade." Historia I, p. 270.

[427] Boxer, *op. cit.*, p. 111.

[428] João Paulo Oliveira e Costa, *O Cristianismo no Japão e o Episcopado de D. Luís Cerqueira*, Doctoral Thesis, 1998, p. 729, aptly sums the situation in one sentence: "Esta ligação permanente entre os religiosos e os comerciantes, que tão bons frutos dera havia meio século, ponha agora em risco a continuidade das relações luso-nipónicas." The same scholar also writes in "Japão", *História dos Portugueses no Extremo Oriente: De Macau à Periferia*, A. H. de Oliveira Marques, Lisboa, Fundação Oriente, 2000, p. 381 that "[a] presença portuguesa no Japão esteve, assim, intimamente associada ao destino do cristianismo; a sua rejeição levou a que também os mercadores acabassem por ser expulsos, que a última embaixada macaense fosse massacrada e que os traços materiais da passagem dos nambanjin pelo país fossem destruídos sistematicamente. O relacionamento fora demasiado intenso...". See also Mihoko Oka, "A *Memorandum* by Tçuzu Rodrigues: The Office of *Procurador* and Trade by the Jesuits in Japan", *Bulletin of Portuguese-Japanese Studies*, Vol. 13, 2006, pp. 81-102.

Expulsion of January 27, 1614 had publicly confirmed this link between commerce and Christianity with all the authority of Shogun Hidetada:

"[T]he Christian band have come to Japan, not only sending their merchant vessels to exchange commodities, but also longing to disseminate an evil law, to overthrow right doctrine, so they may change the government of the country, and obtain possession of the land. This is the germ of great disaster and must be crushed."[429]

That where the shadow is there must be a missionary was the view of a suspicious government, still unsure of the strength of its own power. To better control the shadow of the missionaries the *bakufu* ordered in 1616 that all foreign trade should be conducted from the two ports of Nagasaki and Hirado, and that any vessel arriving to any other place should be forwarded there. Still the missionaries kept arriving and departing. Francisco Vieira, old and sick, visited the country between August, 1618, and November 1619:[430]

"Porem antepondo a todos a sancta obediencia sam admittir alguãs interpretações nem menos fazer casodas difficuldades, trabalhos e perigos assi do mar como da terra, confiado nella rompendo animadamente por tudo, se embarcou para Jappão em hum navio bem pequeno [..]. E como chegou em tempo, em que os nossos e mais religiosos padecem ali tantas incomodidades, apertos e trabalhos, assi por falta de casa e agasalhados, como do mais, começou logo a ser-lhes companheiro nelles, padecendo-os todos com muyta alegria e constansia, dando-lhes com isso exemplo pera desejarem de padeçer aynda muyto maiores animando-os a ysso, e aos christãos com que se via.

Alguns meses depois de chegado, succedendo em a çidade de Nangasaki a prisam do padres Carlos Spinola, e do irmão Ambrosio Fernandez de nossa Companhia, e de alguns outros religiosos, começou a padeçer aynda muito mais. Porque na noyte em que os prederão, sayndo-se da casa aonde estava, para não fazer mal ao caseiro, que bem tinha a mesma pena de prisão, confiscação de bens e morte, se agasalhasse padres, se pos na rua ao ar e ao sereno, com grande risco de o prenderem a elle tambem […]. Mas tudo com suumo contentamento, e alegria sentindo mais o não poder dizer missa

[429] Cited in Jennes, *op. cit*., p. 117.

[430] Oliveira e Costa, *op. cit.*, p. 727.

em todos elles, mais que çinco ou seis vezes, em alguãs pobres e mal reparadas casas dos portos, […].

Visitou contudo nâo soo os nossos, que estão nas partes do Ximo, mas tambem do cami indo lá pessoalmente, sem o assombrarem os perigos e difficuldades do caminho que fez por mar, servindo-se ordinariamente a embarcação de casa os dias que ali esteve. A todos os que se poderão ver delle visitou, animou e consolou. E os que não poderão, por estarem longe, o fes por cartas em todo tempo que em Jappão esteve, que foi perto de hum anno e meio, sempre em trajos, e com o nome de secular ora jappâo, ora portugues, segundo o pedia o lugar, aonde se achava pera assi se poder milhor esconder e emcubrir, como o tempo requere, e fazer seu officio com tão estreito recolhimento que em alguãs casas e lugares [nem] ainda escarrar podia livremente, para assim poder estar mais secreto e escon[di]do, e não por em perigo aos que o agasalhavam, porque em tal tempo ate nisto reparam. E assi deixando os nossos consolados, e animados, […] concluida sua visita o milhor que pode, conforme ao tempo que mais não permitia se tornou obrigado a isso de negoçios, que pediam sua presença neste Collegio."[431]

Many and great dangers on the sea and in land did not deter the missionaries of boarding any vessel[432] Furthermore, as seen from the previous passage, the missionaries could rely on an underground structure that helped them to travel, to lodge, to send

[431] João Paulo Oliveira e Costa (direction and introductory study) and Ana Fernandes Pinto (paleographic transcription), *Cartas Ânuas do Colégio de Macau (1594—1627)*, Macao, Comissão Territorial de Macau para as Comemorações dos Descobrimentos Portugueses, 1999, pp. 198-200.

[432] João Paulo Oliveira e Costa, *O Cristianismo no Japão e o Episcopado de D. Luís Cerqueira*, Doctoral Thesis, 1998, p. 728, reports that during the period from 1614 to 1621 the Jesuits introduced into Japan 34 missionaries and took out 14. See also Benjamim Videira Pires, S.J., *A Embaixada Mártir*, Second edition, Macau, Instituto Cultural de Macau, 1988, p. 32. Still, it is true that it was getting harder and harder to get into Japan. In the annual letter of the Macao College, of December 29, 1619, João Rodrigues Girão wrote: "por ser [agora] em tempo que a christandade de Jappão e seus obreiros são tam peseguidos e avexados, e aquella porta está tam fechada pera entrarem outros aos ajudar e aliviar do muyto que agora padeçem em a cultivar e sustentar pera que não desfaleça com a presente perseguição, e trabalhos", João Paulo Oliveira e Costa (direction and introductory study) and Ana Fernandes Pinto (paleographic transcription), *Cartas Ânuas do Colégio de Macau (1594—1627)*, Macao, Comissão Territorial de Macau para as Comemorações dos Descobrimentos Portugueses, 1999, p. 204; in the annual letter written about one year later it can be read that: "por causa da grande proibição e penas postas a todos aquelles que com seos navios levar qualquer religiozo ou sacerdote[,] pela qual rezão, os navios de portugueses que vão deste porto pera Japão, não hão-de levar religioso, nem sacerdote algum, ainda por capelão, por hida e vinda, nem nós nos atrevemos a resistir que levem algum nosso pelo perigo que ha de, pelo menos, [que] tomassem as fazendas aos do navio em que se for" *ibid*., p. 217.

letters, and to baptize and say Mass.[433] As the shogunate came to realize that the missionaries used the loopholes left in the new rules concerning foreign intercourse, it set to tighten them, step by step, as it is usual in Japan. In 1624 the Portuguese and Spanish residents were ordered to leave the country and forced to leave their Japanese wives behind.[434] In the same year, to avoid cases similar to that of Hirayama Jōchin Joaquim 平山常陳 (?—Genna 8.7.13, ?—1622.8.19) who had abetted in 1620 two missionaries in his read-seal trading ship, Japanese trading overseas were forbidden to be Christians.[435] Still the government did not completely trust its own supervision system and further restrictions on the red-seal ship trade were enforced after 1633. Among these were limits to the size these ships could have. Then in June 1636 all Japanese were forbidden to leave the country, or return to it, depending on where they were then.[436] A restricted trade was still allowed with the Portuguese, but they were to move to Deshima, and artificial island that had started been building in 1634. Finally the Shimabara uprising was the pretext to sever all commercial intercourse with the shadows of the missionaries, the Macao merchants. When Vasco Palha de Almeida arrived at Nagasaki with two vessels in the summer of 1639, he was not allowed to trade or even to pay the debts contracted by the Macao merchants in the previous year. He was informed in a clear statement and firm replies that the trade with Macao would be ceased permanently and that the Portuguese were banished from Japan on pain of death. The reasons given were that the trading ships were used for smuggling missionaries and

[433] For the conditions that allowed this structure to work see *ibid.*, pp. 727-728. Se also Helena Barros Rodrigues, "Father Bento Fernandes S.J. and the Clandestine Japanese Mission", *Bulletin of Portuguese-Japanese Studies*, Vol. 15, 2007, pp. 95-113.

[434] Jennes, *op. cit.*, p. 162.

[435] Léon Pagés, *Histoire de la Religion Chrétienne au Japon depuis 1598 jusqu'a 1651* , Paris, Charles Douniol, 1869, p. 587. See also the annual letter of the Macao College written at the end of 1620: "o padre visitador […] mando[u] para Japão este anno cinco da Companhia: tres padres, dous por via de Manilla, e outro com dous irmãos japoens, com navios de japoens mercadores, que tomando estas ilhas se tornavão de Camboja onde tinham ido fazer suas viagens", João Paulo Oliveira e Costa (direction and introductory study) and Ana Fernandes Pinto (paleographic transcription), *Cartas Ânuas do Colégio de Macau (1594—1627)*, Macao, Comissão Territorial de Macau para as Comemorações dos Descobrimentos Portugueses, 1999, pp. 216-217. In the annual letter of December 31, 1621, there is a description of how three Jesuits were allowed to board another Japanese vessel going from Conchichina to Japan; see *ibid*., pp. 232-233.

[436] See Boxer, *op. cit.*, p. 439, for a translation of the order.

the supplies and provisions needed for their religious activities; moreover, that the men and money smuggled were responsible for instigating the uprising in Shimabara.[437]

This was but one of the actions implemented so that no Japanese would continue to believe in the pernicious religion. At the same time other persecutory measures were also being taken. An inquisitorial office, the *Kirishitan Shūmon Aratame-yaku* 切支丹宗門改役, was established in 1640 to oversee their execution. Let us briefly consider the four main ones. The first was the imposition of uniformity in religious affiliation inside a household: every family had to have a *danna-dera* 檀那寺, or master temple, where it would be registered, whereas before, as we have already seen, it would be usual for members of the same household to have different religious affiliations. The second grouped families into *gonin-gumi* 五人組, small units of mutually responsible households.[438] Everyone in the group would be punished if a Christian was discovered who belonged to it, save if he was denounced by the group itself. The third made everyone personally responsible to denounce any Christian he might know about. The information would be rewarded according to officially stipulated and publicized amounts, while lack of accusation would be considered complicity. The fourth was the periodic performance of *efumi* 絵踏 in the *danna-dera*, especially in places with more propensity to produce Christians.[439]

Despite all these measures Christianity was not completely wiped-out of the Japanese land. Rather it *changed clothes*. Christian families and neighborhoods closed into themselves and became very tightly knit units. Religious practices were transmitted together with a new ritual of secrecy, and even religious objects were dressed up with the clothes of Buddhism. One of the most material and clearest example of this are the statues of Mary with the Child were Mary dresses as *Kannon* 観音 holding a small

[437] Boxer, *op. cit*., p. 384.

[438] Which is, according to Boxer, *op. cit*., pp. 356-357, the origin of the modern neighborhood associations.

[439] On the persecutory policies against Christians see: Peter Nosco, "Keeping the Faith: *Bakuhan* Policy Towards Religions in Seventeenth-Century Japan", *Religion in Japan: Arrows to Heaven and Earth*, P. F. Kornicki and I. J. McMullen (ed.), Cambridge, Cambridge University Press, 1996, pp. 136-155; Peter Nosco, "The Experiences of Christians During the Underground Years and Thereafter", *Japanese Journal of Religious Studies*, Vol. 34, no. 1, 2007, pp. 85-97; Jennes, *op. cit*., pp. 164-174; Fujita, op. cit., pp. 147-247; Valdemar Coutinho, *O Fim da Presença Portuguesa no Japão (1639)*, Master Thesis, Universidade Nova de Lisboa, Faculdade de Ciências Sociais e Humanas, 1996.

boy.[440] Still, the government would continue to discover hidden Christians during all of the seventeenth century.[441] Moreover new internal dangers to the nation were appearing continuously. The *bakufu* gradually came to perceive as much threatening to the country as Christianity itself the new heterodox schools into which Christianity was thought to be mutating, namely Wang Yangming style of Confucianism taught in Japan by Kumazawa Banzan 熊沢蕃山 (Genna 5—Genroku 4.8.17, 1619—1691.9.9) and the *School of Military Methods* of Obata Kagenori 小幡景憲 (Genki 3—Kanbun 3.2.25, 1572—1663.4.3).[442] Hayashi Razan, one of the most nervous men of the Tokugawa establishment wrote about "the Southern Barbarian bandits" that had "changed their faces, yet hearts are corrupted":

"Their coconspirators noisily propound heterodoxy; they purloin the Confucians' doctrine of the Way of Heaven 天道 and disgorge its dregs; in their hearts they secretly claim to be based on "the Lord of Heaven" 天主; this Lord of Heaven is what they place their trust in; they steal the Buddhist doctrine that the nature is void and misrepresent the principles of the mind; they also speak of transmitting their Christian teaching. Their practice [of the apothegm] "when [one] is going to despoil another, he first makes gifts to him" steals from Lao Tan; their doctrine of "not having good and not having bad, having good and having bad, doing good and eliminating evil" steals from Wang Yangming. [Their teaching] is neither Confucianism nor Daoism nor Buddhism. […] It thereby harms people. This is heterodoxy. One cannot refrain from admonishing against it. They know not a single character, but designate themselves as teachers; they have not passed a single night's lodging [in a temple], but claim great enlightenment; they do not know a male from a female crow, but claim that they are sages. The wriggling masses of people incline their ears and echo each other as the echo does the thunder; the darkened crowd voice by voice lapses into the deep silence of pools. Alas! The mutation of Christianity has reached this pass."[443]

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[440] Photographs of two of these images can be seen in João Paulo Oliveira e Costa, "Japão", *História dos Portugueses no Extremo Oriente: De Macau à Periferia*, A. H. de Oliveira Marques, Lisboa, Fundação Oriente, 2000, p. 424 and Jennes, *op. cit*., Plate VIII.

[441] Jennes, *op. cit.*, pp. 200-207.

[442] See Paramore, *op. cit*.

[443] Letter to Ishikawa Jōzan of 1654, cited in McMullen, *op. cit*., p. 159.

The control of the Christian plague became the foremost objective of the shogunate. Every other policy became subordinate to it, even foreign commerce. In 1539 the *bakufu* spelled clearly the religious and commercial rupture. From then on Japan would strictly limit its foreign intercourse, as a rule only allowing into the country Chinese and Dutch merchants and the odd Korean embassy. The isolationist policy started with the expulsion of the missionaries in 1614, deepened with the prohibition of Japanese leaving the country in 1636, and reached its natural culmination with the proscription of foreigners in general in 1639.[444]

Still Christian missionaries and Macao merchants kept setting the sails of their vessels towards Japan. And they would bring books with them.

[444] Concerning the seclusion policy there is a hide range of views. See for example: Ebisawa Arimichi 海老沢有道, *Sakoku Shiron* 『鎖国史論』, Tokyo, Toyodo 東洋堂, 1944; Tsuji Tetsurō 和辻哲郎, *Sakoku: Nihon no Higeki* 『鎖国日本の悲劇』, Tokyo, Chikuma Shobo 筑摩書房, 1950; Tashiro Kazui, "Foreign Relations during the Edo Period: Sakoku Reexamined", *Journal of Japanese Studies*, Vol. 8, no. 2, pp. 283-306; *Sakoku Nihon to Kokusai Kōryū* 『鎖国日本と国際交流』, Yanai Kenji 箭内健次 (ed.), 2 vols., Tokyo, Yoshikawa Kobunkan 吉川弘文館, 1986; João Paulo Oliveira e Costa, *O Cristianismo no Japão e o Episcopado de D. Luís Cerqueira*, Ph.D. Dissertation, Lisboa, Universidade Nova de Lisboa, 1999, pp. 732-736; Ōta Katsuya 太田勝也, *"Kan-ei Sakonu" to "Sakoku-rei"* 『「寛永鎖国」と「鎖国令」』, Hachiōji, Rekishi Jōhō-sha 歴史情報舎, 2010.

PART 2 — THE HISTORY OF THE BOOK

CHAPTER IV — THE GENESIS OF THE *KENKON BENSETSU*[445]

After having seen the broad lines of the cultural interaction between the Japanese and the *Nanbanjin*, and especially that which was operated by the *bateren*, we turn now to the process of production of the *Kenkon Bensetsu*, certainly the text concerning western cosmology that had greater impact in Japan in the seventeenth century. There are two textual traditions concerning the genesis of this book but only one has been used by modern historians in their accounts on the influence of western science in Japan.[446] There are three reasons why Genshō preface has been established by usage as the main source. One is because it is that which provides more detail, and thus better answers the human need to know more. Another is because it is the only document whose contents can be ascertained with recourse to other sources, and thus better answers the human need to know with certainty. The last is because it is the only testimony that bears the signature of its author, and thus better answers the human need for authenticity. Although the authenticity of his signature has been put in question because of a minor problem found in the apposed date, as will be seen below, the unity of character of the preface with the commentaries to the text together with the permanent tradition ascribing the preface to Genshō overwhelms any doubts concerning its authorship.

In this chapter I will try to see the events surrounding the composition of the *Kenkon Bensetsu* as Genshō saw them. I surely cannot enter his mind but I certainly can read his word. Then, by accepting that his word is a reflection of what was in his mind I may assume that what follows is a good approximation of what he thought had happened. Therefore, the narrative in the ensuing pages is built on his preface: it follows it closely, adding information related to his account that has been gathered from other

[445] This Chapter is the result of a revision of José Miguel Pinto dos Santos, "The 'Kuroda Plot' and the Legacy of Jesuit Scientific Influence in Seventeenth Century Japan" *Bulletin of Portuguese-Japanese Studies*, vol. 10/11, 2005, pp. 97-191.

[446] See for example: Suketoshi Yajima, "The European Influence on Physical Sciences in Japan", *Monumenta Nipponica*, vol. 19, Tokyo, 1964, pp. 107-108; Shigeru Nakayama, *A History of Japanese Astronomy: Chinese Background and Western Impact*, Cambridge, Harvard University Press, 1969, p. 88-89; Hubert Cieslik "The Case of Christovão Ferreira", *Monumenta Nipponica*, vol. 29, n. 1, Tokyo, 1974, pp. 40-41; and Masayoshi Sugimoto and David L. Swain, *Science and Culture in Traditional Japan, A.D. 600-1864*, Cambridge, The Mit Press, 1978, pp. 258-259; George Elison, *Deus Destroyed: The Image of Christianity in Early Modern Japan*, Cambridge, Harvard University Press, 1988, pp. 209-210.

sources. All material inside quotation marks is from the preface, unless otherwise indicated. The purpose of the additional information is to make explicit some elements of what remained un-stated, because the preface had to be compact; and to remember what the passage of generations had lead into oblivion. This exercise will allow to better understand the textual Genshō on one hand, and the several episodes that lead to the genesis of the *Kenkon Bensetsu*, on the other, even adding, when possible, the spice of some trivia so that the historical ambience may have a stronger taste. The reader may want to read the preface first (see below pp. 321-328, 331-336) for a few reasons: first, because it is the preface that gives unity to the narration that follows; then, as the original is more compact than the elaboration, it will allow the reader to have a bird's eye view of all the historical process that lead to the composition of the *Kenkon Bensetsu*, or to see the forest before examining the individual trees; on the other hand it may be desirable to taste the *original thing* before digesting the elaboration.

Finally it may be noted that this preface is fundamental not only to know the origins of the *Kenkon Bensetsu*, but it also presents a valuable perspective of the events surrounding the evangelization of Japan and of the accompanying transmission of western natural philosophy, as it was viewed and evaluated by a learned Confucian.

1. The problem

It was an autumn day in the late 1650s. If the weather were favourable that night, the full Moon would be observable in the deep splendour that the Japanese sky lends it during that season.[447] Mukai Genshō, a neo-Confucian scholar, was contemplating the cosmological treatise he had just completed. He was wondering how to name it and several possibilities must have crossed his mind. This treatise had been composed originally by a *korobi bateren*, or fallen priest, Sawano Chūan, who had died some years before. Though it was an original systematization and logical explanation of physical and astronomical facts, Genshō was convinced that it was basically flawed. In spite of the many ingenious explanations and clear examples of natural events, it was not able, or even worse, it did not even attempt to explain the fundamental meaning of cosmological phenomena — only their outward appearances. The main purpose of

[447] After reading the *Kenkon Bensetsu* it should be understood why, despite the doubts surrounding the date of the preface, it can be known with certainty that it was a day of full moon.

cosmology, Genshō believed, was to explain human and social phenomena. For many years now he had been conversant with the theories exposed in the treatise before him, and as he had grown in age, in erudition and in understanding of physical and human events, the more superficial those theories seemed. On his own, most probably, he would not have attempted to transliterate it from the original, written in Japanese with Barbarian letters, to the more meaningful ideograms created by Emperor Fuxi[448] and used by the saints and sages of antiquity, by Confucius and by Zhuzi. The very use of Latin letters betrayed the fundamental superficiality of the theories expounded, as if to show that they could not be properly expressed in Chinese characters, pregnant with significance. The original treatise was not even set down in *kana*, putting its depth and literary worth definitely below women's letters and *kanazoshi*, the written works for the semi-literate populace, that same populace so easily bent down by novelties, as the grass by the wind. Though in his youth he had seen quite a few works scribbled in such letters, and may even have tried to learn to read and write them, now in his late forties he would not even think of attempting to read Chūan's manuscript. He had performed

[448] Genshō, a neo-Confucian scholar and true believer of Confucian traditions, was certainly convinced that this was a fact, not a hypothesis, much less a groundless legend. It may be true that "[m]ythological accounts and popular narrations, though vividly transmitted and seemingly preserved, can not be taken and used as authentic sources", as was put by Aloysius Chang, *The Chinese Community of Nagasaki in the First Century of the Tokugawa Period (1603-1688)*, Doctoral Dissertation, New, York, St. John's University, 1970, p. 5. Furthermore it is widely known and accepted that modern scholarship has denied Fuxi 伏羲 historical existence. However, the surest path to the understanding of the *other person* passes through the knowledge of his intellectual and moral references. Therefore to understand Genshō the modern scholar has to undress himself of his own conceptions about historical fact and try to put on, even if momentarily, the robes of a seventeenth century neo-Confucian intellectual mind-frame. This is the principle that is followed in composition this chapter: to try to look at the events surrounding the genesis of the *Kenkon Bensetsu* through the eyes of Genshō first, and then, when possible, of the other participants in the process. It is also a fact that, according to ancient Chinese histories Fuxi was the first of the Chinese emperors. To him is ascribed, in the Chinese classical corpus, the introduction of several aspects of civilization, writing among them. João Rodrigues notes in his *Historia da Igreja do Japão* that "[s]eu primeiro inventor, ou o que introduzio, e ensinou o uzo destas letras, e caracteres tem os Chinas que foi hum seu primeiro sabio, cabeça de hum dos nove tribus que fundarão a China chamado Fohy, e o Japão Fôcky, que elles enumerão entre hum dos seus primeiros tres Reys," Biblioteca do Palácio da Ajuda, *Jesuítas na Ásia*, Codice 49-IV-53, fl. 148v. For details on Fuxi according to Chinese sources see William Frederick Mayers, *The Chinese Reader's Manual: A Handbook of Biographical, Historical, Mythological, and General Literary Reference*, Peking, Wen Tien Ke, 1939, pp. 48-49. For a modern scholarly perspective on the earlier periods of the history of China see Denis Twichett and Michael Loewe (ed.), *The Ch'in and Han Empires, 221 B.C.-A.D. 220*, The Cambridge History of China, Volume 1, Cambridge, Cambridge University Press, 1986, especially the "Introduction" by Michael Loewe, pp. 1-19 for a discussion of the reliability of written sources and archeological evidence.

this task only because the authority of the Nagasaki *bugyō*, his city commissioner, had weighed in on him. Lord Kainoshō Kiemon Tachibana Masanobu had ordered Nishi Kichibei, an official translator with experience in reading Barbarian documents, to read it aloud so that Genshō could write it down in Japanese script. The command included the directive that an appropriate commentary should be added by the neo-Confucian scholar to the original text. This part of the task had not been difficult as the deficiencies of the work were quite evident. The scholars of Southern Barbary not only did not know the distinction between *ri* and *ki*, principle and vigor, but they also did not understand the relations of production and conquest among the five agents, nor had they ever heard of the telluric and solar principles! More difficult had been understanding the sense of what Kichibei was reading and choosing the character that best captured the meaning of the babble the Southern Barbarian scholar had frozen on paper.

Chūan had not written the title anywhere. Though *sekai*, world, was the most frequently used noun with 74 instances in the original text and 23 in the commentaries, Genshō did not even consider the possibility of including this word in the name of the book. The Buddhist connotations of this term, usually employed in the translation of the Sanskrit concept "loka-dhātu," made it utterly inappropriate. One possible name, though, might have been *Tenchi Bensetsu*, or "An Exposition on the Heavens and Earth." After all, Genshō could have argued with himself, the disquisition was also dotted with the word *tenchi*. With 65 occurrences this was the second most frequent noun in the almost two hundred pages of rice paper, filled with his calligraphy, that were lying in front of him.[449] *Tenchi* also represented quite adequately the contents of the exposition as it dealt with earthly and celestial phenomena. But Genshō could not bring himself to write down *tenchi*, as the word seemed to lack the required classical Chinese flavor, if not for a Barbarian work, at least for a Barbarian work commented upon by a Confucianist. As far as he could remember, all treatises with *tenchi* in their titles were concerned with *Shinto*, or The Way of the Gods, surely a most dignified subject, but one that owed nothing, he believed, to Chinese philosophy and thus was not

[449] *Tenchi* was used 18 times by Chūan and 57 times by Genshō (these numbers do not include the occurrences in the figures). There is no doubt that Chūan was comfortable with *sekai* to an extent Genshō was not, and that *tenchi* did not come as easily to the former Jesuit priest as to the neo-Confucianist scholar.

subject to its standards of elegance.[450] He further realized that to name *tenchi* a book with theories that were novel, wrong, and foreign might be constructed as a slight, even as lese-majesty, against Ietsuna, the fourth Tokugawa shogun, or still worse, as a sacrilegious insult toward the Taiyūin–sama, the not long ago deceased third shogun, Iemitsu. Then, he made a connection. He remembered a farcical episode that had occured some twenty-five years before. No adult in Nagasaki, where he was then, or in his native Hizen, or in Hakata-Fukuoka, the fief headed by the Kuroda, those most loyal retainers the Tokugawa had in Kyushu, could think of this farcical episode and not shake his head. The vessel that had stood as one of the first of the many *causus perturbatio* of the peaceful and long Tokugawa reign was the perfect figure for the cosmological dissertation he wanted to name. It was as gaudy, useless, and short-lived as the Barbarian theories in the treatise. And so he wrote down *Kenkon Bensetsu*, or "An Exposition on the Heavens and Earth."

[450] There was, of course *Tenchi Sangoku no Kaji no Sōkei Zureki Zenchō*『天地三国之鍛冶之惣系図暦然帳』, a specimem of the genre of *Muromachi monogatari*, or Muromachi tales, of Daiei 6 (approx. 1526), (modern edition: Yokoyama Shigeru 横山重 and Ōta Takeo 太田武夫 (ed. and notes), *Muromachi jidai monogatari shū*『室町時代物語集』, vol. 5, Tokyo, Inoue Shobo 井上書房, 1962, pp. 431-439). However, had Genshō known of its existence he would have had an additional reason to avoid *tenchi*. A small sample of books expounding Shinto with *tenchi* in their titles is the following: *Tenchi Oboe Hisho*『天地覚秘書』, *Tenchi Kaibyaku-ki*『天地開闢記』, *Tenchi –kun Narabini Shihau-kunden*『天地訓并四方訓伝』, *Tenchi Jingi Kechimyaku*『天地神祇血脉』, and *Tenchi Shinmei*『天地神名』. Concerning astronomy and cosmology, of the first years of the eighteenth century there was *Tenchi Isshi*『天地一指』of Ro Sōsetsu 盧草拙 (Empō 3.4.27 – Kyōhō 14.9.9, 1675.5.21 – 1729.10.1), of the school of Kobayashi Kentei. The date of composition is uncertain but it is undoubtedly posterior to Genshō's moment of irresolution on how to name the work of Chūan. Kentei was an old acquaintance of Genshō, an association the latter would never have boasted about. Not only had the two men fundamentally different views concerning scholarship in general and astronomy in particular, but Kentei was at that time still in jail due to a rumor, never proven, of being a crypto-Christian. In the eighteenth century it became customary to name astronomical and cosmological treatises, especially those concerned with western theories and free of Chinese influences, with the word *tenchi*, but that was a fashion Genshō did want to start nor did he live to see. Two well known exemples of this later trend are *Tenchi Ridan*『天地理譚』of Shiba Kōkan 司馬江漢 (Gembun 3? – Bunsei 1.10.21, 1738? – 1818.11.19) and *Tenchi Nikyū Yōhō*『天地二球用法』of Motoki Yoshinaga 本木良永 (Kyōhō 20.6.11 – Kansei 6.7.17, 1735.7.30 – 1794.8.12).

2. From Christovão Ferreira to Sawano Chūan

Mukai Genshō had begun his preface to the completed Southern Barbarian exposition by writing that "[t]he editor of this book was Chūan, a Portuguese from Southern Barbary. Chūan was a Jesuit priest, bonze of Southern Barbary, with excellent astronomical learning."[451]

This Chūan, who was responsible for the Japanese treatise written in Latin letters that Genshō transliterated with the help of Kichibei, had been born during the events that led to the union of the crowns of Castile and Portugal into the political entity known by the Japanese as Southern Barbary.[452] He had been christened Christovão and had received the name of his father Ferreira. Up to the moment he became Sawano, Ferreira would resent and, circumstances allowing, would politely protest against being called Southern Barbarian or Spanish, two appellations he quite disliked.[453] He was very much a Portuguese, not a Spaniard. He was born to Portuguese parents in the Portuguese village of Torres Vedras, archdiocese of Lisbon, which was not in Spain nor would it ever be.

Until the end of 1596, when he entered the Society of Jesus, the young Christovão led the typical life of a boy in a village in the provinces. The fact is that we know nothing relevant concerning him during those years, what is a sign that he did nothing of extraordinary during those years. Had he murdered, married, mugged, or

[451] All citations of Genshō in this chapter are from the long version of his preface.

[452] About the life of Sawano Chūan the best study is "The Case of Christovão Ferreira" by Hubert Cieslik, *Monumenta Nipponica*, vol. 29, n. 1, Tokyo, 1974, pp. 1-54. Nothing sensible or relevant about Christovão Ferreira has been written, either before or since, that is not found in this comprehensive article. In what follows a synopsis is attempted and some marginal observations are added. Whenever possible references different from those found in Cieslik are provided.

[453] No one takes pleasure in being called a barbarian, even if the moniker is in Japanese. It is doubtful that a healthy seventeenth century Portuguese would. In general, the Portuguese in Japan were not on the best of terms with their brothers in Christ of Spanish origin. Except in their love for Christ and Church they did not see eye to the eye in most matters, and all were aware that nationality was hidden in the root of the disagreements, if not apparent on the foliage of the arguments. Ferreira in particular, seems to have had a difficult relationship with his Hispanic confrères, their relations becoming more and more tense with time. Being called Duque de Uceda by them did not smooth things out.

made religious vows he would not have been allowed to become a Jesuit.[454] However, entering into the Society did not make him a priest *ipso facto*. Before he could become a *padre* he would have to spend some twelve years studying arts, philosophy and theology. The Society required of those aspiring to the priesthood the completion of a *ratio studiorum* that included three years' study of Latin, two of rhetoric, three of philosophy, and four of theology. The objective of these studies was not to create erudite scholars able to enjoy the green pastures of academia. It was to produce missionaries able to engage in conversation with people, from Bohemia to Bingo, so that through their conversion to the faith of Peter and Paul, they could be saved for the greater glory of God. Rhetoric, logic, natural philosophy and metaphysics were the instruments that would allow the future priests to dialogue with Calvinists and Confucianists. But these sciences were not intended to be more than door openers, a means to an end. The objective was the transmission of Christian theology expressed in a way adapted to the ability of the listener. It was with this end in mind that Ferreira began his formation as a Jesuit with a two year novitiate, most of which was done in Campolide. On December 27, 1598, he made his first vows in Coimbra and began his scholastic studies at the Jesuit *Colégio* there. He certainly studied arts but we have no details of the program of studies he followed. Nonetheless, in the worst admissible scenario, he must have had some exposure to subject matters usually taught in the *quadrivium*: arithmetic, geometry, astronomy, and music. The situation at the *Colégio* most likely allowed for a better education in these fields than this bare minimum. In fact, it must have been much better. Since its beginnings, the institution of higher education the Jesuits had created in Coimbra offered its *Curso de Artes* on a regular basis. Pedro Gómez (1533—1600.2.21) had taught it there in the early 1550s. Christoph Clavius had studied it there in the late 1550s.[455] Moreover, and what is more important,

[454] In chapter 3 of the *Constitutiones* of the Society, "De iis quae impediunt ne quis in Societatem admittatur," is clearly established that "Ex impedimentis ad admissionem, non-nulla eos qui vellent ingredi omnino excludunt, quia rationes efficacies nos ad id in Domino movent. Ea vero huiusmodi sunt. […] Perpetrasse homicidium, vel esse propter enormia peccata infamem. […] Assumpsisse Religionis habitum, vel eremitam cum vestitu monachali fuisse. [...] Matrimonii vinculo [...] ligatum esse," *Societatis Iesu Constitutiones et Epitome Instituti ad Usum Nostrorum Tantum*, Romae, Apud Curiam Praepositi Generalis, 1962, pp. 81-83.

[455] Concerning Gómez see M. Antoni J. Üçerler, SJ, "Jesuit Humanist Education in Sixteenth-Century Japan: The Latin and Japanese MSS of Pedro Gomez's 'Compendia' on Astronomy, Philosophy, and Theology (1593-95)", *Compendium catholicae veritatis: Commentaries*, Tokyo, Ozorasha 大空社, 1997, pp. 30-31. About Clavius see James M. Lattis, *Between Copernicus and Galileo: Christoph Clavius and*

the *Colégio* was at the height of its success as a research institution precisely during the period Ferreira was there. It was between 1592 and 1606 that the *Comentarii Colegii Conimbricenses* were edited. These renowned commentaries on Aristotle's *libri naturales*, often misleadingly credited to the neighboring, and better funded, Coimbra University, exerted a substantial influence on natural philosophy taught for over a century at the universities of both Catholic and Protestant countries.[456] It should also be noted that, at the time Ferreira was in the college, in 1599, Christoph Grienberger (1561.7.2—1636.3.11) taught a private mathematics course there.[457] Though it would hardly be possible that, even in such a propitious environment, Ferreira could acquire in the two years he spent in Coimbra anything like what a fellow Jesuit could call "excellent astronomical learning," it is reasonable to assume that the substratum of such knowledge could have been laid there. Then, on April 4, 1600 he boarded, in Lisbon, a Goa-bound ship.

He did not spend much time in India. On May 1, 1601, he embarked to Macao where he arrived three months later, in August.[458] Whether he continued his studies

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the collapse of Ptolemaic cosmology, Chicago, University of Chicago Press, 1994, pp. 14-15. Concerning those who taught in this Jesuit school see J. Pereira Gomes, "Os professores de filosofia do Colégio das Artes", *Revista Portuguesa de Filosofia*, vol. 11, 1955, pp. 520-545.

[456] Concerning the authority the *Comentarii* exerted over most of Europe well into the mid-eighteenth century see Charles B. Schmitt, *Aristotle and the Renaissance*, Cambridge, Harvard University Press, 1983. The confusion between the *Colégio* and the University at Coimbra is understandable in the layman. Besides owning their *Colégio* the Jesuits had earned by the mid-1550s a foothold in the University through administrative control, under the supervision of the rector of the University, of the *Colégio das Artes*, a University institution set up some years before by André and Diogo Gouveia. On the creation and the first years of the University's *Colégio* see Mário Brandão, *O Colégio das Artes*, 2 vols, Coimbra, Imp. da Universidade, 1924-1933.

[457] This remarkable Austrian Jesuit had already taught mathematics in Vienna (1588—1591) and would later teach them in Lisbon (1599—1602) and Rome (1602—1607). After the death of Christoph Clavius he would become responsible for the mathematics department of the Roman College. For details about his life and work see for example Franz Daxecker, "The astronomer Christoph Grienberger and the Galilei trial," *Acta Historica Astronomiae*, vol. 18, 2003, pp. 34-39, Michel John Gorman, "Mathematics and Modesty in the Society of Jesus: The Problems of Christoph Grienberger," in Mordechai Feingold (ed.), *The New Science and Jesuit Science: Seventeenth Century Perspectives*, Dordrecht, Kluwer Academic, 2003, pp. 1-120, and Ugo Baldini, "As Assistências Ibéricas da Companhia de Jesus e a Actividade Científica nas Missões Asiáticas (1578—1640). Alguns Aspectos Culturais e Institucionais," *Revista Portuguesa de Filosofia*, vol. 54(2), 1998, pp. 195-245.

[458] This date is given by Josef Franz Schütte, S. J., "Monumenta Historica Japoniae I: Textus Catalogorum Japoniae Aliaeque de Personis Domibusque S. J. in Japonia Informationes et Relationes,

during the trip from Lisbon, either alone or under the supervision of a senior Jesuit, we do not know. Most fellow Jesuits did. Whatever the case, Ferreira does not seem to have made exceptional progress because he is listed in October 1603 as being a third year philosophy student in the *Colégio da Madre de Deus.*[459] Father Francisco López (1574—1608?) was then in charge of the course but no detailed description is available of the academic program he taught. However, to judge with the eyes of Valignano, the Jesuit Visitador, or inspector general, never casual concerning such matters, the level and quality of the education imparted at the *Colégio* must not have been below standard.[460] We know that the *Ratio Studiorum* was followed as much as possible, even in the daily time allocation to classes in the morning, repetions and disputations and

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1549—1654," *Monumenta Historica Societatis Iesu*, vol. 111, Roma, Apud Monumenta Historica Soc. Iesu, 1975, p. 1172. About Macao see Luis Filipe Barreto, *Macau: Poder e Saber*, Lisboa, Editorial Presença, 2006.

[459] He must then have been one of five: "Residirão este anno de 602 neste Collegio sincoente e sinco da Companhia scilicet vinte e dous sacerdotes e trinta dous irmãos. Dos sacerdotes lém Theologia dous, Casos de Conciencia dous, Philosophia hum, Humanidade outro. Estudão Theologia quatro, os mais são operarios; dos irmãos estudão Theologia 6, Casos de Consciencia 7, Philosophia 5, Humanidade 10; irmãos coadjutores 7." Annual letter of the Colégio de Macau, January 29, 1603, in João Paulo Oliveira e Costa (direction and introductory study) and Ana Fernandes Pinto (paleographic transcription), *Cartas Ânuas do Colégio de Macau (1594—1627)*, Macao, Comissão Territorial de Macau para as Comemorações dos Descobrimentos Portugueses, 1999, p. 95. They were: "Irmão Diogo Carvalho, Português, Irmão Christóvão Ferreira, Português, Irmão Miguel Cabral, Português, Irmão Xiquimi Martinho, Jappão, Irmão Miocuchi Máncio, Jappão; Estes cinco ouvem o 3o ano do curso, e outro Irmão japão que taõbém ouvia, morreo o ano passado." Catálogo das pessoas da Viceprovíncia da China e jappão, com os graos e offícios que têm, de Outubro de [1]603, in Schütte, op. cit., p. 453.

[460] He had writen in 1603: "In Sinensi vero regno, in urbe Macaensi, quae in Sinarum portu a Lusitanis est constructa, ex parva domo, quam aliqui de Societate incolebant, novum collegium primo constructum est anno 1593, ita capax, ut quinquaginta et eo amplius de Societate facile capiat. In quo non modo qui ab Europa et India veniunt nondum emenso studiorum cursu, incoeptum opus absolvunt, verum huc etiam ex Japonia japonii Frates mittuntur, litteris ac virtutibus erudiendi. Qui vero jam confectis studiis illuc accedunt, eorum partim japonicam linguam, partim sinicos characteres ediscunt, donec suam quisque Provinciam adeat. […] Habet collegium hoc, nullo tamen obligationis debito, varias classes, in quibus duo ex nostris Patribus scholasticam theologiam docent, alii vero duo casus conscientiae, unus item philosophiam, duo vero humanitatem et grammaticam; … ac brevi decem annorum spatio mirum est, quot doctos viros in philosophia et theologia collegium hoc produxerit, cum ex eo tam Japonica quam Sinica Provincia quamplures nunc habeat, quibus fere carebat ante hujus collegii fundationem." *Catalogus rerum, collegiorum, domiciliorum ac residentiarum Japonicae ac Sinensis Viceprovinciae, mense Januarii anni 1603 confectus*, collected in Schütte, *op. cit*., p. 456-483. See also Domingos Maurício Gomes dos Santos, *Macau: Primeira Universidade Ocidental do Extremo Oriente*, Macau, 1994, for a glowing depiction of this academic institution.

other exercises in the afternoon.[461] Monthly the disputations were public. Early in 1603 it was reported that:

"Os irmãos estudantes, alem das repetições e disputas quotidianas, tem cada mes huas publicas de Theologia, de Casos e de Philosophia. Dia das Onze Mil Virgens, defendeo hum padre huas conclusões publicas na igreja como se costuma neste Collegio todos os annos; acharão-se a ellas o padre governador deste bispado, e o capitão mór, e alguns religiosos de S. Domingos, e S. Agostinho, e S. Francisco e muita gente de fora, os quaes todos forão muy edificados, e satisfeitos, assy do sustentante como do presidente; teve a oração que costuma fazer neste dia in laude scienciarum; o irmão Martinho cursante japão, o qual por ser o primeiro orador Jappão que se ouvio em Machao satisfez muito ao auditorio".[462]

Concerning the teaching of mathematics, it is almost certain that no public courses were taught on this subject during the period Ferreira was a philosophy student.[463] However, in the Jesuit Colleges of the Portuguese Assistancy, when no mathematics courses were offered it was usual for the philosophy instructor to include

[461] Already in the annual letter of the Colégio de Macau, written at the end of 1998, it was already reported that "da-se ordem para que se executem as cousas que se ordenão em o livro de ratione studiorum conforme a terra e as poucas claçes o sofrem." João Paulo Oliveira e Costa (direction and introductory study) and Ana Fernandes Pinto (paleographic transcription), *Cartas Ânuas do Colégio de Macau (1594—1627)*, Macao, Comissão Territorial de Macau para as Comemorações dos Descobrimentos Portugueses, 1999, p. 83. In another letter we can find: "tendo sua licoins pela menhã e pela a tarde com suas repetições, desputas e outros exerci[ci]os ordenarios, como na Companhia se usão", Annual letter of January 16, 1596, *ibid*., p. 69.

[462] Annual letter of January 29, 1603, *ibid*., p 97. The *Ratio Studiorum* in fact established for professors of philosophy that: "Disputationes menstruae fiant, in quibus argumententur non pauciores, quam tres mane, totidem a prandio; primus quidem per horam, ceteri vero per ternos circiter quadrantes. Et mane quidem primo loco disputet theologus aliquis (si theologorum competit copia) contra metaphysicum, contra physicum metaphysicus, physicus contra logicum; sed a prandio metaphysicus cum metaphysico, physicus cum physico, logicus cum logico. Mane item metaphysicus, a prandio physicus unam aut alteram conclusionem confirmabit breviter et philosophice." Miranda, *op. cit*., p. 143.

[463] No mention is made of the there being a master or reader in mathmatics in the annual letters of the Colégio de Macau. In the annual letter of January 29, 1603 we can read that: "Dos sacerdotes lém Theologia dous, Casos de Consciencia dous, Philosophia hum, Humanidade outro." João Paulo Oliveira e Costa (direction and introductory study) and Ana Fernandes Pinto (paleographic transcription), Cartas Ânuas do Colégio de Macau (1594—1627), Macao, Comissão Territorial de Macau para as Comemorações dos Descobrimentos Portugueses, 1999, p. 95. However, it is certain that courses in mathematics were offered in the Macao College by Giulio Aleni (1582—1649.6.10) between 1606 and 1608, when Ferreira was already a theology student.

an exposition of a treaty on the sphere into his natural philosophy course.[464] Moreover, he seems to have learnt Japanese.[465] At that time the *Colégio* had a few Japanese students. Ferreira inescapably made acquaintance with many and most certainly became close with a few of them. As a second year student of philosophy he had two Japanese as classmates[466] and another six, including the widely traveled *irmão* Ito Máncio and *irmão* Nacaura Julião,[467] were taking moral theology in the class in the adjoining

[464] This possibility was foreseen in the *Ratio Studiorum* in the "Rules for the Professor of Philosophy", § 10.2, and had happened, for example, just ten years before in the Amakusa College. In 1593 Pedro Gómez composed a *Compedium* in three parts based on the course he taught there. The first part was a typical treaty on the sphere. This *Compedium* in Latin would soon be translated into Japanese, and with some small adjustments its section on natural philosophy would become the *Nigi Ryakusetsu* 『二義略説』 of Kobayashi Kentei. It was also possible that a missionary proficient in mathematics, even when still a student, might have given private classes. For example, Father De Ursis was in the *Colégio* during Ferreira's last year of philosophy: "P. Sabatino de Ursis, Italiano, de Lechi, de 29 annos de idade, da Companhia 6, de medíocres forças. Ouvio hum anno de mathemática. Acabou os estudos de philosophia, e vai no 3. anno de theologia," *Catálogo das Informações Commuas dos Padre e Irmãos do Collégio de Macao, feito a 25 de Janeiro de 1604*, Schütte, *op. cit*., p. 486. As Ursis was in the Colégio he might have given private classes in mathematics. We know that, for example, private classes of theology where held in the same college just a few years before. However there there is no documental proof he actually delivered them.

[465] See Dauril Alden, *The Making of an Enterprise: The Society of Jesus in Portugal, Its Empire, and Beyond, 1540-1750*, Stanford, Stanford University Press, 1996, p. 136.

[466] They were irmão Xiquimi Martinho and Irmão Miocuchi Máncio, according to the *Catálogo das Casas e Residências que tem a Companhia na Viceprovíncia de Jappão e China em Outubro de 1603*, Schütte, *op. cit*., p. 420. In the first year there was a third Japanese. This same catalogue notes that besides the five students taking the third year of philosophy in October 1603 there was a sixth student that had died the year before: "Estes cinco ouvem o 3º ano do curso, e outro Irmão japão que taõbém ouvia, morreo o ano passado." *Ibid*, p. 453. This brother was "o irmão João japão de ydade de 25 annos, e da Companhia 6; tinha vindo este irmão com outros de Japão a estudar neste Collegio Humanidade, e começou a ouvir a Logica; mostrava ter muyto boa abilidade; deu-lhe o mal de beixigas que nestas partes, assy como na India, são mais perigosa nos grandes que nos pequenos, e logo entendendo elle a doença se confessou geralmente, e se aparelhou pera morrer, pondo-se nas mãos de Deos com muita resignação. E assy o levou Nosso Senhor pera sy, a 9 de Janeiro de 602; era este irmão muito apresivel a todos, e muy observante nas regras; deixou-nos muitos edificados com sua paciença." Annual letter of the Colégio de Macau, January 29, 1603, João Paulo Oliveira e Costa (direction and introductory study) and Ana Fernandes Pinto (paleographic transcription), Cartas Ânuas do Colégio de Macau (1594—1627), Macao, Comissão Territorial de Macau para as Comemorações dos Descobrimentos Portugueses, 1999, pp. 95-96.

[467] Unlike most accounts about Japan that Europeans and Americans wrote in the 19th century, Jesuit reports of the 16th and 17th centuries usually gave the names of the Japanese in the Japanese word order, family name first, given or baptismal name second. In the same Jesuit reports European names were written in the sequence common in Europe. As already said, in this work the culturally more sensitive Jesuit procedure is followed.

room.[468] The scholastic progression of Ferreira during 1604 and 1605 is not clear. It would seem reasonable to assume that, being in the third year of philosophy in October 1603, he should have finished it in 1604, then started the theology course sometime later that year and then moved on to the second year by the end of 1605. However, he didn't. Either he took somewhat longer than the usual three years and finished the philosophy course only in 1605, or having finished philosophy in 1604 and having started theology in the same year, for some reason, he didn't progress up to the second year until 1606. Or having completed philosophy in 1604 he waited for about one year before beginning the theology course in 1605. What is certain is that in November 1606 he is listed as a "theólogo do 2º ano."[469] Illness and pastoral work are the two possible explanations for the three years between the beginning of his third year of philosophy and the end of his first year of theology. A prolonged and unreported illness, though improbable, cannot be ruled out as impossible even for someone who was consistently described as being in good health. Ministry or pastoral work, though, seems the more plausible explanation. Unlike the students of the Jesuit schools in Europe who were expected to do nothing more than study and pray, the students of the Colégio in Macau were expected and often asked to help with catechetical and various pastoral work in the city it was located.[470] One remaining possibility is the inability of the *Colégio* to offer a

[468] *Casos*, in the Jesuit parlance. See *Catálogo das pessoas da Viceprovíncia da China e Jappão, com os graos e offícios que têm, de Outubro de 603*, Schütte, *op. cit*., p. 454.

[469] In the *Catálogo dos Padres e Irmãos que Estão em Macau Anno de 1606. Feito em 15 de Novembro*, British Museum, Add. Mss. 9860, fl. 112-112v, 115-115v. In Schütte, *op. cit*., p. 496.

[470] Any catechical or pastoral work seems to have been facultative and provided academic work would not suffer from it, as the first annual letter written from it, on October 28, 1594, clearly explains: "E como este Collegio seja propriamente membro de Jappão, e feito para seu remedio, como se ve de todos estes fins, pareçeo ao padre visitador que convinha fazer-çe de tal maneira que não ficasse com nenhuã obrigação de acudir a igreja e a outros ministerios do povo de Machao, mas que a caza que tivemos neste China athe agora, en que estão ordinariamente des athe doze dos nosos vivendo com as esmolas do povo, ficasse com este carrego como athe agora teve, e o Collegio ficasse somente como menbro de Jappão entendendo como a criação dos nossos e com as escolas que para os mesmos nosos são neçesarias, e ajudasse tambem o povo sem nenhuã obrigação, vivendo de sua renda sem lhe fazer nenhum agravo, e tambem ajudaçe a casa nos ministerios da igreja quando e quanto pudecem sem nenhum detrimento de seus estudos." João Paulo Oliveira e Costa (direction and introductory study) and Ana Fernandes Pinto (paleographic transcription), *Cartas Ânuas do Colégio de Macau (1594—1627)*, Macao, Comissão Territorial de Macau para as Comemorações dos Descobrimentos Portugueses, 1999, p. 61. However students were active in the ministeries of the society: "E deixando as cousas ordinarias das pregacões que se fazem na nossa e outras igrejas da cidade, acodir-se aos dous hospitaes dos lazaros e dos doentes comuns, indo muitas vezes padres e irmãos theologos, e outros a lhe praticar, consola-los confesa-los e servi-los, e da doutrina christã que hum padre faz os domingos a tarde." Annual letter of January 2, 1615, *Ibid*., p. 140. Another list is given in the annual letter of December 31, 1621, of the same college: "Os

theology course starting in 1604, perhaps because of a lack of instructors.[471] However this hypothesis can be easily dismissed by noting that Diogo Carvalho, who in October

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mais sojeitos que neste Collegio ficarão, todos estiverão bem occupados, porque alem de cada hum tartar de se aproveitar, e ir adiante no divino serviço com os meyos que a Companhia pera isso nos deu, todos se occuparão em aproveitar ao proximo conforme nossos ministerios qual pregando, qual fasendo doutrinas, qual ouvindo confições, qual compondo os desunidos, qual acudindo as miserias dos pobres, as afflições dos escravos e liberdade das mal captivos, qual tratando da converção dos gentios chinas, que a esta çidade vem, por respeito de seus tratos e intereços, os quaes como andão tão empolgados nelle he difficultosa sua converção, e por mais que com elles fação, raramente se convertem, comtudo bautizarão-se este anno neste Collegio vinte adultos entre chinas e japões." *Ibid*., p. 235. See also the annual letter of January 8, 1618, *ibid*., p. 167, for a similar list of activities performed by the Jesuits in the college of Macao. For a description of the ministries the Jesuits were expected to undertake see O'Malley, *op. cit*.

[471] Fathers Balthasar Borges (1566—1604) and Francisco Pacheco (1567—1626) had taught the theology course for some years at least until January 1604. This can be inferred from the *Catálogo das Informações Commuas dos Padre e Irmãos do Collégio de Macao, feito a 25 de Janeiro de 1604*, where it is written that Borges "agora lê theologia," and that Pacheco "agora lee theologia". However Borges would die sometime later that year. Concerning P.e Francisco Pacheco the *Catálogo das pessoas da Viceprovíncia da China e Jappão, com os graos e offícios que têm, de Outubro de 603*, had already given the notice that "este ano há de ir a Japão." Actually, he went only in 1604, as can be seen in *Pontos do que me alembrar*, of Francisco Pírez: "Entra o anno de 604. Vai João Cayado por Capitão, ouve mui grossos ganhos. Nesta Nao foi o P. Francisco Pacheco, João Mateos etc. Forão estudar a língua a Vomura", Schütte, *op. cit*., p. 419. This can also be confirmed with the annual letter of the Macao College of January 27, 1604: "[O padre vizitador] nomeou para Japão doze *scilicet* o padre Francisco Luiz ministro deste Collegio, o padre Francisco Pacheco lente de Theologia, o padre João Coelho perfeito da igreja e procurador do Collegio, e tres irmãos theologos do 3.º anno acabado, e seis irmãos japões, que tinhão ouvido o Moral." João Paulo Oliveira e Costa (direction and introductory study) and Ana Fernandes Pinto (paleographic transcription), *Cartas Ânuas do Colégio de Macau (1594—1627)*, Macao, Comissão Territorial de Macau para as Comemorações dos Descobrimentos Portugueses, 1999, pp. 116-117. In the *Catálogo das Casas que a Companhia tem em Japão neste anno de 1606, e das pessoas que nellas morão*, Schütte, *op. cit*., p. 495, he is given as being in Osaka. Two entries in the *Catálogo …, de Outubro de 603* suggest that the substitution of Borges and Pacheco had already been planned: "P.e Zacharias Campioni, substituto na theologia, e pera o ano a há de ler, como se forem os mestres pera Japão. – Italiano, não tem inda grao. P.e Francisco López, mestre do curso, que o acaba este anno, e há de leer theologia, depois de ir os mestres de cá pera Japão. Português, não tem inda grao." It is then probable that Campioni (1572—1606) and Lopéz took care of the theology course during 1604 and 1605 and that one of them guided Ferreira's first steps in the field. In 1606 Campioni left for Japan arriving just in time to celebrate the following day the arrival of Xavier in Kagoshima some 57 years before. Lopéz remained in Macao, but had been entrusted with other functions by November 15, 1606. In the *Catálogo dos Padres e Irmãos que estão em Macau anno de 1606. Feito em 15 de Novembro*, Schütte, *op. cit*., p. 496, two *padres* are listed as "lente de theologia": Manoel Dias (1560—1639) and Bastião Fernández (1569—1607). The first of these fathers must have led Ferreira in his theological excursions for some time because he is listed in the same functions in the *Catálogo dos Padres e Irmãos do Collégio de Macao do anno de 1608*, Schütte, *op. cit*., p. 511, and *Catálogo dos Padres e Irmãos que residem no Collégio de Macao, feito aos 15 de Janeiro de 609*, Schütte, *op. cit*., p. 513, where two "lentes de theologia," P.e Francisco Boldrino (1576—1633) and P.e Manoel Dias Junior are also listed. Any of them could have given classes to Ferreira, as could have P.e Domingos Gonçalvez (?—1611), listed as "substituto de theologia."

1603 was a classmate of Ferreira's during their third year of philosophy, was already in the third year of theology in November 1606.[472] In any case, it should be pointed out that any unjustified need for two years in order to finish the last year of philosophy, or of two years to complete the first year of theology would have cast a shadow over Ferreira's intellectual abilities and that would have been incongruent with the glowing evaluations made about him by his superiors and with his subsequent progress in the Society of Jesus. After this point the fog clears and he seems to have completed his theological studies by mid-1609. Ferreira was listed as *irmão* in several catalogs until 1608.[473] He is inscribed for the first time as *padre* on January 15, 1609.[474] Concerning the circumstances of his ordination no documental evidence has survived, but we do know that he celebrated his first Mass on December 25, 1608. Some weeks before this holy event, on November 30, he must have been a witness to the unedifying brawl between the crew of a Japanese red-seal vessel belonging to the Christian daimyo Arima Harunobu Protásio 有馬晴信 (Eiroku 10—Keichō 17.5.6, approx. 1567—1612.6.5) and the Macao Chinese population and Portuguese authorities.[475] Ordained and with his

[472] Although their evidence is weaker, this same conclusion may be drawn from the annual letters of the Colégio de Macau. There is a hiatus of five years between the letter of January 27, 1604 and that of November 11, 1608, but in both years there were two professors of theology teaching. In the first we can read: "lem Theologia dous padres", João Paulo Oliveira e Costa (direction and introductory study) and Ana Fernandes Pinto (paleographic transcription), Cartas Ânuas do Colégio de Macau (1594—1627), Macao, Comissão Territorial de Macau para as Comemorações dos Descobrimentos Portugueses, 1999, p. 115; in the second it is written: "[h]ouve duas lições de Theologia Especulativa," *ibid*., p. 126. However, coupled with the information about Diogo Carvalho, this is enough to conclude that Ferreira *could* have started theology at the end of 1604. Therefore he was too ill or too busy to be able to do it.

[473] Besides those already mentioned see: *Catálogo das Informações Commuas dos Padre e Irmãos do Collégio de Macao, feito a 25 de Janeiro de 1604*, in Schütte, *op. cit*., p. 487: "42. Irmão Christóvão Ferreira, Português, de Torresvedras, do arcebispado de Lisboa, de 24 annos de idade, da Companhia 7, de boas forças. Vai no derradeiro anno de philosophia"; also the *Catálogo dos Padres e Irmãos do Collégio de Macao do anno de 1606*, British Museum, Add. Mss. 9860, fl. 117-117v, collected in Schütte, *op. cit*., p. 511, lists Ir. Christovão Ferreira in the group of "Theólogos."

[474] "P.^{e} Christóvão Ferreira, theólogo do 4.^{o} anno," *Catálogo dos Padres e Irmãos que Residem no Collégio de Macau, feito aos 15 de Janeiro de 609*, Lisboa, Biblioteca Nacional, Fundo Geral, Mss. C. 29 n. 1. Collected in Schütte, *op. cit*., p. 514.

[475] Red-seal vessel, or *shuin-sen*, was the name given to the vessels of Japanese or of foreign residents in Japan who had received a red-sealed permit, or *shuin-jō*, for overseas navigation and trade. Concerning Japanese foreign trade in the sixteenth and seventeenth centuries, especially that that was handled by the *shuin-sen,* the works of Iwao Sei-ichi 岩生成一 are still the basic reference. See for example his *Shuin-sen Boeki-shi no Kenkyū*『朱印船貿易史の研究』, Tokyo, Kobundo 弘文堂, 1958. Harunobu is usually presented as exhibit A by the prosecution in the process of trying to prove that the Kyushu daimyo in

intellectual formation completed, he left Macao on May 16, 1609. The vessel he boarded was the *Nossa Senhora da Graça*, better known as *Madre de Deus*. His destination was Japan.

His goal was, according to what can be inferred from Genshō's preface, to "lead a life for the sake of Christianity." Ferreira arrived in Nagasaki on June 29, 1609.[476] He could not disembark immediately because the third Nagasaki Commissioner, Lord Hasegawa Sahioye Fujihiro 長谷川左兵衛藤広 (Eiroku 9?— Genna 3.10.26, approx. 1566?—1617.11.24), as an overture to the cat and mouse play that would later be known as the "Affair of the Madre de Deus", had demanded the right to station armed guards on the vessel, which was refused by the Captain Major André Pessoa as an unacceptable innovation on the traditional ways of doing business. After several rounds of negotiations Lord Hasegawa watered down his demands. This allowed the innocent Macao merchants, unable to understand the winds or interpret the clouds, to disembark and unload their merchandise. It also made it possible for the Jesuit priests to debark with their lay helpers. Ferreira went straight to the Arima seminary, thus losing the opportunity to observe first-hand the farce of the forced sale of the Chinese wares at low fixed prices, imposed on the gullible merchants by Lord Hasegawa, on the pretext that they were destined for Tokugawa Ieyasu. He also missed being a first-hand eyewitness to the ensuing drama. This would have its climax during the first days in January of the following year when the Portuguese vessel was attacked by a samurai force sent by Arima Harunobu and its finale when it was blown up on the orders of its own *capitão*.[477] The Arima seminary had been headed, for some weeks before Ferreira's

converting to Christianity had been moved more by temporal greed than by the wish for eternal profit. He was the second son of Arima Yoshisada André 有馬義貞 (Daiei 1– Tenshō 4.12.27, approx. 1521—1576.5.26). Having been named first Shigezumi 鎮純, he later took Shigetaka 鎮貴, Hisataka 久貴, Hisakata 久賢, and Masazumi 正純 as his personal names. He became lord of his father's fief when he was merely ten years old. Initially hostile to Christianity Harunobu converted in 1579. Afterwards he offered the Church almost unwavering support until he entered into conflict with the Macao merchants. He was beheaded on June 5, 1612 after being accused of usurping some shogunal land adjoining his territory.

[476] About Nagasaki during this period see Helena Margarida Barros Rodrigues, *Nagasaki Nanban. Das Origens à Expulsão dos Portugueses*, Master Thesis, Lisboa, Faculdade de Ciências Sociais e Humanas, Universidade Nova de lisboa, 2006.

[477] The classic reference for this incident is C. R. Boxer, *The Affair of the "Madre de Deus"*, London, Kegan Paul, Trench, Trubner & Co, 1929.

arrival, by Mateus de Couros (1568—1632).[478] The young priest's duties there were to polish the Japanese he had learnt in Macao and to assist in several chores. In mastering the idiom he was successful.[479] Teaching Latin was one of his duties.[480] It must have been a happy period in his life. Existence was peaceful and he was being coached to more active and fulfilling missionary activity. There he made some long lasting friendships. "But the good things of life last little, and covetousness is the root of all evil."[481] In June 1612 Harima Harunobu, who had until then been one of the patrons of the Seminary, soured by the Macao and *Madre de Deus* incidents, made the masters and pupils leave his fief. Most went to Nagasaki. Ferreira went to Kyoto.

His mission there was to continue the work of his predecessors, who, to borrow again from Genshō, had "used the teachings concerning the theory of Paradise and Hell, as well as works of charity and compassion, and because of these [teachings and works], the destitute and the simpletons, as the grass is bent down by the wind, lost their adherence to the heavenly truth." As the missionaries before him had taken the performance of "works of charity and compassion" seriously so must have Ferreira. "Works of compassion" are better described in Church terminology as the "corporal

[478] "Anno de nove pola Ascensão veo o P.^{e} Mateus de Couros por Reitor de Arima," *Pontos do que me alembrar*, by Francisco Pírez, Schütte, *op. cit*., p. 420.

[479] Ferreira is listed in the *Catálogo das Enformações Commuas dos Padres e Irmãos de Japão, Feito em Novembro do Anno de 1614*, Jap-Sin 25, fl. 91, between two Italians, Fathers Celso Confalonero and Camillo Constanço, with the following entry: "15. P.^{e} Christóvão Ferreira, Portuguez, natural de Torres Vedras, do arcebispado de Lisboa, de idade de 34 annos, e da Companhia 18, de boas forças. Acabou seus estudos de philosophia e theologia. Sabe bem a lingua de Japão, e prega nella mediocremente." Though he was already considered "fairly good" in 1614, the assessment of his preaching skills in Japanese would be upgraded shortly thereafter.

[480] The *Seminário* had three classes of Latin and an unspecified number of Latinists: "No Seminário em tres classes de latim e huma escola de ler e escrever sincoenta e oito [students]. + Mestres neste Seminário de latim, tecla e canto e officiaes de casa dez," *Catálogo dos Padres Irmãos e Casas desta Provincia, e ministros desta christadade de Japam*, dated October 1613, Jap-Sin 25, fl. 84v, collected in Schütte, *op. cit*., p. 550. That Ferreira was one of the Latinists can be inferred from the entry in the *Catálogo 1^{o} das Informações Cummuas dos Padres e Irmãos de Jappão, Feito em Junho de 1617*, Ajuda, 49-IV-66, fl. 106v, collected in Schütte, *op. cit*., p. 671: "15. P. Christóvão Ferreyra, Portuguez, de Torres Vedras, diocesi de Lisboa, annos de idade 37, da Companhia 21, forças boas. Ouvio philosophia e theologia. Leo latim hum anno. Sabe bem a lingua e prega bem nella."

[481] Padre João Rodrigues Girão S.J., *Relação da Queima da Nao Nossa Senhora da Graça de que Foi Capitão-Mor André Pessoa no Ano de 1610*, cited by C. R. Boxer, *Fidalgos in the Far East 1550-1770*, Oxford in Asia Historical Reprints, Hong Kong, Oxford University Press, 1968, p. 55

works of mercy," namely, feeding the hungry, giving drink to the thirsty, clothing the naked, visiting the imprisoned, sheltering the homeless, visiting the sick and burying the dead. Ferreira, like anyone else, anywhere and at any time, had ample scope to perform these activities in Kyoto in the 1610s. "Works of charity" correspond to the "spiritual works of mercy" that include admonishing the sinner, instructing the ignorant, counseling the doubtful, comforting the sorrowful, bearing wrongs patiently, forgiving injuries and praying for the living and the dead. Without a doubt he must have also had ample opportunities to engage in these areas.[482] As if these works of charity and compassion did not require considerable expenditure of time and energy, the missionaries were widely reported to have had the free time and penchant, wit and stamina, to engage actively in spreading the "teachings concerning the theory Paradise and Hell," the essence of which can be gleaned today from any of the several catechisms and doctrinal tracts with which the mission press had flooded the Japanese book market. Though there is no direct documental evidence it is probable that Ferreira, in his conversations, discourses, lectures and sermons did not limit himself to the eleventh heaven, *paraiso* in Japanese, but when appropriate would continue in his exposition with references to the *Primum Mobile*, *Christallinum*, *Firmamentum* and so on down to the Heaven of the Moon. Undoubtedly, given the interests of his audiences, second to *paraiso*, he would have paid special attention to the first and fourth Heavens. We can only guess how much he spoke about the spheres of the four elements, but without doubt enough attention was given to the geometrical, physical and spiritual properties of the center of the World. It is also possible that he took over the running of the Kyoto Academy. This Academy was a meeting place established by Carlo Spinola (1564—1622) for people interested in mathematics and their application to real world problems, from commerce to astronomy. It was frequented by, among others, Mōri Shigeyoshi 毛利重能 (*fl*. first half of seventeenth century) author of *Warizan-sho*『割算書』(1622), Yoshida Mitsuyoshi 吉田光良 (Keichō 3 — Kanbun 12.11.21, approx. 1598 — 1673.1.8) author of *Jinkōki*『塵却記』(1627), Tahara Yoshiaki 田原嘉明 (*fl*.

[482] For the basic reference on social work as developed by the Christian church and its adherents in sixteenth and seventeenth century Japan see Ebisawa Arimichi 海老沢有道, *Kirishitan no Shakai Katsudō Oyobi Nanban Igaku*『切支丹の社會活動及南蠻醫學』, Tokyo, Fuzambo 冨山房, 1944. A more recent study by João Paulo Oliveira e Costa is "The Misericórdias among Japanese Christian communities in the 16th and 17th centuries", *Bulletin of Portuguese Japanese Studies*, vol. 5, 2002, pp. 67-79.

17th century) author of *Shinkan Sanpōki*『新刊算法記』(1652), Momokawa Chūbei 百川忠兵衛 (Tenshō 8 — Kan'ei 15.9.24, approx. 1580 — 1638.10.31) author of *Shinben Shosanki*『新編諸算記』(1655), and Fujioka Shigemoto 藤岡茂元 (*fl*. seventeenth century) author of *Sangenki*『算元記』(1657).[483]

Genshō had no doubt that these activities had but one objective and that they followed one master plan. "The Barbarian priests seizing the favorable opportunity took control of the events, planned to take over the country and to destroy national customs."[484] The favorable opportunity had been given to the foreigners through the internal loss of law and morality. "To the misfortune of Japan, towards the end of the Ashikaga decadence, the Law of the Court fell, the shogunate lost its power, all the lords fought each other, the people fell in pain, and there was neither a righteous sovereign above nor moral warriors below." The loss of law and morality could only cause disaster.[485] "Reaching this state of affairs the nation was on the brink of destruction, calamity happening upon calamity."[486] Thus "from the crevices" the Barbarian priests would creep in. They "saw the destruction, brought in their religion

[483] For the relationship between these *wasanka* and Spinola and other missionaries see Hirayama Akira 平山諦, *Wasan no Tanjō*『和算の誕生』, Tokyo, Kouseisha-Kouseikaku 恒星社厚生閣, 1993. Easily available modern editions of the mentioned works are the following. For *Warizan-sho* see Nihon Shusan Renmei 日本珠算連盟 (ed.), annotated by Yamada Yoshio 山田孝雄, *Warizan-sho*『割算書』, Tokyo, Nihon Shusan Renmei 日本珠算連盟, 1946, or Nishida Tomomi 西田知己 (ed.), *Warizan-sho*『割算書』, Tokyo, Kenseisha 研成社, 1991. The *Jinkōki* is reproduced in Ōya Shin-ichi 大矢真一 (ed.), *Jinkōki*『塵却記』, Tokyo, Iwanami Shoten 岩波書店, 1977. The *Shinben Shosanki* was recently re-edited by Suzuki Hisao 鈴木久男, "Shinben Shosanki"「新編諸算記」, in Shimodaira Kazuo 下平和夫 (ed.) *Edo shoki wasan sensho*『江戸初期和算選書』, vol. 4, no. 1, Tokyo, Kenseisha 研成社, 1994. The *Sangenki* can be found in Kitamura Kazue 北邑一惠 and Ueno Naoyuki 上野尚亨 (ed.), *Sangenki*『算元記』, Tokyo, Kenseisha 研成社, 1991.

[484] This, and all other citations attributed to Genshō in this chapter are from his long preface to the *Kenkon Bensetsu*, which is can be found in Chapter VI.

[485] According to Lu Jia (?— 170 BC), learning is necessary to understand law and morality, and law and morality necessary to preserve harmony and properity: "When rites and rightness were not practiced and regulations and disciplines were not maintained, succeeding generations became weak and decadent". See excerpt in Chapter VII below.

[486] How Japan's fall into anarchy was reported in one major Western source is described in João Paulo Oliveira e Costa, "Die Politische Einigung des Japonischen Imperiums in der 'Historia de Japam' von Luis Frois," *ABP – Zeitschrift zur portugiesischsprachigen Welt*, Köln, no. 1, 1998, pp. 27-37.

and took aim at the country." Everybody seemed unaware. "[T]hose that were aware of the criticality of the moment did not exist." But virtue shines even in the darkest moments of unlawfulness and immorality. In the same way Heaven punishes the unbecoming behavior of sovereigns with their fall, it rewards the virtuous prince with enthronement. Thus, it was only as a reflection of the wishes of Heaven that "[t]he lords wished the return of the House of Matsudaira." Some time after Sekigahara, with the return of the House of Matsudaira headed by Ieyasu, "the earlier and true feelings of the Barbarian priests were made clear to the realm, that is to say that the state strictly prohibited the Christian Law, and this was a rigorous order."

This rigorous order was considered, by the shogun and his military bureaucrats, to be in the interest of the state and necessary for its preservation. For the missionaries it was persecution, brutal and senseless. Since shortly after the arrival of Xavier in Kagoshima and up to the middle of the twentieth century Christianity would live a constant "Three Wu and One Tsung."[487] Now it was the time for Japanese Christianity's third Wu. Like the first two Wu in China, previous persecutions had been local affairs. Like the third Wu this persecution extended to the whole country; like it, the visible institutions of the persecuted religion would be permanently crippled and virtually wiped out. The edict was made public on January 27, 1614, and commanded, among other things, foreign missionaries to leave the country.[488] Ferreira, who was in Kyoto at the time, disobeyed the order, undoubtedly because he thought that it was an unjust law that required lawful disobedience.[489] He made himself inconspicuous and continued his

[487] "These refer to persecutions [of Buddhism] under three Emperors who are known by the same posthumous name, Wu-tsung, and one known as Shih-tsung. The first was in the year 446 under Wu-tsung of the barbarian dynasty of Northern Wei; the second in 574 under Wu-tsung of the barbarian dynasty of Northern Chou; the, next, […], under Wu-tsung of the T'ang; and the last in 955 under Shih-tsung of the short-lived Later Chou." Edwin O. Reischauer, *Ennin's Travels in T'ang China*, New York, The Ronald Press Company, 1955, p. 217.

[488] An English translation of this edict can be found in the transcript of the observations made by Ernest Satow "upon the causes which lead to the downfall of the Christian Mission in Japan" on the general meeting of the Society held on Saturday, October 27, 1877, as recorded in the *Transactions of the Asiatic Society of Japan*, vol. 6, 1878, pp. 46-48.

[489] Foreigners, as well as nationals, owe obedience to the laws of the country. Members of the Japanese Mission, both foreigners and nationals, also submited to the laws and costums of Japan. However, Christians have traditionally interpreted the duty of obedience to legitimate superiors as as being valid insofar as it does not violate natural or divine precept. In the catechism *Doctrina Christam*『どちりなきりしたん』, published in *Nagasaqvi ex officina Gotô Thome Sôin typographi Societatis Iesv*, in 1600, written in

work. His industry, restricted by the circumstances to priestly activities, earned him high praise from his superiors.[490] One of his priorities must have been the strengthening of the lay organizations, the *confrarias*.[491] For already some time, the missionaries had been creating and fostering these lay associations, possibly in a prevision of a church with even fewer priests in the near future. It would be a vain effort: in less than one generation these church structures would be wiped out in central Japan. Having remained in the capital wishing to give spiritual help he received material help. Among others, Kuroda Shichirō 黒田七郎 (*fl*. early seventeenth century), a nephew of Kuroda Nagamasa Damião 黒田長政 (Eiroku 11.12.3 — Genna 9.8.4, 1568.12.21 — 1623.8.29), the Daimyo of Chikuzen-Hakata, lent him a helping hand. So did Maria, the widow of Kuroda Naoyuki 黒田直之 (1564-1609), baptized Miguel, sister-in-law to Nagamasa.

Although the sovereign power in Japan had proscribed Christianity before, never had earlier prohibitions been strict orders. This time it was different. All the organs of the state were directed to pursue policies to ensure the eradication of the Christian religious threat. In due time the approach followed began to bear fruit. Thus Genshō

Japanese script, in *fl*. 29 the following can be read: "Master: Should also orders by Father and Mother, Master and those in position of authority to do what is a sin to be followed? Disciple: Obedience to the orders by Father and Mother, Master and those in authority is due when there is no sin involved. It does not apply when there is incitement to disobey the honorable Commandments of *Deus*."「弟　ぶも志ゆ志ゞんつ可さ太る人与里と可ゞと奈る事をせ与といひつけら連んとき毛志多可ふべきや。 師　おや志ゆ志ゞんつ可さ太る人尓よく志多可ゞへといふ事ハと可ゞ尓奈らざる事をいハ連んときの事也　*Ds* の御おきてをそむき奉れといハ連んときの事尓ハあら寿ゞ。」For a discussion of how the issue of obedience arised in the intelectual and practical interaction between the Mission and the Japanese see the discussion in Elison, *op. cit*., pp. 44-53.

[490] See, for example, the letter dated March 3, 1616, of the vice-provicial Jerónymo Rodrigues to the Jesuit General, Madrid, Real Academia de la Historia, 2665, ff. 109-114, partly translated in Cieslik, *op. cit*., pp. 6-7.

[491] The case can be made that these organizations helped to keep the faith alive for over two hundred years in Kyushu, but to say that the church did subsist in them is to strech a point. On the other hand, in central Japan they seem to have been unable to survive the destruction of the hierarchical church. Concerning these lay associations see João Paulo Oliveira e Costa, "The Brotherhoods (*Confrarias*) and Lay Support for the Early Christian Church in Japan", *Japanese Journal of Religious Studies*, vol. 34, no. 1, 2007, pp. 67-84, and Kawamura Shinzō 川村信三, *Kirishitan Shito Soshiki no Tanjō to Hen-yō: "*Konfurariya" *Kara "Konfurariya" e*『キリシタン信徒組織の誕生と変容：「コンフラリヤ」から「こんふらりや」へ』, Tokyo, Kyobunkan, 教文館, 2003.

could write that "[a]fterwards the people of our country began to abhor the Barbarian religion and to know the wickedness of the Barbarian priests and thus became aware of the unrighteousness of the way of the Barbarian law and each one returned to the right path and was restored to the original state." Life became difficult for Christians and impossible for priests. "The gravest and most unpardonable crime here is to hide a priest" Ferreira would write some time later.[492]

In 1617 the internal affairs of the Jesuits in Japan required Ferreira in Kyushu. He arrived there around the end of the summer of that year. On October 1, 1617 he made his four vows. For the next four years he would serve the acting provincial, his old friend and mentor Couros, as secretary and mission treasurer. Most of this period he would spend in Nagasaki or in the neighboring regions. Being in the full vigor of adult age he probably disguised himself as a Portuguese merchant or as a Japanese townsman.[493] Ferreira certainly started to observe curious signs in the heavens from around the beginning of 1618. From early that year ominous omens began to be observed all over Japan and were recorded by the dozens in annals, chronicles, diaries,

[492] Letter dated March 18, 1621, Jap-Sin 17, fl. 273, partially translated in Cieslik, *op. cit*., p. 9.

[493] The third possibility would have been to disguise himself as a retired gentleman as a letter by Mattheus de Couros, dated October 8, 1618, describes: "E porque as feições dos Europeos são muy differentes das dos Japões, posto que de ordinário somos conhecidos, todavia com nos disfarçarmos, e andarmos de noite, procuramos de acudir a nossos ministérios. De tres maneiras se disfarção os nossos Europeos. Aqui em Nangasaqui, como hé porto aonde cada anno vêm os navios de Macao e das Philippinas, dous ou tres Padres e dous Irmãos andão em trajos de Portuguezes honestos. Dos demais Padres, assi aqui como nas outras partes de Japam, huns andão com a barba e cabeça rapada e os trajos compridos como andão em Japam os que já professão vida quieta, deixadas as armas, ou a renda que posuhíam, a seus filhos morgados. Outros andão com o cabello crescido e atado a uzo de Japam, com hum terçadinho na cinta, como andam os seculares, e conformando-se cada hum aos lugares per onde descorre, e à gente com quem trata. Dos Padres e Irmãos Japoens quasi todos andão ou como rapados ou como seculares. O trajo de todos hé honesto e limpo, sem uzarem de seda, tirando os que aqui em Nangasaqui se vestem como Portuguezes, os quais trazem alguns vestidos de tafeta, que hé o somenos de que nestas partes uza a gente Portugueza. Os que se tratão como Japoens, comummente se vestem de algodão, posto que alguns por respeito dos lugares onde estam uzão de certo pano feito de borra de seda chamado *tçumugui*, de que se veste a gente honrada ordinária. Em todos estes trajos não há côr certa, como também a não há nos de Japam, posto que sempre os Nossos uzam da mais honesta." In the same letter Couros would name the *padres* then in Nagasaki: "Nesta Cidade de Nangasaqui fica ao prezente o P.^{e} Visitador Francisco Vieira, e o Provincial, com os Padres Consultores Carlo Spínola; João Baptista de Baessa, também meu Admónitor; Sebastião Vieira e Christóvão Ferreira. Estam também aqui dous Padres Japões: [Quimura] Bastiam e [Yyo] Sixto." Schütte, *op. cit*., pp. 793-794.

and memoirs of court bureaucrats, Buddhist monks and town merchants.[494] Some were observed as far as India, the Spice Islands, the Philippines and Mexico. The reaction to these events, whether interest, fear or indiference, the explanations given to them and how they were integrated in a broader vision of the reality, are one of the most interesting of subjects of cross-cultural studies. They will serve, for the present, to illustrate how people living closely together but with diferent cultural backgrounds reacted to heavenly phenomena and extraordinary earthly occurences.

One of the most spectacular was a comet that became visible over Manila, Nagasaki, Kyoto and Edo late in October 1618.[495] In one letter it was written that "[o]n the eleventh of November, 1618, at three o'clock in the morning, a comet was seen from this city of Manila. It had a tail, was silver-colored, with a slightly ashen tinge, and had an extraordinary form. At first it was like a trumpet, and then like a catan (which is a weapon peculiar to Japon, resembling the cutlass), with the edge toward the southwest; and at the end it appeared palm-shaped. The declination of the southwestern end was twenty degrees south. At first its length was equal to the whole of the sign of Libra, with which it rose. Eight days afterward, the declination of the southwestern end was twenty-four degrees and thirty minutes south. At this time the head was thirty-one degrees south, and the lower point, or end of the tail, eight degrees from the star called Spica Virginis. No star exhalation was seen, although some say that they saw a very small one. On the twenty-fourth of November another tailed comet appeared, even more beautiful and resplendent than the first. At its head was a burning star. It appeared in the

[494] A sample of these are reproduced in Tokyo Daigaku Shiryō Hensan-jo 東京大学史料編纂所編纂 (ed.), *Dai Nihon Shiryō*『大日本史料』, vol. 12 (29), Tokyo, Tokyo Teikoku Daigaku 東京帝國大學, 1929. See also Kojima Yukie 小島幸枝, *Nagasaki Daikan Murayama Tōan: Sono Ai to Junan*『長崎代官村山等安—その愛と受難—』, Nagasaki, Seibo no Kishi-sha 聖母の騎士社, 1989, pp. 8-35.

[495] In fact it was viewed all over the world but we'll concentrate on the reports of people in Japan or with close contacts with Japan. This comet was in fact one of the most important comets in the history of science, and this for two reasons: it was the first time that a comet was observed after the development of the telescope by Galilei Galileu (1564.2.15—1642.1.8); it was also the first time that an international network of knowledgeble men spread over the world observed a celestial portent, recorded their observations and shared them. The knowledgeble men were the Jesuits; their records, some of which are presented next, were compiled by Giovanni Battista Riccioli (1598.4.17—1671.6.25) in *Almagestum novum astronomiam veterem novamque complectens observationibus aliorum, et propiis novisque theorematibus, problematibus, ac tabulispromotam, in tres tomos distributam quorum argumentum sequens pagina explicabit*, Ex typographia Haeredis Victorii Benatii, 1651. For an evaluation about Riccioli scientific work see Alfredo Dinis, "Giovanni Battista Riccioli, Crítico de Galileu", *Revista Potuguesa de Filosofia*, vol. 54, no. 2, 1998, pp. 163-193.

east. It had a declination of eight degrees, and it pointed southwestward to the sign of the Scorpion, which is the sign of Manila. They write from Japon, Maluco, and India that they were seen in those places."[496]

The Portuguese *capitão* of a trade vessel then in Nagasaki, Luís de Figueiredo, also wrote about this comet: "On the 28th day of the lunar calendar [the comet] has appeared larger than in the previous ten days, very bright and beautiful with four dazzling stars, very colorful, in the shape of a cross. After four or five days, above Mount Mongu, which is about one league from Nangasachi, a globe of fire was seen

[496] Emma Helen Blair and James Alexander Robertson (ed.), *The Philippine Islands, 1493-1898: explorations by early navigators, descriptions of the Islands and their peoples, their history and records of the catholic missions, as related in contemporaneous books and manuscripts, showing the political, economic, commercial and religious conditions of those Islands from their earliest relations with European nations to the beginning to the nineteenth century*, vol. 18, Cleveland, The Arthur H. Clark Co., 1904, p. 224-227. This passage is reproduced in *Dai Nihon Shiryō*, vol. 12(29), p. 57, without reference to the author of the letter. The Italian version of this letter was printed as follows: "Qvesto anno pare, che si siano congiurati il Cielo, la Terra, e tutti gli Elementi, mostrando in queste parti più Orientali horrendi prodigij, e segni, quali già molti secoli non si sono veduti. Onde con molta ragione si può temere, che siano presagij di grãdissime riuolutione, si come è stato de molti anni a dietro pronosticato douere accadere l'anno del 1620. E per dir qualche cosa delle due comere Orientali, che per tutto Nouembre l'vna dopo l'altra sono apparite nello stesso mese, come cose li più nuoue, e graui, che in questi tempi si siano vedute, per poter poi passare a quello, che più fa a nostro proposito. Si deue sapere, che à gli 11. di Nouembre dell'anno 1618. sù le 10. hore fu veduta in questà Città di Maniglia vna Cometa verso Oriente codata di colore argentino pẽdente nel cenerognolo di straordinaria figura; perche al principio sembraua vn cornetto; poco dopo vna scimitarra, o nanghinata Giaponese, che volgeua il filo à mezzo giorno, e la punta à Tramontana. Alcune volte figuraua vna palma, la cui lunghezz correua venti gradi dalla linea meridionale. La larghezza al principio copriua il segno della Libra, con cui formaua vna Croce. In termine di otto di, li 9. del mese scorreua inlungo verso mezzo giorno gradi 24. e 30. minuti, e s'allontanaua della stella, che stà nella spiga della Vergine in punta di sopra gradi 31. in quella di sotto 18. A 26. del mese si trouò larga la parte soprana gradi 46. e la sottana 29. Ilche habbiamo voluto dire, acciò si ritragga il moto regolato di detta Cometa. Non si è veduta stella ò esalatione, d'onde ella fusse originata; benche diceuano alcuni di vedere vna stella piccoletta. Maniglia è a Tramontana in 14. gradi, e 40. minuti. Dalle Fortunate, onde cominciò Tolomeo si di lunga 19. gradi. Dalla Città del Mexico 103. E tanto basti per vna digrossatura di cognitione; la qual si douerà hauere altroue più esatta, e piena. Sabbato a 24. dello stesso mese comparue vn'altra Cometa codata più bella, e risplendente, che la prima con la pendice d'vna stella fiammeggiante; Fù veduta, che da Oriente strisciaua verso mezzo dì in 8. gradi. Durorno queste due Comete circa trè mesi e si sono vedute ancor nel Giapone con l'istesse figure, si come n'hanno scrito I nostri Padri, che iui stanno. Alcuni affermano essere stata veduta la prima li 8. di Nouembre; il che ci viene scritto ancora dalle Moluche." *Lettere Annve del Giapone, China, Goa, et Ethiopia: Scritte al M. R. P. Generale della Compagnia di Giesu. Da Padri dell' istessa Compagnia ne gl' anni 1615, 1616, 1617, 1618, 1619. Volgarizate dal P. Lorenzo delle Pozze della medesima Cempagnia*. Milano, Appresso l'her. di Paeifieo Pontio, & Gio. Battista Piccaglia Stampatori Archiepiseopali, 1621, pp. 332-333.

that rose and six minutes later divided itself into several parts, and emanating great flames it burned out."[497]

João Rodrigues Girão (1559—1629.10.15), then in Macao, mentioned in one letter: "atemorizados, os mercadores desta çidade com dous cometas que aqui appareçerão o anno passado, com os frequentes & extraordinarios terramotos que durarão por muyto tempo, e com alguãs mortes repentinas que nelle ouve, entrarão muitos em si, e se poserão bem com Deos".[498]

A prominent *kuge*, or court official, Nishi no Tōin Tokiyoshi 西洞院時慶 (Tenbun 21.11.5 — Kan'ei 16.12.20, 1552.11.20 — 1640.2.11), wrote in his diary: "Genna 4.10.1[499] Clear sky. Deep frost. Observed sky at dawn. Something like a

[497] "Il dì 28. della Luna ella apparue la mattina maggiore di quello che che era dieci giorni prima apparita molto chiara, e bella con quattro stelle risplendenti, e colorite intorno, in forma di Croce. Quattro, o cinque giorni dopo sopra la montagna Mongu vna lega distante da Nangasachi, fù veduto vn glolbo di fuoco, che salendo in altezza, come parue, di sei picche s'aprì, e si diuise in varie parti, e mandando fuori gran fiamme si consumò." The "28. della Luna" refers to November 15, 1618. The letter in which this interesting account appeared continues on as follows: "A 15. di Febraio, nel qual giorno cascò la notte dell'anno nuouo de Giaponesi; molti Portughesi, e tutti noi altri in Nangasachi vedemmo vn gran fuoco nel Cielo verso l'Oriente in tanta immensità che pareua si fusse attaccato fuoco a gli stessi Monti, come suole accadere. E dopo vn'hora e mezza, che durò mancando restò vna certa luce della pallidezza dell'alba, da cui vsciua vna molto bella colonna. La medesima notte dalla parte stessa comparuero vndeci fuochi, de quali altri ascendeuano, & altri scendeuano, altri trè sene viddero verso Tramontana. Nella Città di Yendo, ehe è Corte dell'Imperatore apparue vna Cometa in figura di Nanghinata, che e vna sorte di scimitarra Giaponese, nel cui piede si formaua vna Croce perfetta; della quale restò l'Imperatore sì impaurito, che essendo di partenza alla volta del Meaco, differì per all'hora il viaggio. E si dice che per questa sola cagione chiamò il Piloto Inglese, che già molti anni quiui dimora; e gli domandò che cosa dinotassero questi prodigij, Rispose colui la maggior parte esser segni di guerra: ma che ella sarebbe in Europa. Hebbe l'Heretico buonissima occasione per intimargli che erano segni minacciosi del Cielo gastigo a lui preparato da Dio per essere egli della di Cristo persecutore; ma egli non ne face altro, per essere inimico capitale Cattolici. Affermano per cosa certa che si sono veduti in Macao trè Soli in vno stesso giorno. Quello che hò veduto io stesso, sono le stelle a mezzo dì, lucendo il Sole chiarissimo. Tutto il detto è copia della lettera del Capitan Lodouico sopranominato. Nel Meaco ancora sono state vedute cose simili a queste; & in particolare si scriue, che nel Palazzo del Dairì legitimo padrone del Giapone, (perche I Signori della Tenza altro veramente non sono che Capitani generali di esso.) Ma già sono molti anni, che è seguita questa mutatione; restando a questo Dairì solamente il carico di compartire le dignità, ancora a gli stessi Rè del Giapone." *ibid*., pp. 338-339.

[498] Annual letter of the Macao College, of December, 28, 1619, João Paulo Oliveira e Costa (direction and introductory study) and Ana Fernandes Pinto (paleographic transcription), *Cartas Ânuas do Colégio de Macau (1594—1627)*, Macao, Comissão Territorial de Macau para as Comemorações dos Descobrimentos Portugueses, 1999, p. 205.

[499] This date corresponds to 1618.11.17 on the Gregorian calendar.

rainbow about ten *jō* above Nagatatsumi-no-yama. Its significance is strange. One of the household wakes up and observes this. Even after the night dissipates its brilliance remains. Inquiries reveal afterwards that this has been happening for some time."[500]

It was not only Philippine priests, Portuguese seamen and Japanese court officials who observed these phenomena. A practical English businessman, then in Edo, wrote down in his journal: "November 7.— I forgot to note downe that there was a comett (or blasing star) which hath appeard this 5 or 6 daies som hower before day, easterly, a littell to the southwards; but it is so neare the sunne that we could see nothing but the teale, yt being of a hudg leanght, and doth, by littell and littell, draw to the westward, sotherly."[501] One cannot but help wondering about what was going on in the head of the English cape-merchant to make him forget to note down something with a "teale of a hudg leanght" that was being talked about by everyone in town—so much for British empiricism and for English attention to nature. "November 8.- We dyned at King of Firandos brothers, where we were kindly entertayned, and I carid him a barso of wyne and a fresh salmon for a present. The people in this place did talke much about this comett seene, that it did prognosticate som greate matter of warr, and did ask me whether such matters did happen in our cuntrey, and whether I knew what it did meane or would ensue therof; unto which I answered that such many tymes have byn seene in our partes of the world, but the meanyng therof God did know and not I."[502]

It is doubtful that Ferreira would have given a similar answer to the same question. Most probably he would have begun by explaining, using Aristotelian theories learned in Coimbra and Macao, how comets originate.[503] Then, it is possible that he

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[500]「元和四年十月一日、己辰、天晴、霜深シ。暁星ヲ見、長巽ノ山ヨリ上十丈計、如虹、恠[異]ノ義ナリ、家中者起而被見之、夜明テ後モ未光殘也、後ニ聞シハ早久在之ト、」, *Tokiyoshi Kyōki*『時慶卿記』, vol. 46, cited in *Dai Nihon Shiryō*『大日本史料』, vol. 12 (29), p. 765. One *jō* corresponds approximately to 3.030 meters. In this Japanese citation, and in those other which appear in the notes hereafter, *yomigana* and *okurigana* are omited, and *kaeriten* are writen in small type on the floor of the line.

[501] N. Murakami, *Diary of Richard Cocks, Cape-merchant in the English Factory in Japan, 1615-1622, with correspondence*, Tokyo, Sankōsha, 1899, vol. 2, p. 93. Cocks, as most Englishmen of his time, was using the Julian calendar. In the Gregorian calendar this date corresponds to November 17.

[502] *Ibid*., pp. 93-94.

[503] Some time later he would write: "Because of the light and shade of the Sun and the suction by the large number of stars, there is moisture &tc that ascends from the two elements earth and water. Because

would have added that these portents were a sign of Heaven's displeasure with the ongoing anti-Christian policies and of the impending disasters if the persecution did not end.[504]

Though with a nuance, this interpretation would be similar to that given by Tsuchimikado Hisanaga 土御門久脩 (Eiroku 2? — Kan'ei 2.1.18, approx. 1559? — 1625.2.24): "On the twelfth of this month, at the time of the Tiger, a blazing star appeared on the direction of the Snake.[505] Its color was white, its tail had about one *jō* of length. As is said in the *Tenmon-roku* 'From the direction of death a blazing star becomes a flag for Heaven and Earth. From the place devoid of life all changes in the stars are the reason for old clothes being thrown away and new styles coming into use.' It also says 'Blazing stars show the Sovereign's loss of government.' All diviners say 'It happens that while a blazing star keeps guard the Sovereign will lose the realm in three years.' As the *Tenmon-roku* says 'Below the place a blazing star appears there is death from warfare and pestilence.' All diviners say 'When a blazing star shoots through the star king of the east, then the eight commotions and the five fates occur, the peasants are unsettled and that country loses its territory in three years' time.' As the *Kansho* says 'When a blazing star appears in the east, the General Commander of the Army will kill the Sovereign of the people.' Prudence should be exercised. Genna 4.10.14. [signed:] Superior Fourth Rank Astronomy Doctor Kensaemon no Suke, Minister Abe Ason

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they become light and floating they ascend to the middle of air. Thus because the nature of humidity gets warmer and dryer it becomes lighter and floating, [and] goes up to the upper strata of element air. When it arrives to the vicinity of the element fire it happens that it gets inflamed. This is what is usually called a comet."「日輪の景影と衆星の牛羊とを以て、地水の二大より上騰する濕氣其品々有て、何れも浮輕なるが故に、風中へ上騰すと云ども、とりわき濕の性氣熱燥して浮輕成る故に、上部の風大迄上騰して、火大のほとりに至る時、炎上せらるゝことあり、俗是をはうき星と云也、」, *Kenkon Bensetsu*, book 1, paragraph 7; see Chapter VI. An explanation of similar content, but more detailed, can be found in Pedro Gómez, *De Sphaera*, Secunda Pars, Caput 3, § 1, fl. 28v-29v.

[504] Or, as the letter cited in note 39 above puts it, "erano segni minacciosi del Cielo gastigo a lui [the shogun] preparato da Dio per essere egli della di Cristo persecutore." Also, "est autem cometa signum commotionum, bellorum, famis etc," Pedro Gómez, *De Sphaera*, *fl.* 29.

[505] The "hour of the Tiger" lasts from 3 a.m. to 5 a.m. The "direction of the Snake" corresponds roughly to south-southeast.

Hisanaga. As it is also said, [at the appearance of] a pure gold white comet the minister fights authority and cuts the Sovereign and family ministers."[506]

These signs in the Heavens, together with others in the waters and on the land would continue for some time. Most people at the time, Japanese and foreigners, interpreted them as foreboding ill for the shogun and for his government. Thus it is easy to understand the report that "when the emperor was about to go to Meaco, a comet like a handled catana [i.e., sword], with a very beautiful cross in its head, appeared above his fortress of Yendo. This caused him so much fear and consternation that he gave up his journey entirely."[507] The idea, originated in the Chinese School of Naturalists around the third century B.C. that the dynastic, or political, cycle followed the natural cycle of the five agents [508] was very much alive in the consciousness of the Japanese intelligentsia, being shared by most schools of thought, excluding Buddhists and Christians. Master Sū 騶子, or Zhou Zi as they call him in China (approx. 350 B.C.-approx. 270 B.C.), had said: "Each of the Five Virtues (Elements) is followed by one it cannot conquer. The dynasty of Shun ruled by the virtue of Earth, the Hsia dynasty ruled by the virtue of Wood, the Shang dynasty ruled by the virtue of Metal, and the Chou dynasty ruled by the virtue of Fire. When some new dynasty is going to arise, Heaven exhibits auspicious signs to the people. During the rise of Huang Ti (the Yellow Emperor) large earth-worms and large ants appeared. He said, 'This indicates that the element Earth is in the ascendant, so our colour must be yellow, and our affairs must be placed under the sign of Earth.' During the rise of Yü the Great, Heaven produced plants and trees which did not wither in autumn and winter. He said, 'This indicates that

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[506]「今月十二日、寅時、彗星出巳方、其色白芒光一丈餘、天文録云、劉向、彗星者天地之旗也、所生皆星之變、所以除舊布新象又云、彗星見君臣失政、巫咸曰彗星守房心間、天下有喪君亡不出三年、天文録曰、彗星出之下、兵流血大疫死、巫咸曰、彗星貫東辟右星、八變五運、百姓不安、其國亡地、不出三年、漢書曰、彗星出東方、將帥誅人主有愼矣、 元和四年十月十四日　從四位上行天文博士兼左得門佐臣安部朝人久脩　又云、白彗星金精、臣爭權、主斬族臣、」, *Gien Jūgō Nikki*『義演准后日記』, book 22. The manuscript of this diary, in thirty three volumes, is in the Kyoto University. This passage is also cited in *Dai Nihon Shiryō*『大日本史料』, vol. 12 (29), p. 769. Genna 4.10.14 corresponds to 1618.11.30.

[507] Blair and Robertson, *op. cit*., p. 216.

[508] *Gogyō* 五行, sometimes also translated by some authors as *five elements*, *five polarities*, or *five virtues*.

the element Wood is in the ascendant, so our colour must be green, and our affairs must be placed under the sign of Wood.' During the rise of Thang the Victorious a metal sword appeared out of the water. He said, 'This indicates that the element Metal is in the ascendant, so our colour must be white, and our affairs must be placed under the sign of Metal.' During the rise of King Wên of the Chou, Heaven exhibited fire, and many red birds holding documents written in red flocked to the altar of the dynasty. He said, 'This indicates that the element Fire is in the ascendant, so our colour must be red, and our affairs must be placed under the sign of Fire. Following Fire, there will come Water. Heaven will show when the time comes for the *chhi*[509] of Water to dominate. Then the colour will have to be black, and the affairs will have to be placed under the sign of Water. And that dispensation will in turn come to an end, and at the appointed time, all will return once again to Earth. But when that time will be we do not know.'"[510]

Thus it was natural that the above cited descriptions of the comet writen by Japanese would have as its central theme the *interpretation* of the phenomena, that is, what the comet would mean to the affairs of men? While Tokiyoshi, a laymen in astronomical matters admits his ignorance, noting down that "its significance is strange", Hisanaga a specialist in the matter offers a detailed prognostic deliberatly and carefully obscured through his erudition. We notice that Hisanaga's description is more detailed that Tokiyoshi, as would be expected from a professional: he mentions place, colour and dimension, while the latter mentions shape and place but in an almost meaningless way. The description of the Englishman is valuable for the lack of interest it reveals on his part on the subject and valueless as a description of the phenomenon. However it is also an important testimony to the interest that the Japanese around him showed concerning the matter: high ranking samurai were interested on the *significance* of the phenomena: do they mean war or peace? We notice here the need of the Japanese to relate what happens in the Heavens with what occurs on the Earth, as was already noticed in Chapter I. The Portuguese captain is allert to the phenomenon but his description is as imprecise as that of Tokiyoshi, even if in a more baroque literary style. The more

[509] *Ki* 氣, qi in the current Chinese transliteration, is translated variously as vigor, pneuma, subtle matter and matter-energy.

[510] Cited in Joseph Needham (with the collaboration of Wang Ling), *Science and Civilisation in China*, Vol. 2, "History of Scientific Thought", Cambridge, Cambridge University Press, 1956, p. 238.

precise description is the one made by the priest in the Philipines: it mentions colour, shape, describes changes of shape, it is precise about declination and associated constelation and careful in mentionig changes, and further, it does not convey any judgement about its *significance*. It is clearly the most valuable, from the scientific point of view, of the five reports and it certainly was written by a highly educated man. It is also one clear example of the separation that existed between celestial and earthly matters in the mind of many educated Europeans, what fits the tendency to consider each phenomenon as independent of the envolving environment.[511]

Curiously, at this same time there were also signs in the land and in the waters, signs of fire and signs coming from the air. There were earthquakes: "And, as we retorned, about 10 a clock, hapned a greate earthquake, which caused many people to run out of their howses. And about the lyke hower the night following hapned an other, this cuntrey being much subject to them. And that which is comunely marked, they allwais happen at hie water (or full sea); so it is thought it chanseth per reazon is much wind blowen into hollow caves under grownd at a loe water, and the sea flowing in after, and stoping the passage out, causeth these earthquakes, to fynd passage or vent for the wind shut up."[512]

One set of occurrences that happened just around the seat of power of Tokugawa Hidetada 徳川秀忠 (Tenshō 7.4.7 — Kan'ei 9.1.24, 1579.5.2 — 1632.3.14), was described as follows: "This year in Japon a great number of supernatural occurrences have been noted, particularly in the city of Yendo, which is the court of the emperor.

[511] Concerning European theories of the influence of heavenly bodies on what happens on the Earth see Luís Miguel Carolino, *Ciência, Astrologia e Sociedade: A Teoria da Influência Celeste em Portugal (1593-1755)*, Lisboa, Fundação Calouste Gulbenkian, 2003.

[512] This passage can be found in Cocks' entry for November 7, 1618. See Murakami, *op. cit*., p. 93. In Chūan's treatise one chapter (book 2, paragraph 14) would be dedicated to earthquakes. The explanations offered there were, though somewhat different in the details, basically similar to this reportedly traditional Japanese view: "[W]hat is called an earthquake, is element air blowing, running into and accumulating in the crevices of element soil so that it becomes hidden inside the earth. However, because the proper place of element air is above element water, air having reached this [place] tries to leave the interior of soil. When there is no available way to leave the interior of soil, it craves to rise strongly and the force it makes to leave makes the substance of earth vibrate."「地震と云は、土大の穴々より、風大吹冲して土中に伏藏す、然りと雖も風大の自己の所在は、地水の上なるが故に、風夫れに至らんとて土中を出んとす、其時土中より可レ出道なき時は、強て上騰せんと欲するに、其出來する性力にて、地體震動するもの也、」

First, in the river at Yendo they saw some very beautiful ships sailing against the current, a thing never seen there before, for the river is small, and navigable only by very small boats. Second, in the *patio* [*i.e.*, courtyard] of the palace, one day there was seen an animal larger than an ox and smaller than an elephant, whose species none could tell, as they had never seen such an animal before. They tried to kill it with arquebuses and arrows, but it disappeared. Third, in a hall of the same palace a large greyhound was found howling pitifully. This the Japanese took for a bad sign. They asked who had brought such a dog there, but no one could find out, because the guards had been at the door all the time. They tried to catch the animal and put it out, but it became invisible to them. Fourth, in the quarter [*vario*, for *barrio*] of the Daimones, who are the nobles who serve at the court, there was heard a great clatter of arms, just as if a very bloody civil war were going on. They called to arms in the city, and every one responded. They went to the *vario*, but found everything perfectly quiet. Fifth, on the top of a hill near by the city they discovered some flags in the trees. They went to see what they were, but found nothing. […] Many of these things will not be readily believed. Some of them I did not see, but credible persons from where they occurred report them as well authenticated."[513]

Testimonies by down-to-earth merchants should be more credible than those of friars, mystics, or miracle believers. One who paid more attention to flames on the earth than to fires in the sky wrote as follows: "About 10 a clock at night a fyer began in the north parte of the citty of Edo; but it was calme wether; otherwais much hurt had byn donne. Yet ther were a few howses of pristes (or *boses*) servantes with 5 pagon temples burned in 3 divers places a greate distance one from an other, many merchantes howses and tradesmens howses betwixt, and yet it passed over all them without doing harme, and only burned downe the other, as aforsaid; which many esteeme a handy work of God."[514]

Though it is evident from the available reports and diaries that most people were perplexed by these signs, not knowing whether fire, water or land would dominate, the masses continued to buy and to sell, to marry and to be given in marriage, and daily life

[513] Blair and Robertson, *op. cit.*, p. 215-216.

[514] This passage is in Cocks' entry for November 13, Murakami, *op.cit.*, vol. 2, p. 95.

continued very much unchanged as if nothing remarkable was going on. "November 19. – An hower before day we saw an other comet (or blasing starr) rising just east, in the constellation of Scorpio. It is a mighty comet, and, in my opinion, bigger than that which was seene when Sebastian, King of Portingall, was slayne in Barberry. And paid for a colation at Caningaua 400 gins. And for dyner at Todska 1000 gins. And for ferrying over water 300 gins. And so we went to bed to Oyse; and paid for supper and breakfast 2 ichebos, and to servantes 300 gins."[515]

In the end, independently of the imagery that each group associated to these signs, the persecution against the Christians became even more vicious.[516] On December 13 several priests and lay helpers were detained in Nagasaki, Carlo Spinola, the astronomer and mathmatician of the Japanese Mission, among them. Ferreira narrowly escaped.[517] Three weeks later Cocks, on December 23, jotted down: "After

[515] The second part of this entry gives us a glimpse into what may have kept the cape-merchant's attention from celestial phenomena: money and what it buys. The entries for the following two days are more typical of his records. They read as follows: "November 20. – We broke fast at Wodowra, and paid 1000 gins. And dyned at Facony, and paid 1000 gins. And la all night at Mishma; and paid for supper and breakfast 3 : 8 : 0, and to servantes 400 gins. November 21. – We went to dyner to Yoishwarra, 1000 gins; and to supper to Yegery, and paid 3 : 0 : 7, and to servantes 200 gins. And paid at passag at Fagicaw 300 gins. The first comet was not seene after this night." Murakami, *op. cit.*, pp. 97-98.

[516] A letter from Mattheus de Couros from Nagasaki, February 23, 1619, cited in J. L. Alvarez-Taladriz, "Fuentes Europeas sobre Murayama Toan (1562-1619)", *Tenri Daigaku Gakuhō*『天理大学学報』, vol. 51, 1966, p. 94, states: "Pax Christi. Esta envío por las Filipinas, y no hablaré en ella de los negocios de la Provincia, así por que lo hace el Padre Visitador [Francisco Vieira], como por estar al presente ey en la mayor persecución que has ahora hubo en Japón contra los predicadores del sagrado Evangelio en esta ciudad de Nagasaki, de manera que casi todos los Religiosos de otras Ordenes y los clérigos japones partieron a otros lugares, quedando de la Compañía aquí solamente yo y el Padre Juan Bautista de Baeza, castellano, y el Padre Bastán, japón, con otros dos Hermanos japones, aventurados a que nos prendan, como todavía ahora estamos."

[517] "Llegado aquí Gonroku [el 26 de octubre de 1618], mandó espiar las casas donde había Padres com la mayor disimulación que pudo, e en la noche del 13 de diciembre pasado [1618], después de las once, dio orden a sus criados gentiles y a otros que de repente entrasen en las casas que tenían emplazadas, y en una de ellas prendieron al Padre Carlos Spínola y al Hermano Ambrósio Fernández, y en outra a dos Religiosos de Santo Domingo [los Padres Fray Juan de Santo Domingo y Fray Angel Ferrer. De otras escaparon algunos clérigos japones y un Religioso." *ibid*., p. 97. Pagés gives a more detailed account: "Malgré les précautions infinies prises par les chrétiens, des traîtres avaient dénoncé certaines demeures, et les espions opérèrent des captures. Le 13 décembre, jour de Sainte-Lucie, au milieu de la nuit, Nangasaki fut envahi, et comme pris d'assaut, par deux cohortes de satellites. Quatre religieux furent saisis en deux maisons. Dans l'une étaient deux Dominicains arrivés depuis peu de mois, et qui étudiaient la langue: les PP. Angel Orsucci et Juan de S. Dominique. On fit aussi prisonnier leur hôte, Cosme Takeya, Coréen, don't on confisqua la maison, et Thomas, catéchiste, qui avait accompagné le P.

this night, the comett, or blasing starr, was seene noe more, and ended under the 3d starr in Chorls wayne or Ursa maior."[518]

Towards the end of 1621, Francisco Pacheco, who narrowly missed having Ferreira as a theology student in Macau, received his nomination as provincial and immediately sent Ferreira to Osaka. Ferreira would not spend more than four years there. Early in 1625 Pacheco fell into the *bakufu*'s net. Couros took over his position and recalled Ferreira back to Kyushu to help him. As the environment became more difficult Ferreira seemed to work more diligently and independently.

Genshō must have been referring to this stage of events when he wrote "at that moment, Chūan as ringleader, through the Barbarian law nominated himself, changed clothes and went underground, retired into the wilderness and nourished himself in the mountains. Biding his time he spent thus several years." This fuzzy comment combines in the same moment two different events almost fifteen years apart: Ferreira's move underground in 1614 and his taking charge of the Jesuit affairs for some weeks in 1633. Nevertheless it is an apt outline of Ferreira's life in this period.

With the death of Couros on July 12, 1632, Sebastião Vieira (1571-1634), as the most senior professed Jesuit in Japan, became responsible for the Jesuit Japanese province and Ferreira was relieved once again of his administrative tasks. Not for long. One year later it was Vieira's turn to be caught in the authorities' net and then Ferreira, as the most senior professed Jesuit in Japan, became responsible for the Jesuit Japanese Province. Yet again, it was not for long. Some weeks later it was Ferreira's turn to be caught by the authorities. "[N]ot one fish escaped through the net," as lief Genshō would put it.

Navarrete en Omoura, et n'avait point alors obtenu le martyre. Le même jour et à la même heure, on prit dans l'autre maison le P. Carlo Spinola et le F. Ambrosio Fernandez, tous deux de la Compagnie de Jésus, avec leur hôte Domingos Jorge, Portugais, de qui l'on confisqua tous les biens, et deux serviteurs, Juan Choungocou et un autre. Le catéchiste ne fut point arrêté. Le P. Spinola fut lié si étroitement qu'il en garda toujours les empreintes. Pendent la nuit suivante, le Père confessa les serviteurs chrétiens du gouverneur." Léon Pagés, *Histoire de la Religion Chrétienne au Japon Depuis 1598 Jusqu'a 1651* , Paris, Charles Douniol, 1869, pp. 392-394.

[518] Murakami, *op. cit.*, p. 105. December 23 is the date on the Julian calendar.

At this point history did not repeat itself. Pacheco had been cremated alive in June 1626. Vieira, after spending three days in the pit, would be put to the fire in July 1634. Both men would withstand horrible physical suffering for one love or for one idea. Ferreira, unlike Vieira or Pacheco, after suffering in the pit for five hours on October 18, 1633, gave in and was pulled out. While he was being untied he would have had the opportunity to see, among others, the feet of Nakaura Julião, a buddy from Macao, protruding from the *fossa* where he was to die on the fourth day. How could Ferreira break when physically weaker men and women held? How could the first in command be the first to surrender? These questions have filled many with anguish and overflowed many others with expectation throughout the ages. Questions such as: "Would I also fall?" "Could this be done again?" "Did he innerly assent?" or "What are the mechanics of the process?" have been asked by many. Answers proposed to these interrogations inevitably taste of subjectiveness. As anything related to Last Things definite answers will not be had before the last day. Here it will be pointed out only that, though hard to imagine, the pit seems to have been a torture as unbearable as fire. According to one of the available reports, that of François Caron, "some of them who had hung two or three daies, assured me that the pains they endured were wholly unsufferable, no fire nor no torture equalling their languor and violence." [519] Nevertheless the list of those who endured this torture and overcame the intimidation it was intended to pose "is long and impressive".[520] It has been suggested that Ferreira's apostasy in the pit might have had more to do with a polished intellectual process of a growing skepticism towards Christian belief than with the rough physical handling of his impaired body already under the effects of diminished intellectual and moral faculties.[521] That may have been so. But it leaves us with a problem: if Ferreira had already proceeded down that path why did he then avail himself to a treatment of such "langor and violence" for five hours? Did he give up because of weakness? Or because

[519] François Caron, *A True Description of the Mighty Kingdoms of Japan and Siam*, ed. C. R. Boxer, London, The Argonaut Press, 1935, p. 45.

[520] Cieslik, *op. cit.*, p. 16. Cieslik presents some names of this list.

[521] For such a thesis see Jacques Proust, *La Supercherie Dévoilé. Une Réfutation du Catholicisme au Japon au XVIIe Siècle*, Paris, Éditions Chandeigne, 1998, especially pp. 8-57. For a criticism of such a thesis see the review of this same book by Henrique Leitão in the *Bulletin of Portuguese-Japanese Studies*, vol. 1, 2000, pp. 131-134.

he wanted to send a sign to his correligionists that it was better to stay alive undergroung that die on the ground? I do not know.

The fact is that "Chūan regretted his wrongdoing." Leaving the pit meant accepting the authorities' conditions. These were not painless but he was presented with a modicum of comfort. He received a wife and three children and with them the name of their previous paterfamilias, a condemned man who, unlike the new Sawano Chūan, was not given a second chance after regretting his wrongdoing.[522] After showing his usefulness to the government, he received a small stipend. And, of course, he became a Buddhist. "Eventually he left the Jesuits and entered our way and changed into one of the realm's folk. He wrote *Deceit Disclosed* to disclose as a proof that the introduction of the Christian law is closely followed by the theft of the country, a scheme which is brought about with the passion of religion. That is the reason for the name *Deceit Disclosed*." Genshō, like so many after him, believed that Chūan experienced not a faked but a true conversion. It was "to right his wrongs [that] he wrote *Deceit Disclosed* in one volume, which he offered to the authorities." They received it in 1636. *Deceit Disclosed* may have been read in restricted official circles for some years but even this limited circulation was put to an end. Theories concerning Paradise and Hell, even when refuted, would prove to be virulently contagious. Like an eradicated virus being sealed in a safe to make possible research by future generations, one copy of *Deceit Disclosed* was sealed in an envelope with the inscription "The writing of the apostate Southern Barbarian father. This is forbidden doctrine and so is sealed. Kambun 10.10.24, year of the Dog."[523] It was then deposited, in Kazusa, in the vaults of a loyal Tokugawa

[522] This man was a Chinese and a merchant, a double burden in that time and place. He had most probably adopted a Japanese name out of convenience if not out of inclination. Some authors think Sawano was the family name of the woman. These two possibilities are not incompatible. Japanese criminal law did not allow the application of the death penalty unless the suspect did confess to "his wrong doing." See J. C. Hall, "Japanese Feudal Laws III. The Tokugawa Legislation Part IV. The Edict in 100 sections," *Transactions of the Asiatic Society of Japan*, vol. 41, 1913, pp. 683-804. The procedures the agents of the state were bound to follow in the prodding of the suspect to admit guilt, though unkind, were not arbitrary. Strict courses of action were defined concerning their application. For descriptions of these methods see "Note on torture", non-numbered pages following p. 804, *Transactions of the Asiatic Society of Japan*, vol. 41, 1913, Ishii Ryōsuke 石井良助, *Edo Jidai no Keibatsu*『江戸の刑罰』, Tokyo, Chuo Koron-sha 中央公論社, 1964, or Yokokura Tatsuji 横倉辰次, *Edo Rōgoku Gōmon Jikki*『江戸牢獄・拷問実記』, Tokyo, Oyama-kaku 雄山閣, 2003.

[523] Kambun 10.10.24 corresponds to 1670.11.6 on the Gregorian calendar.

retainer, a neighbor to the man in charge of the decontamination of Japan from the Christian virus. There it would remain, forgotten to propaganda and scholarship, for two and a half centuries. The other copies were destroyed.[524]

3. The mysterious vessel

It is the vain belief of some religious people that if enough evidence is presented with clear reasoning any unbeliever will eventually accept the reasonableness of the proposed truths. This notion can be benevolently interpreted as a manifestation of unshakable faith in human reason as well as a heroic underestimation of the power of prejudice. Chūan's public denial of belief was mediatic and global.[525] It was publicized not only in Nagasaki and Edo, but also in East Asia, India and Europe.[526] It caused great consternation in his erstwhile brothers who earnestly offered prayers and penances on his behalf, even while they could cling to the hope that the reports of the apostasy were mistaken or false.[527] And it led a few Jesuits to try to establish direct contact with him in the hope of bringing him back to the faith through reasoning. The first attempt was made by *Padre* Marcello Francisco Mastrilli (1603—1637.10.17) who sailed to Japan in 1637. After three days in the pit in Nagasaki he was beheaded on October 17, four weeks after arriving in Kagoshima, without being able to establish contact with Ferreira. The second attempt was made by Pedro Kibe Kasui 岐部カスイ (Tenshō 15 — Kan'ei 16.7.4, approx. 1587 — 1639.8.3). After being apprehended he was sent to Edo. There,

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[524] *Deceit Disclosed*, *Kengiroku* in the original, has been published in Yosano Hiroshi 與謝野寛, Masamune Atsuo 正宗敦夫, Yosano Akiko 與謝野晶子 (ed. and notes), *Nihon Koten Zenshū: Giya do Pekadoru Gekan, Myōtei Mondō, Ha Daiusu, Kengiroku*『日本古典全集:ぎや・ど・ぺかどる下巻 . 妙貞問答 . 破提宇子 . 顕偽録』, second series 第二回, Tokyo, Nihon Koten Zenshū Kankōkai 日本古典全集刊行会, 1927. It has also been translated several times into English and also into other Western languages. See for example Elison, *op. cit.*, pp. 293-318.

[525] No less than in our day, contradictory reports assured the minimum level of controversy necessary for a topic to enliven social gatherings.

[526] Cieslik, *op. cit*., p. 49.

[527] "Since these were early reports [of the apostasy] and sounded so fantastic, neither we nor the laity gave them much credence." would later Manuel Dias write to Rome, in a letter dated June 18, 1635, *Jap-Sin* 18, II, fl. 227, cited in Cieslik, *op. cit*., p. 18.

during the interrogations, he seems to have had his chance to meet Chūan, who was among his scrutinizers. He did not lose the opportunity and admonished him, in vain, to return to the faith.[528] Kasui died in the pit in July 1639.

The third and fourth attempts were made under the planning of Giovanni Antonio Rubino (1578—1643.3.22). Rubino was born at Strambino, Piemonte, entered the Society of Jesus in September 21, 1596, and studied philosophy in Milan.[529] In 1602 he set out for India where he studied theology and was ordained. He was in charge of Meliapore and Cochin and was in Ceylon in 1605 and 1611. In May 26, 1613 he he made the four vows of a professed Jesuit. In 1619 he was appointed Rector of the Colombo College and in 1623 he became Superior of the Fishery Coast. At his request in 1638 he was sent to Macao and in May 19, 1638 he arrived at the Portuguese city in China. Already in Macao he heard the rumor of the apostasy of Giovanni Battista Porro, his friend and former colleage in Milan, what increased his longing to go to Japan. This was made easier when he was made Visitator of China and Japan in October 10, 1639.[530] He made a first attempt to cross to Japan in 1640, but a storm took his vessel out of course. Undeterred and after recruiting a larger group of like-minded Jesuits and lay helpers he divided them into two teams that would attempt separately to make contact with Chūan. The first group, led by Rubino himself and composed of Alberto Mezchinski (1598—1643.3.23?), Diego de Morales (1604—1643.3.25), Francisco Marques (?—1643.3.25), Antonio Capace (1606—1643.3.26?) and three catechists, left Manila in 1642. Arrested almost immediately after setting foot on the domains of the Shimazu, they were sent to Nagasaki. There they were encouraged in various unkind ways to regret their wrongdoings, but to no avail. In the end they were put in the pit. Those who did not perish within a reasonable period were put to the sword.

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[528] For a good sketch of Kibe's life see Hubert Cieslik, "P. Pedro Kasui (1587-1639): Der letzte japanische Jesuit der Tokugawa-Zeit," *Monumenta Nipponica*, vol. 15, 1959, pp. 35-86.

[529] Antonino Bertolotti, *Passeggiate nel Canavese*, vol. 3, Ivrea, Typ. F. L. Curbis, 1869, p. 187.

[530] See João Paulo Oliveira e Costa, *O Cristianismo no Japão e o Episcopado de D. Luís Cerqueira*, Doctoral Thesis, 1998, p. 807; Simon Gregory Perera, *Jesuits in Ceylon (in the XVI and XVII Centuries)*, reimpression by Asian Educational Services, 2004, p. 163; László Polgár, *Bibliographie sur l'Histoire de la Compagnie de Jésus 1901-1980*, vol. 3, Roma, Institutum Historicum Societatis Jesu, 1983, p. 112; Joseph Dehergne S.J., *Répertoire des Jésuites de Chine da 1552 à 1800*, Roma, Institutum Historicum S.I., 1973, p. 234.

The second group departed from Manila in 1643. Its members were Pedro Marques (1575—1657.6.12), Alonso de Arroyo (1592—1643?), Giuseppe Chiara (1620—1685.8.24), Francesco Cassola (1603?—1644?), the Nagasaki-born André Vieira (1611?—1678.7.4) and five laymen. According to Dutch sources these laymen were one 42-year-old Japanese from Nagasaki, another 51-year-old from Osaka, another 51-year-old from Kyoto, and two boys, one 17-year-old from Tongking, another 20-year-old from Canton.[531] After a successful voyage, "in the twentieth year of Kan'ei, tenth year in the decahedral cycle and year of the Sheep in the duodenary cycle,[532] in the province of Zen of Chiku in the sea waters of Ōshima, suddenly a mysterious vessel wandered. Ōshima Inunaga saw it and seized it on the spot. Interrogated through letters, these ten and some persons, were [found to be] all Barbarian priests, Bateren and Christian followers."[533]

Inunaga certainly could not believe his luck. Apprehending "Barbarian priests, Bateren and Christian followers" meant a pot of silver at the rates offered by the authorities in the period just after Shimabara.[534] Ōshima was the largest of the islands

[531] In the *Daghregister des Comptoir Nangasacque*, Japanese translation by Murakami Naojirō 村上直次郎, *Dejima Rankan nisshi*『出島蘭館日誌』, vol. 1, Tokyo, Bunmei Kyokai 文明協会, 1938, pp. 365-366. Concerning this topic see also Kawamura Tsuneki 川村恒喜, "Chikuzen Ōshima torai bateren no ikkō"「筑前大島渡來伴天連の一行」, *Fukuoka*『福岡』, no. 47, 1931, pp. 4-9. I could not find any reference to these laymen in printed Jesuit sources.

[532] The first day of this year corresponds to February 19, 1643 on the Gregorian calendar. The last day corresponds to February 7, 1644. The date of their arrival is given as June 27, 1643, by Joseph Jennes, *A History of the Catholic Church in Japan: From its Beginnings to the Early Meiji Era*, Tokyo, Oriens Institute for Religious Research, 1973. In Murakami, *op. cit*., p. 365, the capture is recorded as having happened on July 1, 1643, in "Casimena Oysima."

[533] Form the long preface of Genshō.

[534] In 1619 the prize for a priest was 30 *ryō*, or silver coins: "trente barres d'argent, exposées à découvert dans la principale place de Nangasaki, devaient être le salaire du délateur; un écriteau mis à côté par ordre du gouverneur, et qui contenait d'abord ces seules paroles: «Cette somme sera donnée à qui fera découvrir un *voleur*» (l'on sait combien le vol est abominable au Japon), reçut bientôt l'addition: «ou un religeux.»" Léon Pagés, *Histoire de la Religion Chrétienne au Japon Depuis 1598 Jusqu'a 1651*, Paris, Charles Douniol, 1869, p. 399. This would be increased several times in the following years. In 1638 it was 200 *ryō*, or silver pieces, for a priest, 100 for a brother, and 50 for a simple beliver. In 1654 they were respectively 300, 200, 30 and a new category had been created: for catechists the prize was then set at 50 *ryō*. See Hubert Cieslik, "Das Christe-Verbot in Japan unter dem Tokugawa-Regime", *Neue Zeitschrift für Missionswissenschaft*, vol. 6, 1950, p. 189. As prices reflect relative scarcities, it is evident that priests were getting harder to find but there was no lack of simple believers.

off the coast of Chikuzen. Nevertheless it was small and poor and, in spite of its alleged importance to the interchange of people, merchandise, and ideas between Japan and the continent during pre-historic times, without a doubt it had always been so. The island would be described, some years after this landing, by the neo-Confucian scholar Kaibara Ekiken 貝原益軒, whom we already met in Chapter III as Kaibara Atsunobu, in the following way:

"Ōshima. Three *ri* after leaving the seashore at Shinsō, to the north in the middle of the sea. The perimeter of the island is about three *ri*. Because it is much larger when compared with the other islands in this vicinity it has been appropriately named Ōshima [large island]. There are many houses that make a town. The length of the town is six *chō*. There is also a town in the dry middle of the island. It is called Tanisato [Valley Village]. Among the villages in Ōshima five have a name. In all there are about two hundred houses where merchants and seamen live together. In this island there is a shrine to the god of Munakata. Nakatsumiya referred to in the first volume of "The Age of the Gods" of *Nihon-ki* is this shrine."[535]

Who Ōshima Inunaga might have been is left to conjecture as this name is not mentioned in other contemporary sources. He was most probably a low ranking samurai who oversaw law and order, if not peace and tranquility, in this most insignificant spot

[535]「大島　神湊の海濱を去事三里、北の海中にあり。島の周り三里餘。此邊他の島に比すれば、頗大成也故に大島と名付る成べし。民家も多くして町有。町の長さ六町許。後町も有。乾の方にも町あり。谷里と云。大島の里の内に五の名有。民家すべて二百餘、商人海人まじれり。此島に宗像の神一社おはします。日本紀神代巻上に、中瀛と云へるは此島の神社也。」Kaibara Ekiken, *Chikuzen koku zoku fudōki*『筑前國續風土記』, Book 16. This work is included in Ekikan-kai 益軒会 (ed.), *Ekikan Zenshū*『益軒全集』, Tokyo, Kokusho Kankokai 国書刊行会, vol. 4, 1973. The passage cited is on pp. 359-360. One *chō* corresponds to approximately 109 meters and one *ri* to 3,927 meters. There are several references to Ōshima in the *Nihon-ki*. The first is the creation of the Great-Eight-Island country:「及二至産時一。先以二淡路洲一爲レ胞。意所レ不レ快。故名之曰二淡路洲一。迺生二大日本豊秋津洲一。日本。此云二耶麻騰一。下皆效レ此也。次生二伊豫二名洲一。次生二筑紫洲一。次雙二生隠岐洲與二佐度洲一。世人或有二雙生一者象レ此也。次生二越洲一。次生二大洲一。次生二吉備子洲一。由レ是始起二大八洲國之號一焉。」Kuroita Katsumi 黒板勝美 (ed.), *Nihonki-ryaku*『日本記略』, vol. 1, *Kokushi Taikei*『國史体系』, vol. 10, Tokyo, Yoshikawa Kobunkan 吉川弘文館, 1965, pp. 2-3. Nakatsumiya is also mentioned in the following passage:「底津少童命。中津少童命。表津少童命。是阿曇連等所レ祭神矣。」*ibid*, p. 7. For an English translation see W. G. Aston, "Nihongi: Chronicles of Japan from the Earliest Times to A.D. 697," *Transactions and proceedings of the Japan Society*, supplement 1 (2 vols.), London, Kegan Paul, Trench, Trubner, 1896.

of the domain of the Kurodas. The chances are that his real name was Murai Niemon and that the appellation Ōshima Inunaga derived from a pun on his official position as chief watching *inu*, or dog, of Ōshima. At least that is what might be inferred from the continuation of Ekiken's description of Ōshima. After rambling through various mythological and historical events concerning the several shrines on the island he comes to Tsuwaze.

"Tsuwaze. This shrine is about one *ri* to the west of the main shrine. Its entrance is broad and deep, the summit of beauty. In the twentieth year of Kan'ei, one foreign vessel approached and after a while those onboard landed. A fellow named Nihee, the younger brother of Ichinokai Shirōemon, a Shinto priest of Setsuzetsu Okushima, had gone to change the place of pasture of the cows when he saw the foreigners on the beach and the foreign vessel floating by the seashore. Nihee approached them suspiciously. One amongst the foreigners inquired in the language of Japan about the region and asked suspiciously about the sentinel building on the top of the mountain. Nihee replied that this was a watching place set down by the lord of the country for the observation of incoming Christian vessels. The persons of the foreign vessel were surprised, and giving Nihee two silver coins, took the vessel out and asked him to stay where he was for as long as the sails were visible and only return back after that. Nihee took these and after standing there for a while he stooped down, went back and told his elder brother and his brother-in-law what had happened. The lord of the country, Lord Tadayuki had sent one samurai Murai Niemon to watch over this island. As Mr. Murai[536] was not on Mount Setsuzetsu, people were sent to find him. Niemon, bringing with him the Shinto priests, the landlords and the peasants, boarded [several] vessels together with some seamen and by and by gave chase. However the foreign vessel was by now so far from that place that there was no way they could overtake it, so they prayed to the god of the island. For their good fortune the wind changed so that at long last they overtook it and brought the vessel back to Ōshima. There were ten foreigners, of which four where Christian priests. One was Iruman, formerly from Nagasaki. There were among them also two Japanese from the capital and from Osaka who had a long time ago gone over and lived in the country of the Lord of Heaven. All others were

[536] There are in Japanese a number of titles that are used to express a broad range of social positions. In this work *Mr.* and *Lord* will be used to represent the Japanese titles of *Shi* 氏 and *Kō* 公. See Nelson, and Shinwaei.

foreigners. These people confessed they came this time to further the law of the Lord of Heaven and to spread it. After this having been communicated to Fukuoka, the reply that they should be brought to Fukuoka was received. Afterwards they were sent to Edo and without being put to death or imprisoned they became delators of Christians. The seven *kan*[537] of silver there were in the foreign vessel were given, on orders from Edo, to all villagers in Ōshima. Murai was given a prize by the lord of the country. Also Kurōjiro, twenty years old, the younger brother of Mokuhara Ichirōzaemon, because of the help he had given Mr. Murai in setting sail to the pursuing vessel and because he sent messages ordering the pursuit to Chi-no-shima, Kanezaki, Hajime-no-ura, Ashiya and Wakamatsu, and consequently helping vessels from the inlets soon set sail, because of his resourcefulness he was also given a prize."[538]

Mishandling affairs after catching the aliens would have meant harsh punishment. As Ekiken says, Inunaga asked Fukuoka for instructions.

4. The loyal house of Kuroda

[537] One *kan* corresponds to about 3.75 kilograms.

[538]「津和背　本社より酉の方一里に有。入口廣く深し。入込て佳境也。此所に、寛永廿年異船一艘寄來り、船中の人暫く陸に上り居たり。折節奥島の社人一甲斐四郎右衛門が弟、仁兵衛といふ者、牛をつなぎ置しを引に行しに、磯邊に異人ども見え、海邊には異船一艘うかべり。仁兵衛あやしみて近付けるに、異國人の内、日本のことばにて、此邊の事を問、山上に在番所をあやしみ尋ねけるに、仁兵衛、是こそ切子丹船抔の來るを察せん爲に、國主より立置れし番所也と云。異船の者共驚て、銀二枚仁兵衛にあたへて、此船を出し、帆影の見ゆる迄は爰に居て、其後歸りてたべと頼む。仁兵衛先受合て、暫し立やすらひ、頓て歸り、兄と姉聟につぐ。其比國主忠之公より村井仁右衛門と云士一人、此所の島守に遣しおかれける。村井氏折節山に入て居らず。人を遣して其由をつぐ。仁右衛門、社人、庄屋、百姓を連、舟にのり出、其外浦人共も乘、遣々に遣かけゝるが、異船は遙に行延しかば、遣付べき様もなかりしに、島の神に祈りなどして、幸に風變り、やうやうに遣付て、舟を大島につれ來りぬ。異人凡十人、内四人は耶蘇宗の伴天連也。一人は、いるまん也。是は元長崎の者也。又もと京大坂に居たりし日本人、昔天主國に渡りて住める者一兩人交れり。其餘は皆異國人也。此度此者共來りしは、天主の法をすすめて、廣めん爲なりと白状す。此由を福岡へ申けらば、福岡へつれ來るべしとてつれ行、後に江戸に遣されけるが、切子丹の目あかしと成、牢に入置て殺し給はず。異船に在し銀七貫目は、江戸より皆大島の村民に被下、村井には國主より賞を給はる。又村井氏に付て舟を乘出し、目原市郎左衛門が弟九郎次郎、廿歳成しが、遣かけし舟には乘らで跡に止り、地島、鐘崎、初浦、芦屋、若松迄所所に觸状を遣し、しかじかのことあり、浦々よりはやく加勢舟を出し、遣かけよと云遣しける故,、浦々よりも舟を出しける。九郎次郎が才覺の働、むべ成とて、是にも賞を行はれける。」, *Ekiken Zenshū*, vol. 4, pp. 363-364.

The reply came: "Lord *Taishu*[539] Minamoto no Tadayuki of Chikuzen, ordered their imprisonment." This Lord *Taishu* Minamoto no Tadayuki was no other than Kuroda Tadayuki 黒田忠之 (Keichō 7.11.9—Jōō 3.2.12, 1602.12.22—1654.3.30), the second daimyo of Hakata-Fukuoka, the *Nagasaki Keibi Goban* 長崎警備御番 or "Watcher over the Security of Nagasaki,"[540] the son of Nagamasa, the grandson of Yoshitaka.

Genshō was aware that the House of Kuroda was ancient and honourable but that it was a quite recent arrival on Kyushū. In fact, the Kurodas traced their roots back to Teiji-in no Mikado 亭子院帝, or Emperor Uda 宇多天皇 (Jōgan 9—Shōhei 1.7.19, approx. 867—931.9.4, reigned 887—897). According to the *Kuroda Kefu*[541]『黒田家譜』Emperor Uda, the first generation of the Kurodas, was "the third son of Emperor Kōkō, honorable posthumous name Sadami, enthroned in Ninna 3 as the 59th Emperor, retired in favor of the Crown Prince in Kampyō 9."[542] This Crown Prince would later

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[539] *Taishu* 太守: Class of official created by imperial rescript in the sixth day of the ninth month of the third year of the Tenchō (826 A.D.) during the reign of Emperor Junna 淳和 (Enryaku 5—Jōwa 7.5.8, approx. 786—840.6.11, reigned 823—833), based on the original Chinese system of the Táng 唐 dynasty. During the Edo period it was popularly used to designate the daimyo.

[540] The lords of the Chikuzen and Saga fiefs were entrusted with this post, which they were to keep in alternate years until the end of the shogunate in the second half of the nineteenth century. Among the more important duties of this post was to prevent the entry of unauthorised foreigners and their capture in case of infiltration.

[541] The official history of the House of Kuroda composed by Kaibara Ekiken under the name of Kaibara Atsunobu 貝原篤信. It was written at the insistence of Kuroda Mitsuyuki 黒田光之 (Kan-ei 5.5.16—Hōei 4.5.20, 1628.6.17 — 1707.6.19), the third daimyo of Hakata-Fukuoka, son of Tadayuki. Ekiken began working on it around 1672. After many years of mutiple revisions he would submit it as completed in 1687. This work is included in Ekikan-kai 益軒会 (ed.), *Ekikan Zenshū*『益軒全集』, Tokyo, Kokusho Kankokai 国書刊行会, vol. 5, 1973, pp. 1-465.

[542]「光孝天皇第三御子御諱定省仁和三年即レ位爲二人皇第五十九世一寛平九年禪二位於太子一」, *Ekikan Zenshū*, vol. 5, p. 5. Uda became Emperor with the backing of Fujiwara no Mototsume 藤原基経 (Jōwa 3 — Kampyō 3.1.13, approx. 836 — 891.2.24). He tried direct government bypassing the Fujiwara regents. With the help of a scholar, Sugawara no Michizane 菅原道真 (Jōwa 12 — Engi 3.2.25, approx. 845 — 903.3.26), he tried to return to the principles of *ritsuryō* government, a system of centralized rule with the Emperor at the apex and based on legal codification, stemming the secular tendency towards customary law and decentralized government, in a political maneuvering that would later become known as *Kanpyō no ji* 寛平の治. He abdicated in 897 in favor of his son, who would become Emperor Daigo, and became a Buddhist monk. Never having completely retired from politics he would enter into conflict

become Emperor Daigo 醍醐天皇 (Gangyō 9.1.18—Enchō 8.9.29, 885.2.7—930.10.23, reigned 897—930)[543] with "honorable posthumous name Atsugimi, mother Empress consort heiress of Fujiwara Minister of the Center Takafuji."[544] The second generation of the Kuroda family was the youngest brother of Emperor Daigo, the sixth male child of Emperor Uda, Prince Atsuzane 敦實親王. Some six centuries and seventeen generations later the family was headed by Takamasa 高政 (*fl*. late fifteenth century).[545] In 1511 he incurred the displeasure of *shogun* Ashikaga Yoshitane 足利義稙 (Bunshō 1.7.30—Daiei 3.4.7, 1466.9.9—1523.5.21) and was exiled to the village of Fukuoka, Oku-gun, in Bizen. This marks the lowest point in the long decline of the family. The son of Takamasa, Shigetaka 重隆 (*fl*. early 16th century), the twentieth of the line, moved to Harima, where his son, Noritaka 職隆 (*fl*. 16th century) also lived. Noritaka served the Akamatsu 赤松, the lords of Arima. He adopted the name of Kodera 小寺, a clan linked to the Akamatsu, married the daughter of Akashi Munekazu 明石宗和 (*fl*.

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with his successor over the exile of Michizane, a political and literary event of the first magnitude in this period. For details on the political system and the politics of this period see Morita Tei 森田悌, *Ōchō Seiji*『王朝政治』, Tokyo, Kodansha 講談社, 2004. For the *ritsuryō* legislation see Inoue Mitsusada 井上光貞, Seki Akira 関晃, Tsuchida Naoshige 土田直鎮, Ōki Wazuo 青木和夫 (ed.), *Ritsuryō*『律令』, Nihon Shisō Taikei『日本思想大系』, vol. 3, Tokyo, Iwanami Shoten 岩波書店, 1976.

[543] Some Japanese and foreign authors report the birth of Emperor Daigo as occurring in Ninna 1.1.18. This may be mathematically correct but is plainly wrong from both a historical and a calendrical point of view: the last day of the Gangyō era was on Gangyō 8.2.3 (885.2.21) and the first day of the Ninna era was on Ninna 1.2.3 (885.2.21). The hour of the day when the change occurred is unreported. On 885.2.7 the Gangyō era had not finished yet nor had the Ninna era already begun. Therefore, strictly speaking there was no *Ichigatsu*, or First Month, in the first year of Ninna, nor, of course, was there any date such as Ninna 1.1.18.

[544]「御諱敦仁母贈大后藤原胤子内大臣高藤女也」, *Ekikan Zenshū*, vol. 5, p. 5. Emperor Daigo would help build Daigo-ji 醍醐寺, a Shingon temple compound in Kyoto. Here Hideyoshi would give, with Kita no Mandokoro and Yodogimi, a famous *ohanami*, or cherry blossom viewing party, in the spring of 1598 to dissipate his frustation over the failed Korea expedition.

[545] In between there were Masanobu 雅信 who was the third, Sukeyoshi 扶義 the fourth, Shigeyoshi 成頼 the fifth, Akitsune 章經 the sixth, Tsunekata 經方 the seventh, Suesada 季定 the eight, Hideyoshi 秀義 the ninth, Sadatsuna 定綱 the tenth, Nobutsuna 信綱 the eleventh, Ujinobu 氏信 the twelfth, Mitsunobu 滿信 the thirteenth, Munekiyo 宗清 the fourteenth, Takamitsu 高滿 the fifteenth, Munenobu 宗信 the sixteenth, Takanori 高教 the seventeenth, Takamune 高宗 the eighteenth, Takamasa 高政 the nineteenth, and Shigetaka 重隆 the twentieth generation of the Kuroda family. In the 17th generation, the family of Nobunaga, a distant cousin, had branched off.

early 16th century) the castellan of Akashi, and became prominent among the barons of the region.

Kodera Mankichi 小寺萬吉 (Tenbun 15.11.29—Keichō 9.3.20, 1546.12.22—1604.4.19), one of the most remarkable warriors of his age, was born from this marriage. The twenty-second generation of the family, he would later retake the name of Kuroda. As his personal name he would first take Kambyoē 官兵衛, later Kageyu 勘解由, then Yoshitaka 孝隆, finally Yoshitaka 孝高. He was baptized Simeão. Upon retirement he chose to be known as Jōsui 如水. An ally of Nobunaga since the early years of the Tenshō period (1573-1592) he served under Toyotomi Hideyoshi 豊臣秀吉 (Tenbun 5.1.1 or Tenbun 6.2.6 — Keichō 3.8.18, 1536? — 1598.9.18) [546] and distinguished himself in the conquest of Chūgoku against the Mōri (1577), in the pacification of Shikoku (1585), and in the subjugation of Kyushu (1587-1588). In 1585 he converted to Christianity through the influence of Takayama Ukon Justo 高山右近 (Tenbun 21? —Genna 1, 1552? —1615), Konishi Yukinaga Agostinho 小西行長 (? — Keichō 5.10.1,? —1600.11.6) and Gamō Ujisato Leão 蒲生氏郷 (Kōji 2—Bunroku 4.2.7, approx. 1556 —1595.3.17). He became an ardent Christian who in turn was instrumental in the conversion of other noblemen. [547] In 1587 he received from Hideyoshi, who valued his tactical acumen highly, six districts in Buzen as a reward for his meritorious services. He retired the following year, just 44 years old, leaving the family affairs in the hands of his son Nagamasa and hoping to spend the remaining years of his life engaged in "works of charity and compassion." Hideyoshi, however, would not leave him alone, and when he had a battle to fight he would send for Jōsui. As Hideyoshi dreamt of conquering China and then the world he didn't leave Jōsui to his charitable plans for any considerable period. Jōsui was called to fight in Odawara in 1590, and in the expeditions to Korea in 1592 and 1597. After Hideyoshi's death he drew close to Ieyasu and took his side when hostilities for the control of the country

[546] Tenbun 5.1.1 is given as Hideyoshi's birthday by Satō Naosuke 佐藤直助, Hirata Kōji 平田耿二 (ed.), "Nihon-hen"「日本編」, *Sekai Jinmei Jiten*『世界人名辞典』, Tokyo, 東京堂出版, 1990. Tenbun 6.2.6 is given by Nojima Jusaburō 野島寿三郎 (ed.), *Kugyō Jinmei Daijiten*『公卿人名大事典』, Tokyo, Nichigai Asoshietsu 日外アソシエーツ, 1994.

[547] See Madalena Ribeiro, *Samurais Cristãos: Os Jesuitas e a Nobreza Cristã do Sul do Japão no Século XVI*, Lisboa, Centro de História de Além-Mar, Universidade Nova de Lisboa, p. 171.

began. In Kyushu Jōsui "called for volunteers for the campaign against the Ishida party in that island, and all classes of society were encouraged to join, Ronin, old men, Inkyo, traders, farmers and artisans, since all the able-bodied samurai were with his son Nagamasa in Ieyasu's camp, and they responded willingly. Those who had no proper armour came in paper haori, on the back of which they had painted their crests, and picked up any old discarded equipment they could find, while some who had no helmets wore split bamboo hats with birch twigs stuck round the brim. The horses they rode were in many cases thin and sorry-looking but they made as brave a show as they could, riding up gaily brandishing their spears. In all, three thousand six hundred men were thus collected. Jōsui greeted them all personally with compliments suitable to the occasion, if they were old telling them that their experience would be most useful and congratulating them on their enterprise, and if they were young observing that their vigour was remarkable and their spirit beyond all praise."[548] With this experienced and vigorous army he fought one last campaign and defeated Ōtomo Yoshimune Constantino 大友義統 (Eiroku 1—Keichō 10.7.19, approx. 1558—1605.9.2). With his diplomatic skills, backed by this army, he pacified Kyushu for the party of the East and gave its control to Ieyasu.[549] He had intended to take on the Shimazu when he received "a letter from Ieyasu and two more from Ii Naomasa and Honda Tadakatsu all expressing anxiety for [his and Nabeshima's] health if they ventured on a campaign in the winter weather that was now near, for it was already November, and advising them to stay where they were. Seeing that Satsuma is the warmest part of Japan and has a Riviera-like climate, this was amusing, and merely Ieyasu's way of hinting that he saw

[548] A. L. Sadler, *The Maker of Modern Japan: The Life of Tokugawa Ieyasu*, London, George Allren & Unwin, 1937, p. 215.

[549] Father Gabriel Matos gives a succinct account of these events: "Neste anno socedeo a guerra entre os cinco bunguios que por morte de Taico, que morreo no anno de 98, ficarão por ayos e protectores de seu filho Fideyori e por governadores do reino, até elle chegar a idade de 18 annos, alevantando-se os 4: Gibunoxo, Asano Dango, N., N., contra o principal e mais poderoso, que era Iyeyasu; o qual indo caçar ao Quantô, os 4 se appoderárão de todo Japão, de Vouari pera o Miyaco, e do Miyaco pera o Ximo, tendo con tudo adversarios, com os quaes pelejárão; e outros que dissimulárão, até verem quem vencia. – E venceu Iyeyasu. Desta guerra darão miuda informação os Padres Tçuzzu e Campo. E porque Cazzuye, senhor da metade de Fingo, foi com Iyeyasu a caça, Yechundono, Cainocami e outros, Josui, pai de Cainocami, resistio ao Yacata de Bungo Yoximune que veyo por ordem dos 4 bunguios a tomar posse de Bungo, seu antigo reino, e venceo-o em batalha campal; e foi também tomar o reino de Chicungo, que estava repartido em dous: a metade tinha Yanagava-dono, e outra metade Fidecan, christão, que residia em Curume; e depois foi contra Satçuma, que foi também da parte dos 4 bunguios, mas tornou sem fazer nada." Schütte, *op. cit*., pp. 361-363.

through Jōsui's energetic fishing in troubled waters."[550] A modern historian, concerning Jōsui's docile behavior towards Ieyasu, after making due concession for his failing health, speculates that:

"[I]n all this modest self-effacement he showed considerable wisdom, for he must have calculated that though he was as capable in many ways as Ieyasu and now perhaps the only one who might have contested the Empire with him, yet he really stood no chance of success as affairs had turned out, and any other conduct would only have put the future of his house in jeopardy."[551] Some time later, when Jōsui and Ieyasu met again, "Ieyasu said: 'It is entirely owing to the military prowess of yourself and your son that the Empire is thus unified and restored to peace, I have arranged, therefore, to give you a large reward in territory, and shall petition the Court to grant you high rank also,' Jōsui respectfully declined. 'I am old,' he explained, 'and my health is poor, so I have little strength left for further activity. My son will support me from the bounty with which you have been pleased to endow him, and I have no further ambition for wealth or possessions. All I wish for is permission to spend my remaining days in peace.' This Ieyasu was delighted to give him, and we are told that Hidetada greatly admired this detachment, comparing him to the Chinese sage Chorio."[552]

His son, Kuroda Nagamasa Damião was also an able warrior. In his early years he had been a hostage in the care of Hideyoshi, a guarantee for the loyalty of the Kurodas. During his youth he had followed Yoshitaka in most of his campaigns. After his father's retirement he took charge of the domain's affairs proving to be an able administrator. He fought his share of Hideyoshi's wars and went to Korea both in 1592 and 1597. In 1600, at the decisive battle of Sekigahara, Nagamasa was instrumental in the defection of Kobayakawa Hideaki 小早川秀秋 (Tenshō 10?—Keichō 7.10.18, approx. 1582? —1602.12.1) from the West to the East host, thus ensuring the victory of Tokugawa Ieyasu. For this Ieyasu would feel a deep debt that he tried to repay by making him the lord of Chikuzen, with an income of 523,000 *koku*, one of the largest of all *tozama*, or outer lords. To his intercession did Akashi Kamon João 明石掃部 (?-

[550] Sadler, *op. cit*. p. 218.

[551] *Ibid*., p. 218.

[552] *Ibid*., p. 219.

1618?) owe his life after Sekigahara, and to his advice did the Church owe the benevolent attitude Ieyasu showed for a time.[553] How much Ieyasu trusted Nagamasa can be deduced from a notice merchant Cocks scribbled down in his diary on April 17, 1616, some weeks before the death of the retired shogun: "And at the same tyme the King of Crates man came to vizet me, and said it was reported the Emperour was very sick with a fall he had from his horce in going a hawlking, so that no man might speake with hym. Yet, notwithstanding, Shungo Samma had geven leave to the King of Faccata and to the King of Figen to retorne for their countries, but comanded all the rest to stay his ferther plesure."[554]

Nagamasa's Christian fervor, however, probably owed much to his father's ardor, intensity and passion.[555] From the following account of Jōsui's death by *Padre* Gabriel de Matos[556] (1571?—1634.1.9) it might be constructed that the son's devotion cooled almost as quickly as the father's body: "Anno 1604. Queichô 9. In the beginning of this year Jōsui died in the Cami, where he had gone to be cured, being already very ill; it is the custom of the daimyo to avoid dying in their homes; being at the point of death, he asked that a *Padre* be called; in spite of his servants replying yes, they didn't call one; therefore he didn't make a confession in the hour of his death: instead he asked that his Agnus Dei and rosary, which was put around his neck, be prayed, saying that he died Christian. And he ordered that once dead his body be taken to the *Padre* of Facata; and asked in his testament that his son remember to favour the Padres in his lands. In

[553] See Schütte, *op. cit*., p. 795, note 2.

[554] N. Murakami, *Diary of Richard Cocks, Cape-merchant in the English Factory in Japan, 1615-1622, with correspondence*, Tokyo, Sankōsha, 1899, vol. 1, p. 128.

[555] For a view on Jōsui's Christian life see H. Cieslik, "Kirishitan to Shite no Kuroda Josui"「キリシタンとしての黒田如水」, *Kirishitan Bunka Kenkyūkai Kaihō*『キリシタン文化研究会会報』, no. 21(4), pp. 261-272.

[556] Gabriel de Matos was born in Vidigueira, in the archdiocese of Evora. He was admitted into the Society of Jesus in 1588. After studying philosophy and theology he left for India in 1596, and then Macao in the same year. In Macao he was ordained in 1598. In 1600 he left for Japan. He worked under Celso Confalonieri in the noviciate of Nagasaki for two years starting in the end of 1602. Afterwards he built the churches of Akizuki and Yanaga. and worked also in Hakata. There he became close with Nagamasa. In June 1610 he started accompanying the Provincial, Valentim Carvalho. He made his four vows in 1611.11.27 in Nagasaki. At the end of 1613 he moved to Miyako. In 1614 he was voted procurator of the Province in Rome. He returned to the East in 1619 where he worked in the Colégio de S. Paulo, and was Visitator of China and Japan and then of Conchichina.

this testament he left two thousand taels to the Company: one thousand to the *Tçucasa* of Nangasaqui, and another thousand to build a church in Facata. His body having come from the Cami to Facata, was handed over to us, and in a few days a *gan*, or small tomb, was made ready, where we put him richly dressed. One night, in April, from ten to eleven o'clock, we buried him in the pine grove outside the city of Facata, near the Christian cemetery, in an elevated place. His son Chicujen-dono escorted the body, as well as all the principal nobles of his kingdom; the *toxiyorixus*, castellans, saddened Christians, bore the tomb; Soyemondono, his brother, good and true Christian, carried the cross; one of his sons, Safenjidono, and one grandson of Soya, governor of the town, son of Tacangui Ficozaimon, carried the torches; Fr. Pedro Ramón and I wore capas; brother Nicolao and the Dojucus wore surplices. The place where we began the procession was near the grave, inside one large fence of planks, where only the kingdom's nobles could enter, anyone else risking the death penalty; when we arrived inside the tomb, where two hundred men could be buried, we sang the evening service and then the burial service; thus we buried him. Together with the coffin with his body, in the same tomb, several other coffins were buried; I could not ascertain their number or what was buried in them. Some said it was the bodies of some people dear to him who had killed themselves; others, that weapons and other war instruments, because he had been a famous warrior; others, other things. And all the kingdom's most important nobles cut there the *motoy*[557] and threw it into the tomb with him. Returning that night to our home, just behind us came the same Chicujendono thanking us for the burial of his father; and that was the first time he entered our house, where after the *sacazzuqui* he prayed a little, and went back when it was already midnight. The following day he sent five hundred *gocus* of rice, which make one thousand bales: four hundred for us to distribute among the poor on the behalf of his father's soul; and six hundred for the house. And immediately he gave permission for the building of a church; because the present one is no more than a small chapel; at this news the Christians leaped for joy. Our place was also enlarged, one beautiful *cura*,[558] that belonged to Jōsui, having been given to us. Some fifteen or twenty days later Chicujen-dono had exequies for his father executed according to the gentile rites; because on the one hand he was down and

[557] This word is defined in the Vocabvlario, fl. 167v as "Motoi. Melius, motoyui. Vide infra." and "Motoyui. Cabelos que atão no toutiço os Japões."

[558] "Cura. Despença, logea, ou gudão." Vocabvlario, fl. 66.

wanted to show that to the *Tenca*, but on the other hand [as] he was the lord of one of the most important kingdoms, he made them well known, but their [description] requires time: I will describe them separately in a paper, when it becomes necessary and I have more time."[559]

Some modern historians see these Buddhist rituals with Tridentine severity, as evidence that whatever Nagamasa might have done or said outwardly to the contrary, he had innerly apostatized. Seventeenth century Jesuit priests were not as harsh. Not only did *Padre* Gabriel de Matos seem to have understood the reasons Nagamasa might have had for the performance of gentile rites, fellow Jesuits did not give the lord of Fukuoka the cold shoulder after his alleged apostasy. *Padre* de Matos' account goes on as follows: "Not much later, from Nangasaqui went the Vice-provincial *Padre* Francisco Passio with many *Padres* and Brothers to make the exequies of Jōsui in our chapel; there came Chicujen-dono and all the prime of nobility of the kingdom; Fabião, who afterwards became and still is apostate, preached there to the great pleasure of everyone. […] The *Tono* ate in our home and then invited all of us to his castle."[560] The remaining evidence is also that Nagamasa continued to behave as a true believer for some years, maybe because of a close relationship with some priests as Matos, and that he turned cold on Christianity and Christians only some ten years after Jōsui's death. [561]

The following entry in merchant Cocks' diary on October 15, 1616, seems to substantiate this. "Here is reportes geven out that the Emperour doth determen to put Massamone Dono and the Kyng of Faccata to death, with an other tono or kyng."[562]

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[559] Schütte, *op. cit*., pp. 371-373. Translation in José Miguel Pinto dos Santos, "The 'Kuroda Plot' and the Legacy of Jesuit Scientific Influence in Seventeenth Century Japan", *Bulletin of Portuguese-Japanese Studies*, Vol. 10/11, 2005, pp. 97-191.

[560] *Ibid*, pp. 373-374.

[561] Concerning Nagamasa's actions at a later date Father de Matos would write: "Estive no Facata de Junho de 610 até Outubro de 612, que fui pera Nangasaqui ser Companheiro do Pe. Valentim Carvalho, Provincial; ficou em meu lugar no Facata o Pe. Celso Confaloneiro. No Facata fui muito favorecido de Chicujen-dono, mandando-me humas vezes dar aroz, por huma cem fardos, por outra não sei quantos, convidando-me na sua fortaleza; e vindo a nossa casa muitas vezes no anno. Aqui gastava mais de mil tayeis cada anno no gasto de casa e em obras, e nada me derão da Procuradoria, mais que vinho das Missas, sera, e algumas miudezas." Schütte, *op. cit*., p. 376.

[562] Murakami, *op. cit*., vol. 1, p. 192.

Although it is undeniable that Hidetada started to behave in a systematically persecutory manner after the death of Ieyasu, his fear of one of his father's most trusted allies can only be understood with Nagamasa's Christian status at this late date.[563] This is borne out by the pairing of "Massamone Dono" with the "Kyng of Faccata." The only point in common that Date Masamune might have had with Kuroda Nagamasa, which might have displeased Hidetada, was Christianity.[564] Though Masamune did not convert publicly to Roman Catholicism, he was widely known for his patronage to Franciscan friars, numerous and able Christians in his retinue, wholly Christian villages in his northern fief in Mutsu, and diplomatic embassies to the *Nanban* King.[565] It was only some time after this unconsummated incident that both Date and Kuroda put Christianity on their backs. In Masamune's case, it was when his ambassador returned home baptized.[566] And in Kuroda's case, when there was talk of one of his daughters marrying Tokugawa Iemitsu 徳川家光 (Keichō 9.7.17—Keian 4.4.20, 1604.8.122—1651.6.8), the son of Hidetada.[567]

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[563] Clulow, *op. cit*., p. 20, describes the first years of Hidetada government as "an increasingly paranoid regime."

[564] Both also had high incomes. "Sendaino Thiunangon, King of Massamne and Ochio, lives in the invinsible Castle of Senday and hath 640000 [kokus]. Matsendeyro Iemenosio, King of Tsunkisen and Faccatia dwells in Foucosa and hath 510000 [kokus]." Caron, *op. cit.*, p. 14. These revenues were certainly taken by Caron from one of the earliest editions of *Yedo Kagami*. See Boxer's note on p. 118.

[565] For a biography see Kobayashi Seiji 小林清治, *Date Masamune*『伊達政宗』, *Jinbutsu Sōsho*『人物叢書』, no. 28, Tokyo, Yoshikawa Kobunkan 吉川弘文館, 1959.

[566] In a letter dated January 14, 1621, *Padre* Francisco Pacheco, then Mission Superior of Kami writes: "Os Padres de Oxu estiveram qietos e em paz até 29 de Setembro de 620, dia em que Masamune publicou lei contra os Christãos; e nota o Pe. Jerónio de Ángelis, que, em chegado a Oxu o Embaixador Japam que foi a Roma, logo fez a lei da prohibição." In a postscript he explains the reasons for Masamune's change of heart: "A causa, por que Masamune persegue aos Christãos, hé medo da Tenca, que lhe tire o estado; e, por isso, em chegado o Embaixador, deu mostras que se conformava com o Xógun, e também perseguia a Lei de Christo Nosso Senhor." Schütte, *op. cit*., p. 890 and p. 892.

[567] "O filho de Xogûn o soreo casa com a filha de Chicujen-dono, do Facata," letter of Pe. João Baptista Porro dated October 6, 1621, Schütte, *op. cit*., p. 903. This marriage could not be confirmed from Japanese sources. According to both the *Kuroda Kefu* and the *Kansei Chōjū Sho-kafu*『寛政重修諸家譜』, book 425, of Hotta Masa-atsu 堀田正敦, (edition of Takayanagi Mitsutoshi 高柳光寿, Okayama Taishi 岡山泰四, Saiki Kazuma 齋木一馬, Tokyo, Zoku gunsho ruiji kanseikai 続群書類徒完成会, vol. 7, pp. 208-209) the three daughters of Nagamasa married, respectively, Inoue Awaji-no-kami 井上淡路守, Sakakibara Shikibu Daisuke Tadatsugu 榊原式部大輔忠次, and Ikeda Ukon Daifū Teruaki 池田右近大夫輝明. The *Kansei Chōjū Sho-kafu* had its origin in the request made by the *bakufu* to the daimyo and

Nagamasa had three daughters and four sons. Except for the eldest daughter and the second eldest son, all his children had as their mother his wife, an adopted daughter of Ieyasu, whom Nagamasa was made to marry in Keichō 5.6.6, or 1600.6.16 on the *Padres*' calendar. Kuroda Tadayuki 黒田忠之 (Keichō 7.11.9 — Jōō 3.2.12, 1602.12.22 — 1654.3.30), was the first child from this marriage. He was barely ten years old when, in Keichō 17.12.15, 1613.2.5 on the Gregorian calendar, he had his first audience with his grandfather, Ieyasu, in Suruga.[568] From this interview he went on to Edo to be received by his uncle Hidetada in 1613.4.11. Everything went smoothly. As a sign of the shogun's pleasure the young gentleman was allowed to bear the high name of Matsudaira. Nagamasa must have sighed with relief at this news. By now, he was growing concerned with his heir's *wagamama*, or willful, ways. He worried about his son's friendships and his apparent lack of interest in the fief's government. Tadayuki, always fond of horses and hunting, of drinking and merry living, was frequently invited to hunting parties by Ieyasu. At first he stayed in the periphery of the entourage, but in 1615 he began to be asked by the retired shogun to be by his side. In this way Tadayuki became one more example that the road to success does not have to pass through the wasteland of hard work. Though the sources are silent on the circumstances, it is not hard to imagine Tadayuki running to the help of Ieyasu as he fell from his horse during one such party in the spring of 1616, and then holding the old general in his arms until the *norimono*, or litter, arrived to carry him to his death mat. In 1622 Nagamasa arranged for Tadayuki to marry the daughter of Ōkubo Sagami no Kami Tadachika 大久保相模守忠隣 (Tenbun 22 — Kan'ei 5.6.27, approx. 1553 — 1628.7.28). However, "there were reasons," as the *Kansei chōjū sho-kafu* discreetly puts it, for the two not to marry, and thus the betrothal ended in divorce.[569] Around this time Nagamasa, wearied

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hatamoto in Kan'ei to submit their genealogies. These were edited by Hayashi Razan (Tenshō 11.8 — Meireki 3.1.23, 1583 — 1657.3.7) into the *Kan'ei Shokei Zue-den*『寛永諸家系図伝』, and later by Hayashi Jussai (Meiwa 5.6.23 — Tempō 12.7.14, 1768.8.5-1841.8.30) at the request of Hotta Masa-atsu 堀田正敦 (Hōreki 8 — Tempō 3.6.16, approx. 1758 — 1832.7.13) into *Kansei Chōjū Sho-kafu.*

[568] The *Kansei Chōjū Sho-kafu*, reckoning his age according to the traditional East Asian way—where a child is one at birth—states the he was eleven on this date, *ibid*, vol. 7, p. 208.

[569] Some time later he would marry one adopted daughter of Hidetada:「八年これよりさき仰によりて大久保相模守忠隣が女に婚を約すといへども、故ありて離婚し、のち台徳院殿の御養女を娶るべき旨仰をかうぶり、正月二十六日婚儀を整る」, *ibid*, vol. 7, p. 208.

by his son's behavior, decided that he was unfit for the government of such an important and rich fief as Chikuzen-Fukuoka and that Nagaoki 長興 (Keichō 15.3.15 — Kambun 5.3.20, 1610.5.9 — 1665.5.6) should succeed him. In this plan he was dissuaded by his trusted *jūshin*, or senior official, and *rōjū*, or counselor, Kuriyama Daizen 栗山大善 (Tenshō 19 — Jōō 1.3.2, approx. 1591 — 1652.4.10). After much hesitation Nagamasa decided that upon his death his fief should be partitioned between the three of his sons that were also nephews of Hidetada. Tadayuki would inherit Hakata, with 433,000 *kokus*, on the condition that he be oriented, and overseen, by Daizen. Nagaoki would receive Akizuki with 50,000 *kokus* and Takamasa 高政 (Keichō 17 — Kan'ei 16.11.13, approx. 1612 — 1639.12.7) would acquire Tōrenji with 40,000 *kokus*. With this arrangement Nagamasa closed his eyes.

5. The inquisitive inquisitor

Genshō continued writing his preface: "Lord Taishu Minamoto no Tadayuki of Chikuzen, ordered their imprisonment and sent them to the office of the Nagasaki commissioner, and thus they reached Lord Etake Inoue Chikugo no Kami Motomune. Lord Motomune threw them down into prison and not before long all of them regretted their own wrongdoings and apologized for their crimes, converted from Christianity and became members of our nation."

Lord Motomune, better known as Inoue Masashige 井上政重 (Tenshō 13 — Kambun 1.2.27, approx. 1585 — 1661.3.27), was a soft spoken, amiable figure, someone who could easily make friends and convince people. He was also the prototypical bureaucrat, fearsome and feared, whom the most magnificent daimyo or most powerful *rojū* would never risk displeasing, much less think of opposing, except perhaps in a nightmare. About this interesting and powerful personage the most dissimilar descriptions have been given and the most disparate appraisals have been offered—a Japanese humanist to some, a Japanese prototype for Adolf Eichmann to others.[570]

[570] It was already pointed out in Chapter I that, in a Japanese context, what seems to some authors to be politeness, passion for order, dedication to work, etc., is frequently constructed to be the corresponding vice by other writers. Therefore it is not surprising that while Suzuki Takeo 鈴木武雄, *Wazan no*

Masashige was born in Yokosuga in Tōtōmi, fourth child to Inoue Han-emon Kiyohide 井上半右衛門清秀 (*fl.* middle sixteenth century).[571] Both his grandfather Kiyomune 清宗 (*fl.* early sixteenth century) and his father were vassals to Ōsuga Yasutaka 大須賀康高 (*fl.* sixteenth century), an influential retainer of Ieyasu. His mother, who was from the Nagata clan, had been wet nurse to Tokugawa Hidetada, the second shogun. Her father, Nagata Tarō Saemon 永田太郎左衛門 (*fl.* sixteenth century), had been head of a powerful family of the Tanno region in Tōtōmi.[572] She seems to have had a forceful and courageous personality that strongly influenced her husband and sons. Masashige's elder brother Masanari 正就 (Tenshō 5 — Kan'ei 5.8.10, approx. 1577 — 1628.9.7), the third son of Kiyohide, had been one of the closest advisers to Hidetada as a *toshiyori*, or member of the Council of the Elders, until his assassination, in the shogunal palace, in a notorious incident.[573] Masanari's son-in-law was Matsudaira Isu no Kami Nobutsuna 松平伊豆守信綱 (Keichō 1.10.30 — Kambun 2.3.16, 1596.12.19 — 1662.5.4) of Shimabara fame. Finally it should be noted that Masashige married the elder sister of one of the *bakufu*'s *jūshin*, or senior minister, Ōta Sukemune 太田資宗 (Keichō 5 — Empō 8.1.22, approx. 1600 — 1680.1.22).

It is evident that Masashige was, from the start of his career, well connected. However, not much is known of his earlier years. The official records first refer to him in 1608, when he was twenty-three years old, on the occasion of his formal entrance in the service of Hidetada's household as *shoin*, or palace guard.[574] From this, however, it

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Seiritsu: Sono Hikari to Kage『和算の成立: その光と陰』, Tokyo, Kosei-sha Kosei-kaku 恒星社厚生閣, 2004, views Masashige in a benevolous light, Elison, *op. cit.*, p. 208 is not shy in drawing his similarities to Eichmann.

[571]「天正十三年遠江國ニ生る。」, *Kansei Chōjū Sho-kafu*, book 243, vol.4, p. 305.

[572] See Suzuki, *op. cit.*, p. 68.

[573] Masanari was rich both in silver and in enemies. Both were earned more by the farming of his political power in Edo and by his dabbling in illicit foreign trade in Nagasaki than from the management of the fief in Tōtōmi that he had inherited from Kiyohide. Concerning the dissatisfaction some had concerning his greed see Robert LeRoy Innes, *The Door Ajar: Japan's Foreign Trade in the Seventeenth Century*, Ph.D. thesis, The University of Michigan, 1980, p. 130.

[574]「慶長十三年より台徳院殿につかへたてまつり、御書院の番士となり、廩米二百俵を賜ふ」, *Kansei Chōjū Sho-kafu*, Book 243, vol. 4, p. 305. *Shoin* were members of a military organization of young *hatamoto* whose main duties were to police the shogunal palace.

should not be inferred that he was a country boy as Ferreira had been. In the *Records of the Aizu Domain* there is a cryptic reference to his having been in the service of the Gamō, which could only have happened before he began working in Edo Castle.[575] The Gamō, it should be remembered, were castellan in the north of Japan since 1590. Gamō Ujisato Leão, the prototype of the Azuchi warrior who could be as inspired in *waka* composition as he was able as a diplomat, as accomplished in tea ceremony as he was dexterous with the sword, as renowned as a castle builder as a developer of commercial towns, had been the Christian daimyo of Aizu. When he died Hideyoshi transferred his son, Gamō Hideyuki 蒲生秀行 (Tenshō 11 — Keichō 17.5.14, approx. 1583 - 1612.6.13) to Shimotsuke. Hideyuki, who resembled his father in more than a few traits, also shared his religion and his propensity to marry the daughters of rising military chieftains.[576] As the father married a daughter of Oda Nobunaga 織田信長 (Tenbun 3.5 — Tenshō 10.3.2, 1534 — 1582.6.21) so did the son marry a daughter of Tokugawa Ieyasu. After the battle of Sekigahara, his father-in-law, the new power in the land, transferred him back to Aizu. What is singular in Masashige having served the Gamō, is not that a close association with this family of admired warriors would be desired, possibly even actively sought, by such an ambitious, energetic and upwardly mobile young gentleman but that, except for one person, there is no link between the Inoue and the Gamō that would have made possible one offering his services to the other, no one to serve as *nakodo*, or go-between, connecting the two families, to make the required presentations or to write the necessary recommendation letter. Neither was there the geographical proximity that often made it possible to go without the *nakodo*'s services. Ujisato was originally from Ōmi and had been lord of Matsugashima in Ise. Neither of these places, nor Aizu or Shimotsuke, was close enough to Tōtōmi to allow the creation of neighbor relationships. Thus the only

[575] In the *Aizu-han Kasei Jikki*『会津藩家世実記』, vol. 5, in the entry for Shōhō 2.6.17 (1645.7.9) it can be read that「筑後守様より清右衛門事、於蒲生家我等古傍輩ニ候、」A discreet reference to this period with the Gamō can also be found inscribed below Masashige's name in the family tree that appears in the *Inoue-ke Shiki*『井上家私記』: "first served the Gamō, afterwards invited to serve in the shogun's household"「始蒲生ニ仕後将軍家へ被招出」.

[576] Hideyuki usually appears in the lists of baptized lords. See, for example, João Paulo Oliveira e Costa, "Tokugawa Ieyasu and the Christian *Daimyō* during the Crisis of 1600", *Bulletin of Portuguese Japanese Studies*, vol. 7, 2003, pp. 45-71. However, there remain no records of the details of his Christian life, and we have no information even of his baptismal name. See Kishino Hisashi 岸野久, "Gamō Hideyuki"『蒲生秀行』, *Nihon Kirisuto-kyō Rekishi Daijiten*『日本キリスト教歴史大辞典』, Tokyo, Kyobunkan 教文館, 1988, p. 324.

perceptible link between the two families was Ieyasu, whose wife came from Tōtōmi and whose daughter went to the Gamō. It is also important to consider that the Gamō were not only close enough to Ieyasu, not least because of family ties, to be his allies, but also distant enough, on the account of their religion, to be viewed with suspicion. The Gamō's true position towards the regime Ieyasu was building must have been viewed by the shogun as uncertain at best. Uncertainty, as any modern economist or game theorist would have told him, possibly paraphrasing some ancient Chinese military theorist, may be resolved by acquiring more information. So it is only natural that Masashige should have gone to work for the Gamō with a recommendation or at the request of the Tokugawa. His mission there would have been to keep his eyes and ears wide open and report back to Edo any suspicious or treasonable developments.[577] That the chief intelligencer should have started as a snooper rather than as an idler also fits naturally into the traditional patterns of Japanese career development.

It has been hypothesized that Masashige might have been a Christian in his youth. That may have been so.[578] However, the two incompatible reasons usually advanced in support of this assumption are similarly tenuous. The first is that the environment around the young Masashige might have had a strong Christian tinge.[579] In support of this it is pointed out that Watarase Shigeaki 渡瀬詮繁 (?-1595), the third generation castellan of Yokosuga and an old friend of Takayama Ukon, was a Christian with a taste for Christian (e.g., European) art. Watarase was also a close friend of Toyotomi Hidetsugu 豊臣秀次 (Eiroku 11 — Bunroku 4.7.15, approx. 1568 — 1595.8.20), the nephew Hideyoshi had adopted as his son and had intended to make his successor before his natural son Toyotomi Hideyori 豊臣秀頼 (Bunroku 2.8.3 — Genna 1.5.8, 1593.8.29 — 1615.6.4) had been born. A short time after this birth Hidetsugu was deposed of all rights, titles and authority that had been conferred upon him by Hideyoshi and was sent into exile to the Shingon monastery of Mount Kōya. In 1595 he was mercifully allowed to perform *seppuku*, or to ritually cut his own entrails. All his consorts and children, now a threat to

[577] Suzuki, *op. cit.*, p. 68-69, though through a different reasoning also arrives at the conclusion that Masashige was probably a spy of Ieyasu and Hidetada in the Gamō household.

[578] There are two brief references to Masashige as a renegate Christian in P. António Francisco Cardim, *Batalhas da Companhia de Jesus na sua Gloriosa Provincia do Japão*, Luciano Cordeiro (ed.), Lisboa, Imprensa Nacional/ Sociedade de Geographia de Lisboa, 1894, pp. 63 and 64.

[579] Suzuki, *op. cit*., pp. 58-59,

the new heir apparent, received a less honorable death, being beheaded in Kyoto. Many of his friends, Watarase amongst them, were also condemned to stop living, being allowed to commit suicide, an incident that happened when the youthful Masashige was around ten years old. Though all this is well established, the argument that goes on to assume strong Christian surroundings in an eastern fief just because its lord was a Christian is, however, weak. Although it is not to be doubted that Watarase's vassals knew very well that their lord was a Christian, this does not imply that many of them also became Christians. And though it is not to be doubted that some did in fact convert, lacking precise and well-documented figures for the number of baptisms in the region, one has to assume that the proportion of Christians in Watarase's fief was low. If one starts seeing Christians everywhere in late sixteenth and early seventeenth century Japan, then the traditionally accepted figures for the number of conversions, for example *Padre* Valentim de Carvalho's estimate that there were around 300,000 Christians in January 1614, start to look too cramped for all those multitudes to fit in, and one needs to look for more commodious estimates, like that of Fernão Guerreiro's *Relaçam Anual* of 1605 that gives a total of 750,000 converts, or even the two million of some eighteenth and nineteenth century historians, which are usually thought to be too high by modern scholarship.[580] Given the high number of Christians that were reported for the Shimo and in the Kami regions, if one wants to believe Carvalho's estimate one has to assume that the number of Christians in the other Japanese regions was low. Consequently the proportion of Christians in the population of those regions like Yokosuga must have also been so. This reduces the probability of a young gentleman being a Christian in this place and at this time to negligible ratios, to certainly much less than one in one hundred, probably to something like one in one thousand or even less. With probabilities of this magnitude the odds are clearly stacked against the hypothesis of Masashige having been a Christian. This, naturally, does not exclude the possibility of his having learned about the foreign religion without converting, but one has to point out that even this weaker hypothesis has the laws of probability against it. Without concrete and hard documental evidence, that an

[580] There is a vast bibliography concerning the number of Japanese Christians at this time in Japan. See C. R. Boxer, *The Christian Century in Japan, 1549-1650*, Berkeley, University of California Press, 1967, pp. 320-323; Johannes Laures S.J., *The Catholic Church in Japan: A Short History*, Tokyo, Tuttle, 1954, p. 177; Jennes, *op. cit.*, pp. 240-241; João Paulo Oliveira e Costa, "Recherches sur la Presence Portugaise au Japon. La Chrétienté Japonaise au XVIe Siécle", *Arquivos do Centro Cultural Português*, Paris, Vol. 36, 1996, pp. 175-189.

older Masashige would certainly have done everything to destroy, these hypotheses are better to be seen with skepticism. Furthermore, had Masashige been Christian when he had entered the service of the Gamō, Ieyasu most certainly would not have chosen him to spy on their Christian proclivities—unless, of course, one assumes that he had abjured his faith by then. But given that the probability of a Christian samurai apostatizing was also very low, to assume a conversion coupled with an apostasy is to toy with infinitesimally small probabilities.

The other reason usually given for a possible conversion of the young Masashige to Christianity is that it would not be unreasonable to assume that to turn fellow religionist was part of the deal when serving the Gamō.[581] Unfortunately there is not the slimmest shred of evidence that the Gamō ever made clear to their vassals that they would rather have them Christian than not, as a couple of lords in the western provinces reportedly did. The evidence is clearly in the opposite direction: the vast majority of the vassals of the Gamō were not converted. If one assumes even just a few percentage points of Christians in their fief one bumps inexorably against Valentim de Carvalho's estimate for the total number of Japanese converts. Nor is there any report of any large effort being made by missionaries trying to fish in such a favorable pond. Simply there were not enough missionaries to attend all demands that were made.[582]

Thus, had the Gamō innerly wished their vassals to convert, which seems a more reasonable hypothesis to make, it is unlikely that they would voice that desire lacking, as they did lack, the indispensable means to operate such desired conversions: catechists and priests. Moreover this hypothesis directly opposes the one that assumes the conversion of Masashige, or even his infant baptism, in the Christian environment of Yokosuga and fits awkwardly with that other, more probable, of Masashige having worked for the Gamō at Ieyasu's request. Asking someone introduced by Ieyasu to convert would show a lack of tact which does not fit well with what is known about the Gamō. Further, asking Ieyasu's religious spy to convert would provide prime evidence of "wrong doing" by the Gamō, the consequences of which would have left a heavy trail of historical evidence that is

[581] Elison, *op. cit.*, p. 92.

[582] Concerning the lack of missionary personel in Japan see Chapter II, Section 4, and the bibliography presented there.

lacking. The hypothesis that Masashige converted to better spy on his masters has, mercifully, not yet been proposed by anyone.

After entering the service of Hidetada, in 1608, Masashige progressed rapidly through the ranks. He took part in the campaign of Osaka in 1615. There he cut his first head. Shortly thereafter he started working directly for Tokugawa Iemitsu, the second son of Hidetada, and in 1625 he was appointed *metsuke*. The primary function of this office was to investigate "wrong doings," or unlawful acts, by members of the lower levels of the military nobility, the *hatamoto*, and to report on them.

In 1632 Hidetada died and was succeeded by Iemitsu. The processes of consolidation of the Tokugawa military dictatorship took one large step forward with the administrative reform the third shogun ordered and that included the creation of the post of *rōjū* and of the office of *ōmetsuke*. With this reform the Japanese political system evolved from being one based mainly on a web of personal, and more or less informal, relationships maintained and orchestrated by the first dictator to a fully institutionalized bureaucracy that supported, and to some extent manipulated, the third and his successors.[583] To put it as simply as possible, in the new order the *rōjū* were to instruct the daimyo on the shogunate's wishes and the *ōmetsuke* were to inspect their compliance. It was in the wake of this reform that, in 1633, Masashige was appointed the first of a team of four *ōmetsuke*, with the function of reporting directly to the shogun on the daimyo and the *rōjū*. It is natural that someone with these functions should be feared. Hosokawa Tadaoki 細川忠興 (Eiroku 6.11.13 — Shōhō 2.12.2, 1563.11.28 — 1646.1.18) once wrote that "for a long time several details concerning this matter have reached the most honorable ears, because there are things that leak, and this should be so, and because [the elders] fear the *ōyokome*, and this again I humbly believe should be so."[584]

It is one of the minor little ironies of Tadaoki's life that the most important peasant rebellion in the Tokugawa period occurred next door to his fief. Shimabara was the

[583] For the process of formation of this new administrative system see Fujii Jōji 藤井譲冶, *Edo Bakufu Rōjū-sei Keisei Katei no Kenkyū*『江戸幕府老中制形成過程の研究』, Tokyo, Kokura Shobo 校倉書房, 1990.

[584]「一いにしへより、様々こまかなる儀も立御耳、又もれ候も在之由、左様ニ可在之候、就夫、大横目ニおちおそれ候由、是又左様ニ可在之と存候事」, cited in Fujii, *op. cit.*, p. 170.

domain of a viciously money-loving small daimyo, Matsukura Katsuie 松倉勝家 (Keichō 2—Kan'ei 15.7.19, approx. 1597—1638.8.28) "a merciless suzerain and landlord, stopping at nothing to exact the last grain of rice from his tenantry,"[585] to whom the creation of the *Mino-odori*, or Mino dance, is attributed. First the peasants in arrears were dressed in their straw raincoats with their hands tied behind their bodies and then set alight. They would then move rhythmically to the tune of the cracking straw. Though they were free to twirl as they fancied most would follow a similar sequence of steps that would become known as the *Mino odori* 蓑踊. Another of Katsuie's favorite devices "was to seize the wives and daughters of those who could not pay their taxes. These women were ostensibly held in arrest until the required contributions were forthcoming from their menfolk, but often died under the torturer's hands before the money to ransom could be found."[586]

According to one version the rebellion had economic oppression as its cause.[587] The drop that started the rebellious flood would have been occasioned by an impecunious and appalled father who killed a group of Katsuie's minions that were torturing his daughter in front of his eyes. The other villagers rose to his help, and so did the rest of the district, thus initiating the Shimabara rebellion. This view seems germane with the idea, generally held, that the Christian converts of Kyushu were of lower doctrinal and spiritual quality than their brethren of central Japan, ready to be converted if their territorial lord so wished, pleased to get un-converted if he so demanded. After all, some years earlier they had accepted to leave the Church for the Pagoda without creating any unrest. Though they could accept living without *Eucharistic Bread* they could not do without daily rice, and therefore the reason of their uprising.

Another version of the events holds that the rebellion was religiously motivated. This is the view that the shogunate accepted early on and that its historians have propagated ever since.[588] According to this perspective, the Shimabara uprising was an

[585] Boxer, *op. cit.*, p. 377.

[586] *Ibid*, p. 377.

[587] Boxer, *op. cit.*, pp. 376-377; Elison *op. cit.*, p. 220, Jennes, *op. cit.*,143-145.

[588] Until the early decades of the twentieth century Japanese popular and erudite literature, following the *bakufu* interpretation of the events, had always linked the Shimabara uprising to Christian banditry, so that one author could write that "[t]he Japanese historians are nearly unanimous in saying that the

attempt at usurpation on the behalf of a foreign king brought about "with the passion of religion" by a local Christian fifth column incited by foreign priests. Though it was later found that the foreign *padres* were lacking, not one foreign or Japanese father being found among the rebels, this view is supported by the fact that the majority of the population of Shimabara and the neighboring islands of Amakusa had largely been Christianized by the late sixteenth century and remained Christan one generation after 1614.[589] Further, it can be pointed out that Matsukura Katsuie was not only hated for his greed but also disrelished for his anti-Christian fanaticism. Not only had he mercilessly tortured and killed the few hundred of his vassals who had not complied with his prohibitions against Christianity, he had willingly put the natural resources of his fief, specially its sulphurous springs, at the disposal of the similarly rabidly anti-Christian fifth Nagasaki Commissioner Mizuno Kawachi no Kami Morinobu 水野河内守守信 (1577-1636) as an unkind inducement in the theological re-education of the more obdurate Nagasaki Christians. This view is further reinforced by the fact that the rebellion swiftly assumed a religious character once it had started. The insurgents openly proclaimed their adherence to the Christian faith and advertised their intention to live, to fight and to die in it.[590] Their banners were full of Christian motifs, and in their attacks they shouted the names of Jesus and Mary.[591] However, if this view is held as approximating best the real cause of the

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Shimabara insurrection was a revolt of persecuted Christians", Papinot, *op. cit.*, p. 568. See also M. Paske-Smith (ed.) *Japanese Traditions of Christianity, Being Some Old Translations from the Japanese, with British Consular Reports of the Persecutions of 1868-1872*, Kobe, J. L. Thompson & Co., 1930, p. 51, and Boxer, op. cit., p. 378. One of best known examples of that popular literature is the *Kirishitan Monogatari* already mentioned. Of more historical value are the *Shimabara-ki* 『島原記』, 1640, and the *Shimabara Amakusa Nikki* 『島原天草日記』, 1663, written by eye-witnesses. Their effect on popular conceptions continues to be strong. Modern Japanese historians who still hold to this view are a minority, and usually refer the brutal government of Katsuie before concluding for the religious motive. For an example see Fujii Jōji 藤井譲治, Edo Kaimaku 『江戸開幕』, *Shūei-sha Han Nihon no Rekishi* 『集英社版日本の歴史』, vol. 12, Tokyo, Shuei-sha 集英社, pp. 249-259. Some English language historians hold the same view. See for example, Fujita, *op. cit.*, p. 187; John Whitney Hall, *Japan: From Prehistory to Modern Times*, Tokyo, Charles E. Tuttle Co., 1971, p. 188; Mason and Caiger, *op. cit*., pp. 168-169.

[589] The Christianization of Shimabara seems to have been a slow and hard process. The mission there had been founded by Brother Almeida but "the missionaries met with strong opposition on the part of the bonzes who where very influential in this section. A number of converts was made, but the mission was left without a priest for many years." Jennes, *op. cit*., p. 18. See also Ribeiro, *op. cit*., pp. 87-89.

[590] Fujita, *op. cit.*, p. 187. Also Elison, *op. cit*., p. 220, states that "the organizing force [of the rebellion] was clearly religious."

[591] Elison, *op. cit.*, pp. 3, 220.

uprising, one has to question the belief that the Christianization of the Kyushu peasantry had been achieved through superficial mass conversions that had involved no true religious conviction. In Shimabara, the pliable peasant of some history books, Buddhist in belief and Christian in outlook to please his lord, becomes with startling swiftness the misguided, obdurate and hidden Christian of other accounts, outwardly Buddhist but prepared to rebel and to die for his inner Christian faith. Whatever its real causes, the Shimabara rebellion was viewed from Edo as a religious problem.

The urgency of the problem asked for its immediate quelling. To this end the shogunate sent Itakura Shigemasa 板倉重昌 (Tenshō 16—Kan'ei 15.1.1, approx. 1588—1638.2.14) and Ishigaya Sadakiyo 石谷貞清 (Bunroku 3—Kambun 12.9.12, approx. 1594—1672.11.2) to command the forces to be levied from the neighboring fiefs. In spite of being able to draw more than 50,000 of the best of the Kyushu samurai, Itakura and Ishigaya accounted no victories and suffered severe losses in their efforts to seal off and capture the insurgents. As reports reached Edo that its forces were making no progress against a handful of insubordinate peasants, it was decided that the husband of Masashige's niece, the *rōjū* Matsudaira Isu no Kami Nobutsuna, together with Toda Ujikane 戸田氏鐵 (Tenshō 4? —Meireki 1.2.14, approx. 1576? — 1655.3.21), be sent to take over Itakura and Ishigaya. Piqued by the news of his imminent substitution, Itakura decided to bet his reputation on one last all-out attack. Taking care of even the most minute details he cautiously chose a lucky day on the Japanese calendar, which appropriately fell on St. Valentine's day, and composed the traditional *antebellum* poem.[592] Nevertheless the attack was repulsed by the peasants with the great slaughter of samurai and the death of Itakura. When the shogun heard of this momentous failure two days later he seems to have feared that further defeats of his representatives at the hands of some worthless peasants might endanger his regime.[593] To avoid such an outcome he decided to send Masashige to advise his nephew on the courses of action that might be taken. After Masashige's arrival the tactics changed. Of special interest is that European war technologies were successfully tried at his suggestion and were conducive to the defeat of the rebels some weeks later. After the extermination of all inside the enemy camp, men and women, young and old, thus eliminating one source of potential

[592] The Japanese date was Kan'ei 15.1.1.

[593] Suzuki, *op.cit*., p. 73.

contamination, the shogunate began to address the causes of the disorder. Masashige's brother-in-law, Ōta Sukemune was sent to deal with the daimyo. Those daimyo who through greed or incompetence had given cause for the upheaval, Matsukura and Terazawa Katataka 寺沢堅高 (Keichō 13? — Shōhō 4.11.18, approx. 1608? — 1647.12.14) were deprived of their fiefs before meeting harsher punishments. Those who had behaved improperly during the campaign, like Nabeshima Katsushige 鍋島勝茂 (Tenshō 8.10.28 — Meireki 3.3.2, 1580.12.4 — 1657.5.7) were shut down under house arrest.[594] Finally, the neighboring daimyo who had brought their best troops were sent home without spoil or any other pecuniary compensation for their expenses or loss of manpower.

Masashige himself was appointed some weeks later *shumon aratame no yaku*, or official for the correction of religion, with inquisitorial and penal powers. His function was to forestall future Christian risings. The talents that put him in this new office were his ability to get information and the capacity to use it appropriately. Though it is not to be doubted that Masashige had been always someone full of curiosity, his interest for all things European is also very well reported in Japanese and Western sources for the period after Shimabara. He is known to have thoroughly interrogated both his Deshima-confined Dutch protégées and his apprehended Southern Barbarian *padres* about everything, from their religious beliefs to their scientific ideas, and to have asked from the former to bring to him books he couldn't possibly read and demanded from the latter written reports of all they knew concerning a particular subject of his interest.[595] He mastered all the techniques in the spectrum for making somebody speak, from the tea with *dango* to the wooden horse to suspension. And he was always very careful, some say in a "humanist way," that

[594] Under *heimon* 閉門, a penalty of the period, nobles or monks were literally shut down in their residences, doors and windows firmly closed with their *amado*, or wooden doors to keep away the rain, whose main function became keeping out the light.

[595] Concerning how Masashige can be depicted protector of the Dutch see Nagazumi Yōko 永積洋子, "Oranda-jin no Hogosha Toshite no Inoue Chikugo no Kami Masashige"「オランダ人の保護者としての井上筑後守政重」, *Nihon Rekishi*『日本歴史』, no. 327, 1975, pp. 1-17. Regarding how Masashige got to know what he wanted from his foreign informants see Hasegawa Kazuo 長谷川一夫, "Inoue Chikugo no Kami Masashige no Kaigai Chishiki ni Tsuite"「井上筑後守政重の海外知識について」, *Hōsei Shigaku*『法政史学』, no. 21, 1969, pp. 125-137.

no one should die during the interrogations: "anyway, that torture should be conducted so that they do not die is an order from above."[596]

6. The elder and the book

Genshō carried on brushing his preface: "The Bateren elder was a man that excelled in astronomy. This man brought a book of astronomy and offered it to Lord Inoue Chikugo no Kami Motomune. Some two or three years later, Lord Motomune ordered Chūan to translate this, and as the success of the translation was gradually brought to fruition, he presented this book to his Lordship. This volume is precisely that. Probably the astronomical and geographical theories of the Southern Barbarian scholars are all recorded in this book. The draft has been kept in Chūan's house."

Who "the Bateren elder" was is not clear. Several names have been proposed. Many authors have opted either for Francesco Cassola or for Giuseppe Chiara.[597] Some have gone so far as to say that the elder never existed, but rather was just a later textual creation, the preface having been added at an unspecified later date by an unnamed forger.[598] Genshō gives three characteristics that any candidate must have had to qualify as a "Bateren elder", or *chōrō* 長老. The first is that he had to have been an elder. The direct meaning of the Genshō's words, which could as well have been rendered as "chief elder," seems to point to someone that was not only older than the others but was also invested with some kind of authority that distinguished him from them by

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[596] Or with Masashige's own words in *Kirishito-ki*「契利斯督記」:「兎角嗷問イタシ候コトハ不レ死様ニ可レ仕由上意候、」, Kokusho Kankokai 国書刊行会 (ed.), *Zokuzoku Gunsho Ruijū*『續々群書類從』, Tokyo, Kokusho Kankokai 国書刊行会, 1906, vol. 12, p. 635.

[597] Two examples are: Obara Satoru 尾原悟, "Kirishitan Jidai no Kagaku Shisō: Pedoro Gomesu Cho 'Tenkyūron' no Kenkyū" 「キリシタン時代の科学思想—ペドロ・ゴメス著「天球論」の研究—」, *Kirishitan Kenkyū* 『キリシタン研究』, vol. 10, 1965, who in pp. 177-178, n. 15, dicussess the possibility of Francisco Cassola, and in p. 168 writes that "Giuseppe Chiara is generally considered to be the elder" (「寛永二０年、筑前大島潜入の破天連之徒とは、ルビノの第二潜入宣教師団で天文に精通した長老とは、ジョゼッペ・キヤラ Giuseppe Chiara（一六０一－一六八五）であろうとされている。」). Another example is Boleslaw Szczesniak, "The Penetration of the Copernican Theory into Feudal Japan", *Journal of the Royal Asiatic Society*, 1944, pp. 52-61.

[598] Nakayama, *op. cit.*, p. 90.

something more than age. Almost certainly it indicates the chief of the group. The second is that he had to have excelled in astronomy. The third was that he had to have brought a book on astronomy with him.

It is a well-known fact that most people call "old" those older than themselves and "young" those younger, irrespective of their age. Thus someone who is 10 years one's senior is already old at 16 and remains so at 66. Sexagenarians are always young to someone in his eighties. The oldest members of the two Rubino groups were Pedro Marques, born in 1575, and Rubino, born in 1578. Alonso de Arroyo, born in 1592 and the nephew of the King of Poland, Alberto Mezchinski, born in 1598 were some twenty years younger. All the others were still younger. It is hard to imagine a fifty-year-old Japanese neo-Confucianist calling a forty-year-old an "elder." This becomes doubly difficult when a septuagenarian is present.[599] For some members of the group it is not possible to know the precise date of birth. However, from some events in their lives it can be inferred that they could hardly appear as elders. For example, Francisco Marques, a member of the first group who had been born in Japan, entered the Jesuits in 1631 at about the same time that his older brother Pedro (no relation to the above mentioned Pedro Marques, born in 1575) and was ordained in December 1641.[600] André Vieira, a member of the second group and a grandson to Chinese, Japanese and Portuguese forefathers, professed in 1629 in Lisbon, and died in 1678. He would have then been 103 years old, if he had been as old as Pedro Marques.

Rubino and Marques were not only old. They were also leaders. Pedro Marques was the leader of the group caught in Ōshima. Rubino was not only the leader of the first group. He was also the leader of the enlarged "Rubino group." As Jesuit Visitator to Japan and China he could even classify as leader of the entire Christian Church in Japan. None of the other members could claim to be a leader in a similar way.

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[599] The Dutch *comptoirs* reported Marques' age as seventy. See Murakami Naojirō 村上直次郎, *Dejima Rankan Nisshi*『出島蘭館日誌』, vol. 1, Tokyo, Bunmei Kyokai 文明協会, 1938, p. 365.

[600] Pedro, the elder brother of Francisco, was Jesuit superior in Siam in 1670, Schütte, *op. cit*., p. 1050. If Francisco were approximately the same age as Rubino, Pedro would have been well over 90 years old by then.

Concerning astronomical learning it must be noted, first of all, that any Jesuit father, having gone, at least, through a treatise on the sphere for some months in his youth, would have been considered to excel in astronomy by most Japanese. With his explanations for the sphericality of the earth or for the occurrence of eclipses he would have been seen to have eminently reasonable and practical theories that, with the exception of a few Buddhist believers in *shumisen* 須彌山 cosmology, and of some neo-Confucianist upholders of the *konten* 渾天, *hún tiān* in the Chinese language, theory of heaven, would have been respected, even admired, by most. Some decades later, Arai Hakuseki 新井白石 (Meireki 3.2.10 — Kyōhō 10.5.19, 1657.3.24 — 1725.6.29) would not be able to hide his admiration of how Giovanni Battista Sidotti (1668—1714.11.27), a secular priest who had smuggled himself into Japan in the first years of the eighteenth century, could tell the hour of the day by just looking at his own shadow. Therefore Cassola or Chiara, or Pedro Marques for that matter, could have been considered by Genshō to have very good knowledge of astronomy, just as Chūan also had "excellent astronomical learning." However, it must be said that, from a neo-Confucianist perspective, this ability to explain movements and measure angles did not translate into a better understanding of the relationships between the heavenly and the human realms, and must be understood to apply only to the knowledge of the "forms," not to their "meanings." From another perspective it is also difficult to differentiate between the astronomical knowledge of Cassola, Chiara and Chūan. Their astronomical training was very similar in the sense that no detailed records from Jesuit sources remain of their mathematical, or astronomical, training. It was also similar in the sense that they did not receive the very best training that the Jesuit Colleges could provide, probably not even the second best. The best mathematically trained Jesuits were students in the Roman College. The second best were those that, while not having studied there, had had classes with someone who had.[601] Neither Cassola, nor Chiara, nor any other missionary in the Rubino Group makes it to the first or second group except Rubino himself. He was a student of Christoph Grienberger in the *Colégio de S. Antão* in Lisbon in the 1601—1602 school year. Afterwards he taught mathematics in the College of Goa in the 1603—1604 school year, which confirms his proficiency in the subject. Besides Rubino, during the one hundred years of Jesuit missionary work,

[601] See Baldini, *op. cit.*, especially pp. 206-210

the only other missionary in Japan with a similar pedigree in astronomical training had been Carlo Spinola, who went to the Roman College, studied with Clavius, and taught mathematics in the Milan College. Chūan, were it certain that he had attended classes with Grienberger in Coimbra during 1599, would also have made it to the second tier, but concerning this no one can be sure.

It remains to be considered who might have brought the book. It is evident that anyone might have, but it seems reasonable to assume that it was one of those with a greater interest or training, or both, in mathematics. Again this would also point to Rubino.

It thus seems that, whatever the criteria employed, Rubino was the elder: he was old, a leader, with good astronomical knowledge and probably had a book. The only difficulty with this solution is that Rubino had already been put to death on March 22, some three months before the probable date of capture in Ōshima of the second group bearing his name. This seems to contradict the flow of Genshō's preface. After all, it is only after the missionaries caught in Tadayuki's domains "regretted their own wrong doings and apologized for their crimes, converted from Christianity and became members of our nation" that the Bateren elder "brought a book of astronomy and offered it to lord Inoue Chikugo no Kami Motomune." This, however, is not an insurmountable problem.

First it should be noted that, though it seems so, the account in Genshō's preface is not a strictly chronological narration. One case whereby Genshō scissors the time line to bring together two moments separated by more that fifteen years has already been alluded to. In his short preface there are half a dozen other instances where Genshō does not stick to strict chronology. As another example it can be mentioned that he writes that the Barbarian priests "took control of the events, planned to take over the country and the destruction of the national customs" even before "the end of the Ashikaga decadence," before "the Law of the Court fell" and "the Shogunate lost his power," before "all the lords fought each other." Thus a flashback of some months, even of one year, is but a comparatively minor jolt in the flow of the narrative.

Second, and more importantly, the passage translated as "the Bateren elder was a man that excelled in astronomy" could as well be rendered "there was a Bateren elder

that excelled in astronomy." This wording cuts completely the dependence of the offering of the book by the elder to the Lord Inoue Chikugo no Kami Motomune from the imprisonment of the Second Rubino Group. But then the following question arises: if the elder was Rubino, who was put to death before the Second Group arrived in Japan, why does Genshō mention the circumstances surrounding the group headed by Pedro Marques? Why does he not simply narrate what happened to the First Group after it landed in Satsuma on August 11, 1642? After all, if Rubino was the elder, why bother with the Second Group, where he wasn't a member, and forget the First, where he was? The answer is simple.

Propaganda. After Lord Inoue was put in charge of the *Shūmon Aratame Yaku* the religious policy of the *bakufu* changed in emphasis. Instead of eradication through the creation of martyrs it aimed at eradication through the creation of apostates. In other words, the objective changed from destroying Christians in order to destroy Christianity towards destroying Christianity in order to destroy Christians. The way to destroy belief in Christianity was propaganda, propaganda, and torture. Propaganda was used so that the people could "abhor the Barbarian religion and to know the wickedness of the Barbarian priests and thus become aware of the unrighteousness of the way of the Barbarian law." Propaganda was also used so that those who had already fallen into the wayward religion could "return to the right path and [be] restored to the original state." If propaganda and careful argumentation during the interrogation could not persuade discovered Christians to change their Way then torture was applied. Torture was carefully calibrated to not cause death even when applied for months: the objective was not to kill the person but to kill the faith. Thus the death of a Christian under torture became a propaganda fiasco, something to be hidden from the public. But his apostasy, even if under torture, became a propaganda success, something to be shown off. Chūan himself was the best propaganda tool: the chief religionist that repudiated his beliefs, an example that all misguided Christians were invited to follow. Thus it would be extremely awkward for Genshō to refer to the missionaries in the First Rubino Group because they all died as martyrs for their faith after being "subjected to terrible torture for seven consecutive months."[602] There would be no similar problems with a reference to a similar group of missionaries whose members "all of them regretted their own

[602] Jennes, *op.cit*., p. 170.

wrong doings and apologized for their crimes, converted from Christianity and became members of our nation."

7. Nishi, the interpreters

It is the futile presumption of some practical businessmen that if there is a chance of making money any commercial proposal will be given a hearing, any business will be backed, and any economic venture will be financed, even if the matter is shadowy, dishonorable or immoral and the agents are unscrupulous, unprincipled and treacherous. If it is assured that the scheme is legitimate, the agents are ethical and not only will all the parties involved have a fair chance of making a profit but the all business will also be Pareto optimal then this ingenuous assumption would easily be accepted by almost everyone, even by the un-practical and the un-businesslike.[603] The possibility that someone might reject not only an honorable and profitable business transaction but also any kind of social interaction based solely on his or her objection to the other party's religion, race, gender or age is not understood by a large minority of people in our time. To these people most of humanity's past and a large portion of its present must remain incomprehensible.

The Macao traders could not understand why the Japanese government would not allow them to trade in Nagasaki, as the Dutch were doing, if only they assured that no missionaries, no supplies and no provisions for the underground church would be forthcoming in their vessels together with their other wares. Since around 1623, no missionary had come hidden in any Macao merchant ship.[604] Therefore, after Vasco Palha de Almeida returned with the formal announcement that the Japanese had decided to permanently discontinue trade with Macao, and that no Portuguese was to come again to Japan on pain of death, they could not believe that the Japanese prohibition really meant what it said.

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[603] Pareto optimality or Pareto efficiency is "an economic outcome in which no reorganization or trade could occur which would make all individuals better off", Paul A. Samuelson and William Nordhaus, *Economics*, 12th edition, New York, McGraw-Hill Book Company, 1985, p. 897.

[604] Although they still brought with them money and letters. See João Paulo Oliveira e Costa, *O Cristianismo no Japão e o Episcopado de D. Luís Cerqueira*, Doctoral Thesis, 1998, p. 729.

Therefore, believing that they could still avoid the total rupture, the authorities of Macao decided to send a formal delegation to Japan, composed by four of its own honourable and distinguished citizens, in order to negotiate the reopening of interrupted trade. Upon arrival on July 6, 1640, they were all arrested in Deshima, and instructions were asked from Edo. On August the aswer arrived in Nagasaki "together wit as many executioners as there were individuals in the Macaonese party. Next day the Portuguese were summoned to the audience chamber, whither they went dressed in their gala clothes. The presiding official then addressed them as follows: 'You villains! you have been forbidden ever to return to Japain on pain of death, and you have disobeyed the command. The former year you were guilty of death but were mercifully granted your lives. Hence you have earned this time nothing but the most painful death; but since you have come without merchandise and only to beg for something, this will be commuted to an easy death.'"[605]

It seems that those who would appostatise were offered their lives, but none took the offer. The four honourable and distinguished citizens of Macao, together with fifty-seven men of their crew were decapited while thirteen members of the crew were spared in the last minute.[606] Their ship was burned with everything inside it, and the thirteen survivors were put in a small boat and sent back to Macao with the message that even if "King Felipe himself, or even the very God of the Christians, or the Great Buddha contravened this prohibition, they shall pay for it with their heads."[607]

Still the Macao traders could not understand the Japanese's refusal to trade.[608] Thus they asked the king to send an ambassator to Japan. And an embassy did they get to be sent. King João IV sent Captain Gonçalo de Siqueira de Souza to Japan to negotiate the re-opening of commerce between Japan and Macao.

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[605] Boxer, *op. cit*., p. 385. For more details concerning this embassy see Benjamim Videira Pires, S.J., *A Embaixada Mártir*, second edition, Macau, Instituto Cultural de Macau, 1988.

[606] Jennes, *op. cit.*, 163-164.

[607] Boxer, *op. cit*., p. 385.

[608] Boxer, *op. cit*., p. 385, chivalrously gives an alternative explanation: "[p]ertinacy was a quality which had stood the Portuguese in good steed ever since they had started out on their national career of 'conquest, navigation, and commerce' two and a quarter centuries before, nor were the Macaonense less dogged than their forefathers."

According to an anonymous account[609] the embassy:

"[A]fter a prosperous voyage arrived on the 26th of the same month [July 1647] off the Island of Horses in sight of Nangasaque, a port of Japan, and immediately on arrival there came a small vessel of the kind they call *funem*, and those that came in it asked what ships were they? Who came in them? And what they wanted?

It was answered they were galleons of the King of Portugal, in which he had sent his Ambassador to the Emperor of Japan, and that it was close on four years they had left the Kingdom, with which answer the vessel took its departure.

At eventide there came another vessel (I should say another *funem*) which brought 3 *Jurubaças*, who are interpreters, and underneath the awning were several persons of importance, these remaining hidden, and they asked if in truth there was an Ambassador of the King of Portugal, and whether he came to treat of Commerce or of what? The Commander of the galleons answered that it was the Ambassador of the King of Dom João IV of Portugal, and that the Secretary would speak to them.

The Secretary arriving at the side, he greeted the Jurubaças, and seeing that they kept a good distance from the galleon, & knowing that the oldest Jurubaça was one António Carvalho who had formerly served the Portuguese (by what he had been previously told in the City of Macau), he said to him with a smiling countenance, "We can communicate better if you come near to us, come near! For I am not a Friar nor a Priest, neither are your Worships Preachers who speak from afar—alluding to the prohibition that there is in those Kingdoms against such; of this, what the Secretary said to them, they showed themselves content, as also did the persons who sat under the awning, and immediately they approached with great confidence, and the Secretary said to them that they could ask what they wished."[610]

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[609] This account is found in *Livros das Monções, ou Documentos Remettidos da India*, Livro 59, fol. 4 et seq. An English translation can be found in Charles R. Boxer, *A Portuguese Embassy to Japan (1644-1647): translated from an unpublished Portuguese MS., and other contemporary sources, with commentary and appendices*, London, Kegan Paul, Trench, Trübner & Co., 1928. Boxer infers that it was written or dictated by the Secretary of the Embassy, Duarte da Costa Homem, in 1648 or 1649.

[610] Boxer, *op. cit*, p. 10-11.

Who António Carvalho, the oldest Jurubaça, might have been has been the subject of some controversy. One modern historian has identified him tentatively as Namura Hachisaemon 名村八左衛門.[611] However the short biographical notice about Hachisaemon that can be found in the records relative to the *Namura-ke*, or Namura family, that are collected in the *Nagasaki Tsushi Yuishosho*『長崎通詞由緒書』, does not bear this out. There nothing is said concerning Hachisaemon having going to meet Siqueira's vessel.[612] And as he retired from his office as official interpreter in 1674, seemingly after 35 years of service as interpreter, he would not yet have ten years' experience at the time of Siqueira's arrival, hardly enough to make him "the oldest Jurubaça."[613]

At the time of the Southern Barbarian king's embassy there was a much older official interpreter in town. His name was Nishi Kichibei 西吉兵衛 (?— Kambun 6.5.17, ? — 1666.6.19). According to the *Nagasaki Tsushi Yuishosho* he was "employed as Great Interpreter by Gongen-sama in the second year of Genna."[614] So he had already

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[611] For example, in Nagasaki City Office 長崎市役所 (ed.), *Nagasaki-shi shi* 『長崎市史』, *Tsukō boeki-hen Seiyō Shokoku-bu* 『通交貿易編西洋諸國部』, Nagasaki, Nagasaki City Office 長崎市役所, 1935, pp. 488-489.

[612] The record for the first generation of the Namura reads: 「初代　名村八左衛門　權現様御代、慶長年中肥前國平戸エ阿蘭陀船渡海仕候節、通詞役被召抱、寛永十七辰年阿蘭陀人平戸ヨリ長崎エ引越被仰付候節、差添罷越、延寶二寅年御暇奉願、仝年七月廿六日病死仕候、」The *Nagasaki Tsushi Yuishosho*『長崎通詞由緒書』can be found in Nagasaki-ken Shi Hensan I-in-kai 長崎縣史編纂委員會 (ed.), *Nagasaki-ken Shi*『長崎縣史』, *Shiryō Hen*『史料編』, vol. 4, Tokyo, Yoshikawa Kobunkan 吉川弘文館, 1965. Hachisaemon's biographical notice is in p. 824.

[613] This point is made by Katagiri Kazuo 片桐一男, "Oranda Tsuji Nishi Kichibei Fuko ni Tsuite" 「阿蘭陀通詞西吉兵衛父子について—南蛮・阿蘭陀通詞と医学兼修・教授—」, Yanai Kenji 箭内健次 (ed.), *Sakoku Nihon to Kokusai Kōryū* 『鎖国日本と国際交流』, Tokyo, Yoshikawa Kobunkan 吉川弘文館, 1988, pp. 197-227.

[614] The second year of Genna corresponds roughly to 1616. The entry for the first generation of the Nishis is:「初代　西吉兵衛　權現様御代元和二辰年南蠻大通詞被召抱, 南蠻人町宿御停止被仰出、寛永十三子年ヨリ於出島南蠻人商賣仕、仝一六卯年日本渡海御停止相成、仝十七辰年阿蘭陀人平戸ヨリ長崎エ引越候節、直ニ阿蘭陀人大通詞罷成、正保四亥年南蠻之仕者船貳艘來朝仕候節、築前國主右衛門佐殿南蠻船エ御出之節、御案内トシテ御供仕、御達之儀通辨仕候處、、平降仕候ニ付、別儀ヲ以御赦免有之仝八月無異儀歸帆仕、慶安二丑年阿蘭陀使者來朝仕、仝年渡來之甲比丹并外料・石火矢打、外ニ壹人、都合五人之阿蘭陀人江府參上仕候節、右吉衛差添罷越、翌寅年　御目見相勤候節、於御殿中御條目十七ケ條甲比丹エ被爲仰付候儀通弁仕候處、甲比丹逸ゝ御請申上、御上意之趣

over thirty years of experience as "Great Interpreter" in 1647, what makes him fit for the description of "the oldest Jurubaça." Moreover the same record goes on to say that when "in the fourth year of Shōhō the Southern Barbarian Ambassador arrived in our country with two vessels" Nishi Kichibei "served as interpreter." There is no doubt that he and all the other interpreters in the "small vessel of the kind they call *funem*," as well as almost all the other members of their trade were former Japanese Christians who had learned their first Portuguese words in missionary schools and all their Latin in Church.[615]

The name of Nishi was fitting for a clan that was numerous in Western Japan — in Kyushu and specially in Nagasaki — and that played so an important role in the exchange of goods and ideas between the West and Japan. Some were rich merchants as Nishi Ruisu 西類子 (?-1646).[616] Some were Jesuit preachers and missionaries like Nishi Romano 西ロマノ (1570-1639).[617] Others, as Nishi Genka 西玄可 (Kōji 1 — Keichō 14.10.8, 1555 — 1609.11.14), were *pater familias* belonging to the petty nobility who stood up for their beliefs and because of these were killed.[618] Some, like Nishi Tomas

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無違背奉畏候、依之、以前之通年ゝ参府御目通仕候様被仰渡、右通弁無滞相勤候、爲御褒美御頭巾并　御紋之時服頂載仕、海陸無叓ニ歸着仕候様奉蒙　御上意、無滞歸着仕、承應二巳年御暇奉願、寛文六午年五月十七日病死仕候、」, *Nagasaki-ken Shi*, p. 818.

[615] C. R. Boxer writes that they "were renegade Christians, known personally to several Macaonese in the galleons" in "The Embassy of Captain Gonçalo de Siqueira de Souza to Japan in 1644-1647", *Monumenta Nipponica*, vol. 2, 1939, p. 57.

[616] A former Ōmura retainer that became a red-seal operator based first in Manila then in Sakai. After returning to Japan he converted from Christianism to Nichiren Buddhism. Concerning his trading activities see Kawashima Motojirō 川島元次郎, *Shuinsen Boeki-shi*『朱印船貿易史』, fourth edition, Osaka, Kojinsha 巧人社, 1942, or Nagazumi Yōko, *Shuinsen*『朱印船』, Tokyo, Yoshikawa Kobunkan 吉川弘文館, 2001.

[617] The son of the samurai Nishi João 西ジョアン, Nishi Romano entered the Society of Jesus in 1590. Afterwards he studied Latin and theology in the Amakusa College. Until the expulsion of 1614 Nishi Romano preached in several places in Kyushu. In Macau he studied *casos*, or moral theology, for two years. In 1625 he went as a missionary to Thailand. Around 1630 Romano was ordained in Macao, and then went as a missionary to Cambodia where he died. See H. Cieslik "Nishi Romano," *Nihon Kirisuto-kyō Rekishi Daijiten*『日本キリスト教歴史大辞典』, Tokyo, Kyobunkan 教文館, 1988, p. 1027.

[618] About the life of this remarkable samurai see Kataoka Yakichi 片岡弥吉, *Nagasaki no Kirishitan*『長崎のキリシタン』, Nagasaki, Seibo no Kishi-sha 聖母の騎士社 , 1989.

西トマス (Tenshō 18 — Kan'ei 11.9.22, 1590 — 1634.11.17), were priests that became saints.[619] Others were interpreters.

By the early years of the seventeenth century there were already in Nagasaki a few dozen of full time translators that supported their families by the services rendered to the Macao merchants during their annual visits.[620] As the Nagasaki commissioners after Lord Hasegawa tried to regulate the Macao commerce they gradually imposed new restrictions on who could perform the office and how it could be done, where they could live and whom they could receive. By the end of the 1630s the office was completely regulated and its practice confined to the members of a few families, the Nishi first amongst them. Besides serving as chief interpreter during Siqueira's embassy, Kichibei was in charge of the translation in all major events related with foreigners during the 1630s and 1640s. When the group caught in Ōshima was sent to Nagasaki it was he who interpreted. When the Dutch begged the shogunate the release of the crew of the "Breskens" it was Kichibei who elucidated each party of what the other was saying. Kitsibioyedonne appears also frequently in the entries penned into the *Daghregister des Comptoir Nangasacque* on the 1640s.

So Genshō could write that "[t]his volume was thoroughly translated using Japanese, but written in Barbarian letters, so that ours, even though they are erudite men, cannot possibly read it. Solely the interpreter Nishi Kichibei can read Barbarian letters." There is no mistake in this evaluation, only exaggeration. Few erudite men, by what Genshō means Confucianists, ever tried learning how to prattle in the Southern Barbarian language. However there were in Nagasaki during the 1650s other Japanese, interpreters and others, who could speak, read and write in Portuguese. It was just a few years before that "when two Secretaries came on behalf of the Governor [of Nagasaki] to visit the Ambassador [of Portugal, Siqueira de Souza] they asked him if they might

[619] Tomas studied in the Jesuit Nagasaki *seminario*. In 1611 went to Macao to return back to Japan in 1615. He then became a Dominican priest. In 1634 he died in the pit and was canonized in 1987. For details see Sasaki Toshiaki 佐々木利昭, *Nagasaki Jūroku Junkyōsha: Kami no Shimobetachi no Yokogao* 『長崎十六殉教者:神のしもべ達の横顔』, Matsuyama, Katoriku Sei Dominiko Shudokai カトリック聖ドミニコ修道会, 1981.

[620] Besides the interpreters of Portuguese there were also Chinese interpreters. See Aloysius Chang, op. cit., pp. 58-93, for a description of their origin, characteristics, functions, classification and more important historical sources concerning their activities.

post a guardship over them, which was conceded, however they placed two, one at the prow and the other at the poop, and from what was found out by our men they had on board these guardships some men who spoke our language fairly well, and so oppressed were we, that in truth we suffered grievance."[621] It worth emphasizing "that 300 years ago [in the seventeenth century] Portuguese was what English is at the present day—the *lingua franca* of traders in the Far East. A young Dutchman coming to Hirado did not as a rule devote much time to learning Japanese; but he had to become conversant with Portuguese as quickly as possible. We often find that Dutch vessels carried an instructor in Portuguese, and in this, as in so many other points, the Dutch East India Company was imitated by its English rival. Hundreds, if not thousands, of Japanese could speak Portuguese in those days, and so for the post of *jurebasso* or interpreter there was extensive competition. Consequently, an interpreter was not generally a person of any great consequence, for he could readily be replaced by another in case he proved incompetent or untrustworthy."[622] By the end of the century the Dutch and the Japanese were still talking to each other in the language of Camoens, if not in decasyllabic verse.[623] But among all interpreters it was the Nishis who had the reputation for being

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[621] Charles Boxer, *A Portuguese Embassy to Japan (1644-1647)*, p. 24. Boxer notes concerning this passage: "Up to this period, and even later, Portuguese was the commercial *lingua franca* of the Far East, and up to 1630 even the Dutch and the English used it as the medium of their dealings with the natives. At this time there must have been many Japanese (besides the Jurubaças) who still retained a knowledge of it, as the expulsion of the Portuguese in 1639 was only seven years past."

[622] James Murdoch, *A History of Japan*, Vol. III, *The Tokugawa Epoch 1652-1868*, revised and edited by Joseph H. Longford, London, Kegan Paul, Trench, Trubner & Co., 1926, p. 282. Murdoch was writing about the 1640-1720 period. The point that he makes next, that the importance and power of the interpreters increased after the removal of the Dutch to Deshima is worth quoting: "Two interpreters were then assigned to the Dutch by the authorities, and these interpreters, though paid by the Dutch, were Government officials. Gradually the interpreters increased in number, and by Kaempfer's time they had grown into the great corporation so minutely described by him with many accusations of much evil and very little good in their character and conduct. [… After 1640] so far from being the humble servants of the Dutch Factor, the interpreters were now his masters, and held him hopelessly at their mercy in scores and points. In 1652, Sterthemius, at the end of a long and bitter attack upon the official interpreters, wound up by informing the Batavian authorities that the situation had become unbearable."

[623] On how poor was the Dutch of the Japanese and how bad was the Japanese of the Dutch by the end of the seventeenth century see Ebisawa Arimichi 海老沢有道, *Nanban Gakutō no Kenkyū: Kindai Nihon Bunka no Keifu*『南蛮学統の研究—近代日本文化の系譜』, Tokyo, Zobun-sha 創文社, 1958. Japanese not knowing Dutch, Duchmen not knowing Japanese, and both sides being Portuguese challenged certainly contributed much to a stagnation of the penetration of European sciences for over half a century after the proscription of Christianity: "During the period of Japan's national seclusion […] in Japan, due to the severe restriction of exchange with Europe, European learning waned year by year. Engelbert

the most fluent in speech and competent in writting. It was to the second generation Nishi Genpo 西玄甫 (? — Jōkyō 1.9.17, ? — 1684.10.25), who later took his father's name Kichibei as his own, that Lord Kainoshō would later turn to help in the transliteration of Chūan's treaty. That is what the account concerning Genpo in the *Nagasaki Tsushi Yuishosho* transmits: "in the second year of Meireki [Nishi Kichibei] received the command to rewrite an astronomical treatise written in Southern Barbarian letters. Therefore [he] read the above mentioned letters, while the Nagasaki Confuciounist Mukai Genshō wrote it in Japanese letters, translating it into the Japanese book *Kenkon Bensetsu*."[624]

It is evident that only if other people, besides the Nishi, were able to read barbarian letters that Genshō's next phrase makes sense: "the office of the Nagasaki commissioner placed this book in the house of Nishi Kichibei and according to a most strict order nobody was to see it." If it were not for the danger of someone being able to read barbarian letters and thus being in danger of polluting himself with the filthy cosmology of the four elements and eight heavens explained in Chūan's manuscript, the book instead of being kept secret probably would be allowed to become one more piece of foreign curiosa so much to the taste of the Japanese.

Kaempfer, who stayed in Japan from 1690 to 1692 as a physician of the Dutch trade office, gathered an astonishing amount of information about the country and later published a book entitled *History of Japan*. Notably, the book contains no accounts of echanges with Japanese scholars, except for one reference to a physician of the shogun who sought medical advice during one of his two visits to Edo in the company of the chief of the Dutch trade office." Akihito, "Early Cultivators of Science in Japan", *Science*, vol. 258, 1992, p. 578.

[624] The complete entry for the second Nishi generation is:「二代　西吉兵衛　嚴有院様御代、承應二巳年父跡職被仰付、大通詞罷成、明暦二申年南蠻文字之天文書和解被仰付、右文字ヲ讀、長崎儒者向井元松和字ヲ以寫之、乾坤弁説ト倭書ニ飜譯仕、差上申候、寛文九酉年暇奉願、隠居罷在候處、延寶元丑年江戸表エ被召出、阿蘭陀人參勤通詞目付役被付、外科ヲ兼相勤、御持扶方頂載仕、西久保エ御屋舗被下置、西玄甫ト改名仕、貞亨元子年九月十七日於江戸表病死仕候、」, *Nagasaki-ken Shi*, p. 818-819.

8. The city commissioners

To understand why this happened and why "a most strict order" was issued so that "nobody was to see it" seemed necessary to the office of the Nagasaki commissioner one should keep in mind that astronomy, in East Asian countries, was a science closely linked to royal authority and power.[625] One of its main functions was to publish the calendar. Another was to predict portents—signals in the land as earthquakes, in the wind as hailstorms, and in Heaven as ominous planetary conjunctions and supernovae—and to interpret them. These natural phenomena had very definite social, military and political meaning. In the classic *Historical Records*, or *Shi-ki*『史記』, *Shi ji* in Chinese, of Shi Ba Sen 司馬遷 (145 B.C.— 86 B.C), Si Ma Qian, we can read:

"When Mars appears there is armed strife in that country; when it hides the armed strife stops. Where it stays it determines the fate of that country. With Mars there is riot, injury, pestilence, death, hunger and war. When in its way Mars goes back two inns during three months there will be calamities in that country. If during five months there will be an invasion by a foreign army. If during seven months it will lose half its territory. If during nine months it will lose the larger part of its land. In this way the appearance and withdrawal of Mars with enemy armies determines the collapse of the country below it and the discontinuation of the ceremonial"[626]

A litle further it is also written that:

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[625] The word "astronomy" is used in this paragraph to denote not only the study of the sky but also the theories linking celestial phenomena with human events and social occurrences, or astrology, and time measurement, or calendar making. For the "official" or "imperial" nature of Chinese astronomy see Joseph Needham (with the collaboration of Wang Ling), *Science and Civilisation in China*, Vol. 3, "Mathematics and the Sciences of the Heavens and the Earth", Cambridge, Cambridge University Press, 1959, pp. 186-194, or, for a broader perspective, W. E. Soothill, *The Hall of Light: A Study of Early Chinese Kingship*, London, Lutterworth, 1951. The "official" character of Japanese astronomy, though less evident and not as well studied, is similar to that of China. For a glimpse see Shigeru Nakayama, *A History of Japanese Astronomy: Chinese Background and Western Impact*, Cambridge, Harvard University Press, 1969, pp. 7-11 and p. 154.

[626]「出則有レ兵。入則兵散。以二其舎一命レ國(熒惑)。熒惑爲二勃亂・殘賊・疾・喪・饑・兵一。反レ道二舎以上、居レ之三月有レ殃。五月受レ兵。七月半亡レ地。九月太半亡レ地。因與俱出入、國絶レ祀。」, Shi Ba Sen 司馬遷, Yoshida Kenkō 吉田賢抗 (ed.), *Shi-ki*『史記』, Tokyo, Meiji Shoin, 1995, Vol. 4, p. 164.

"As Saturn moves one inn, the country where it is has good fortune. If Saturn is there when it is not yet the time, or the time has already passed and Saturn returns back, that country will earn territory"[627]

These are but two typical examples that demonstrate the conection that was made between heavenly events and their political consequences on Earth. Furthermore, according to Confucian thought the right of the monarch to rule was granted by Heaven. This right was valid only as long as he was a virtuous prince. Portents could be interpreted either as signs foreboding his imminent dismissal, if he was intrinsically wicked, or just as warnings that he had transgressed *tendō*, or Heaven's Mandate, in some minor way or, at least, not beyond redemption, in which case remedial action could still be taken. Thus the ability to forecast these phenomena could be seen as an indication that the monarch was still acceptable and gave opportunity for the performance of the exorcism of the predicted disaster. On the other hand, the inability of the court astronomers to correctly predict the occurrence of phenomena like eclipses reflected negatively on the prestige and legitimacy of the ruler. Therefore it is not surprising to find quite a few Chinese imperial edicts humbly admitting the ruler's inadequacy upon the visit of an expected eclipse. One such account reads:

"In the winter, the twelfth month, on [the day] *mou-shen*, the first day of the month, there was an eclipse of the sun and in the night there was an earthquake in the Hall of Wei-yang Palace. The imperial edict said, 'Verily, [We] have heard that when Heaven gave birth to the multitude of common people, they were unable to rule themselves, [hence Heaven] set up princes for them, in order to rule and control them. When the way of a [true] prince is attained, then [even] herbs, trees, and insects find their [proper] places. [But] when the prince of men is not virtuous, a reproach appears in heaven or earth, and visitations and prodigies happen frequently, in order to inform him that he is not governing rightly. Our experience in governing has been [only] for a brief time, so that [We] have not been correct in [Our] acts, hence on [the day] *mou-shen*[628]

[627]「歲塡一宿、其所レ居國吉。未レ當レ居而居、若已去而復還、還居レ之其國得レ土。」, *Ibid*., p. 167.

[628] January 5, 29 BC.

there was an eclipse of the sun and an earthquake. We are greatly dismayed. Let the ministers each think over Our faults and mistakes and state them [to Us] clearly."[629]

One way to prevent or at least to minimize the negative political consequences of failed or wrong forecasts was to not allow competition in this field. Thus, as a rule, in East Asian countries it was forbidden for local officials or private citizens to engage in astronomical pursuits. Astronomy in general, and calendar making in particular, was considered to be an imperial duty as well as an imperial right. It was thus a monopoly. The objective of this exclusive control was to avoid the official predictions being judged against other, possibly better, forecasts and to forestall political claims being made based on these competing forecasts. In Japan, only the court astronomers, headed by the Tsuchimikado, had the formal authority to issue the calendar and interpret the portents, a power they had farmed profitably through "the issuing of licenses to practicing soothsayers and the distribution of yearly calendars."[630] As with what happens with other monopolies, this was contested in practice. Satsuma published its own calendar.[631]

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[629]「冬十二月戊申朔日有蝕之夜地震未央宮殿中詔曰蓋聞天生衆民不能相冶爲之立君𠂤統理之君道得則草木昆蟲咸得其所人君不德謫見天地災異婁發𠂤告不冶朕涉道日寡舉錯不中乃戊申日蝕地震朕甚懼焉公卿其各思朕過失明白」. English translation from Homer H. Dubs, with the Collaboration of P'an Lo-Chi and Jen T'ai *History of the Former Han Dynasty, by Pan Ku*, Baltimore, 1941, vol. 2, p. 382.

[630] Shigeru Nakayama, *A History of Japanese Astronomy: Chinese Background and Western Impact*, Cambridge, Harvard University Press, 1969, p. 154. The Tsuchimikado held the post of court astronomers from the end of the 10th century, when Abe no Seimei 安倍晴明 (Engi 21 — approx. Kankō 2.9.26, approx. 921 — 1005.10.31), the originator of the family, became *onmyō no kami* 陰陽頭, or Director of the Divination Bureau, up to 1870, when the revolutionary government transferred the authority over calendar making to the *Daigaku* 大學, or Institute of Learning. It was only natural that Tsuchimikado Kazumaru 土御門和丸 would then be chosen to become the first Director of its *tenmon rekidō*, or astronomy and calendar making, section (Nakayama, *op.cit*., p. 219).

[631] See Shigeru Nakayama, "Japanese Scientific Thought" in Charles Coulston Gillispie (ed.), *Dictionary of Scientific Biography*, vol. 15, New York, Charles Scribner's Sons, p. 733. Concerning this subject João Rodrigues, *op. cit*., fl. 180, notes that "[o]s Reys da China, e Japão, tem Collegios de Mathematicos Judiciarios, officio da Caza Real com foro de Fidalguia, o comedia, seu officio hé primeiramente computar os annos, e os Ecclipses do Sol, e Lua, ordenar os intercalares, e concordar o Kalendario, ou reportorio annual, e todo o demais tocante a Astrologia, assim especulativa, como practica, ou Judiciaria. Em Japão posto que ainda agora os há, e servem, e tem seus apozentos junto aos paços do Dairi, e em outras partes do Reyno como he no Reyno de Ydzu, onde agora se fazem e imprimem os melhores Kalendarios, ou reportorios de cada anno, contudo como o Rey, e grandes do Reyno de ordem patricia estão excluidos do governo, uzurpado pelo Cubô, e pelos da ordem equestre, ou militar, todos os demais officios da caza real agora não corrão no exterior, tem estes Astrologos muito descuido e tidos em pouca

Independent scholars with strong interest in astronomy could find patrons in students, in rich Osaka merchants and in regional daimyo. But the Shogunate itself would become the major interloper with the creation of the post of *tenmongata* 天文方, or official astronomer to the *shogun*, for Shibukawa Harumi 渋川晴海 (Kan'ei 16.*uruu* 11 — Shōtoku 5.10.6, 1640.12 or 1641.1 — 1715.11.1),[632] a hitherto independent astronomer. This, it should be noted, was congruent with the policy of self-legitimatization it pursued.[633]

Another way to control competition was to keep astronomical knowledge secret. In China this policy was clearly brushed into paper. For example, the following notice is found in the *Kyū Tō Sho* 舊唐書, *Jiu Tang Shu* in Chinese, of Ryū Ku 劉昫 (887-946), Liu Su in the Middle Kingdom pronunciation: "In the twelfth month of the 5th year of the Khai-Chhêng reign-period an imperial edict was issued ordering that the observers in the imperial observatory should keep their business secret. 'If we hear', it said, 'of any intercourse between the astronomical officials or their subordinates and officials of other government departments or miscellaneous common people, it will be regarded as a violation of security regulations which should be strictly adhered to. From now onwards, therefore, the astronomical officials are on no account to mix with civil servants and common people in general. Let the Censorate look to it.'"[634] In Japan no such clear directives to secrecy seem to have been issued. However the Tsuchimikado did their fair best to keep the core of their knowledge from falling into the hands of

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estima. Chamãose estes em Japão Tem bun facaxe, ou Tenbun gocuji, que quer dizer Astrologos, e os Judiciarios da Magia natural Vonnhoji, na China ainda agora florecem muito, e he tambem como em Japão se socede por herança de Pays a filhos, e há Ley posta no Reyno por Hun Vo, primeiro Rey, e tronco desta prezente Monarchia Taymin, ou Taymey, como diz o Japão, que prohibe aprender outrem alguem a astrologia sem licença do Rey, afora estas familias que o tem por officio; porque tem ser meyo para tomar o Reyno pelo conhecimento, e Sciencia que tem por seus prognosticos, e juizos."

[632] *Uruu* 11 of Kan'ei 16 began on 1639.12.25 and ended on 1640.1.22.

[633] For the policies pursued by the Tokugawa shogunate to achieve ideological legitimacy see Herman Ooms, *Tokugawa Ideology: Early Constructs, 1570-1680*, Princeton, Princeton University Press, 1985, especially, ch. 2 and 3, pp. 18-108. Unfortunatelly, the efforts of the *bakufu* to gain control over the astronomical affairs in general, and calendar making in particular, at the expense of the Court's astronomers as a calculated means to achieve legitimacy have not yet been studied in detail.

[634] Ryū Ku 劉昫, *Kyū Tō Sho* 舊唐書, ch. 36, Beijing, Zōng Huá Shū Jú 中華書局, 1975. Translation in Needham, *op. cit*., p. 193.

strangers. In this they were followed by the Shibukawa and by every other family in the business. Before he retired from active life, or even just before his death, the Master would whisper the central points of his knowledge to his chosen disciple, most often than not his natural or adopted son. Also important to note is that, at least until the early eighteenth century, astronomical treatises were not written with the purpose of being printed and achieving a broad readership but to be copied by and circulated among disciples and close associates. Ownership of such material by anyone not holding an official astronomical office could be almost as hazardous to his physical well-being as the possession of a copy of one of the translations of the New Testament made by the Jesuit fathers. Thus it was only natural that, as Genshō put it, "the office of the Nagasaki commissioner placed this book in the house of Nishi Kichibei and according to a most strict order no one was to see it".

The office of the Nagasaki commissioner was, at this time, responsible for the government of the city where Genshō lived. Until around 1570, the place where Nagasaki would later stand was a most insignificant hamlet in the Ōmura domain. Its fortunes had changed in 1571 when Portuguese vessels started to use its harbor as their Japanese terminal for the trade with China. The place developed rapidly. By 1580 the interests of the local lord, Ōmura Sumitada Bartolomeu 大村純忠 (Tenbun 2 — Tenshō 15.5.18, approx. 1533 — 1587.6.23), and those of the Society of Jesus converged into the ceding of the government of the already flourishing town by Ōmura to the Jesuits. They were to "take charge" of this "very desirable place, one very suitable for the preservation of [the Society's] property, as also a refuge for personnel when necessary […] on the sole condition that the ship would pay [Bartolomeu] an annual due of 1,000 ducats, part to be expended on the maintenance of the padres who live in that port and on the fortification of the two said places [Nagasaki and Mogi], and part to be divided amongst the Christian lords," as Valignano would describe the arrangement. He went on to add that "albeit this may well appear a strange thing in Europe, and something foreign to our institution, withal it seems absolutely vital and necessary to those of us here in Japan who have had local experience."[635] The Jesuits, though accepting responsibility for the city, did not want to get directly involved in its daily management.

[635] Valignano, in his *Sumario*, August 1580, as translated by C. R. Boxer, *The Christian Century in Japan, 1549-1650*, Berkeley, University of California Press, 1967, p. 101.

For this function they chose to nominate *yakunin*, or headmen, from among the more prominent of its inhabitants.

This arrangement, however, did not "appear a strange thing in Europe" alone. It appeared so to some Japanese as well. Thus it wouldn't take long for it to come to an end. This happened in 1587 when Toyotomi Hideyoshi, after his Kyushu campaign, declared the town his personal domain. The origins of the office were laid by the *taiko* with his nomination of Nabeshima Naoshige 鍋島直茂 (Tenbun 7.3.13 — Genna 4.6.3, 1538.4.12 — 1618.7.24) in Tenshō 16.4.2, 1588.4.27 on the Western calendar, as his commissioner, or *daikan*, in the city. His objective was to ensure his control over the Nagasaki trade. The post of Nagasaki *bugyō* was created later by Tokugawa Ieyasu. The commissioner was appointed directly by the shogunate and was responsible only to the central bureaucracy, being completely independent of the surrounding daimyo. The functions entrusted to the holder of this post were multifarious. Though they varied somewhat through the ages they mainly included procuring merchandise on behalf of the shogun, regulating and administering foreign trade, receiving foreign dignitaries, collecting information about developments in foreign nations, enforcing the prohibition of Christianity, surveying the actions of the daimyo of Kyushu, policing Nagasaki, defending the coast of Kyushu from foreign aggression, and governing the city. From its inception until 1632 the post of Nagasaki commissioner was occupied by just one official. Then Parkinson' Law began to exert its influence.[636] From 1633 onwards two officers began to be appointed. In 1686 their number would be increased to three and later to four. Though most Nagasaki commissioners were drawn from the ranks of the *shōmyō* there were also the odd daimyo among them. Besides the *bugyō* the post of *daikan* continued to be filled regularly, its main functions being to report to Edo on the *bugyō* actions and words, if not on their thoughts.[637] It should not be assumed that these

[636] Parkinson's Law states that because "work (and especially paperwork) is … elastic in its demands on time, it is manifest that there need be little or no relationship between the work to be done and the size of the staff to which it may be assigned. A lack of real activity does not, of necessity, result in leisure. A lack of occupation is not necessarily revealed by a manifest idleness. The thing to be done swells in importance and complexity in a direct ratio with the time to be spent." See Cyril Northcote Parkinson, *Parkinson's Law, Or, The Pursuit of Progress*, London, Sidgwick & Jackson, 1957.

[637] For a description of the various officials in Nagasaki during this period see C. R. Boxer, "Jan Compagnie in Japan, 1672-1674", *Transactions of the Asiatic Society of Japan*, II series, vol. 7, 1931, pp. 146-149.

posts were avidly sought after either by ambitious upwardly mobile *bakufu* bureaucrats as a stepping-stone to more important posts, or to top-level officials at career's end as a tranquil sinecure. That might have been the case with the post of *bugyō* in the other cities under direct shogunal control, Edo, Kyoto, Osaka and Sakai. Not so with Nagasaki. The post of Nagasaki Commissioner was one among the most dangerous and difficult offices in all the *shogunate* bureaucracy. Besides the ever present and not so trifling danger of being accused of mismanagement or embezzlement in the conduct or surveillance of foreign trade there were the more serious risks of the discovery of a Christian neighborhood or the arrival of an unwanted foreign embassy. As one of the most perspicacious Dutch in Japan in this period would put it "[t]hese officials are usually sent to Nagasaki against their inclination, and are only longing for the moment when they will be released from the (for them) so dangerous task of dealing with the foreign traders. Their object is solely to avoid compromising themselves; they are thus extremely cautious in their dealings, and above all things are anxious to avoid doing anything which may be subsequently misconstrued, or cast in their teeth at Yedo."[638]

Genshō didn't state when it was that "the office of the Nagasaki Commissioner placed this book in the house of Nishi Kichibei." Thus it is uncertain both when the book was deposited in the house of the interpreters and which commissioner was in charge in Nagasaki at the time. The elder had offered the book on astronomy to Inoue Masashige in 1642 or, with less probability, in 1643. Therefore the order that Masashige had given Chūan, two or three years later, to translate it could have taken place anytime between 1644 and 1646. Further, the translation could have lasted anywhere from a few months to two or more years, what gives a temporal window from about 1644 to about 1648 for its probable completion date. As one variant of Chūan's book, the *Tenmon Biyō*, is dated Shōhō 1 an earlier date seems more probable than a later one.[639] After Chūan finished the translation the draft was kept in his house. Though the preface is silent until when it remained there, it seems reasonable to assume that it was until Chūan died. Chūan, by now in his late sixties, seems to have been weak and sick for some time. In one entry for November 1650 of the Dejima diary it can be read that: "on

[638] François Caron (1600-1673) cited by C. R. Boxer, *A True Description of the Mighty Kingdoms of Japan & Siam by Caron & Schouten*, London, The Argonaut Press, 1935, p. xliii.

[639] The Shōhō era started on 1644.12.16. Shōhō 1 would end six weeks later on 1645.1.28.

November 6 we heard that the apostate Jesuit Father, Chūan, died yesterday."[640] It is probable that after his death the office of the Nagasaki commissioner requested Chūan's family to hand over the official materials he had in his care and thus got the astronomical treatise and then placed it in Nishi's house. Even if they did not make that request, as it was usual for the authorities to search the lodgings of fallen Christians after their death for subversive material that they might have hidden, the searchers would have found it and the commissioner's office would then have forwarded it to the interpreter.

Though we cannot be sure of the precise date when "the office of the Nagasaki commissioner placed the book in the house of Nishi Kichibei," it was certainly during the period of joint government of Nagasaki by two commissioners: one of them was certainly Baba, the other was very probably Yamasaki. Baba Saburōzaemon Toshishige 馬場三郎左衛門利重 (?-1657), the twelfth *bugyō* of Nagasaki, had been commissioner for fourteen years when Chūan died.[641] The Baba were descendents of Kiso Sanuki-no-kami Iemura 木曽讃岐守家村 through his fourth son Iemasa 家佐, Toshishige being the fourteenth generation of the branch family. He had been *shoin-ban*, *tsukai-ban* and *metsuke* before becoming Nagasaki commissioner in Kan'ei 13.5.19, or 1636.6.22. Not long after his commission began, the office of the Nagasaki *bugyō* was reorganized. Until then, the commissioners would spend about half the year in the city, during the season the Portuguese vessels were in the port, and the remaining months in the shogunal capital. After the reform of December 1638, each commissioner was to alternate one full year in the capital with another year in Nagasaki. The office was to be furnished from then on with five *yoriki*, or middle level bureaucrats, and ten *dōshin*, or lower level officials. One among Toshishige's many accomplishments in this office was

[640] Cited in Hubert Cieslik, "The Case of Christovão Ferreira", *Monumenta Nipponica*, vol. 29, n. 1, Tokyo, 1974, pp. 53.

[641] At this time the appointment to Nagasaki Commissioner was for two-year periods that could be renewed. The lists of *bugyō* follow the order of the date of the first appointment to the post. Some lists, like that included in the work edited by Tanabe Yaemon Mokei 田邊八右衛門茂啓 (Genroku 1 — Meiwa 5.1.30; approx. 1688 — 1768.3.18), and published by Koga Jūjirō 古賀十二朗, *Nagasaki-shi*『長崎志』, Nagasaki, Nagasaki Bunko Kankokai 長崎文庫刊行會, 1928, include Terasawa Shima no Kami Hirotaka 寺沢志摩守広高 (Eiroku 6? — Kan'ei 10.4.11, approx. 1563? — 1633.5.18) as first Nagasaki commissioner; others omit him and start with Ogasawara Ichian Tamemune 小笠原一庵為宗 (*fl.* circa 1600).

his strict dealing, in 1640, with the four honourable and distinguished citizens sent as ambassadors from Macau to ask the reopening of trade. Another was the creation of the post of "Kirishitan metsuke of the Chinese" to try to curb the propagation of the pernicious religion among the Chinese merchant community. Toshishige resigned from his post as commissioner in Jōō 1.1.28, or 1652.3.8.

When Baba became commissioner he replaced Sengoku Yamato no Kami Hisataka 仙石大和守久隆 (1594-1645), the eleventh Commissioner. His first colleague in the post was Sakakibara Hida no Kami Motonao 榊原飛騨守職直 (1586-1648), the ninth Commissioner. Later he would have as colleague the thirteenth Commissioner, Ōkawachi Zennohyōe Masakatsu 大河内善兵衛正勝 (1578-1640), who was in office from Kan'ei 15.11.10, or 1638.12.15, to Kan'ei 17.6.13, or 1940.7.24. Masakatsu dealt, together with Inoue Masashige, who had been sent from Edo by the shogun, with the two Portuguese vessels of Kan'ei 16 (1639). No trade was allowed and the warning was issued: in the future, any vessel coming from Macao would be destroyed. After Masakatsu retired, the fourteenth commissioner had been Tsuge Heiemon Masatoki 柘植平右門正時 (1584-1642) who was in office from Kan'ei 17.6.12, or 1640.7.23, to his death in Kan'ei 19.12.9, or 1643.1.28. A great-grandchild of Oda Nobunaga, his most well known executive action, taken together with the restless Inoue Masashige, was to order Caron to have the stone walls of the Dutch factory in Hirado be pulled down, the ostensible reason being the *Anno Domini 1638* inscription above the building's entrance.

Baba next team-mate was Yamazaki Gonpachirō Masanobu 山崎権八郎正信 (1593-1650), the fifteenth *bugyō*. Masanobu performed almost four commissions, being in office from Kan'ei 19.12.26, or 1643.2.15, to his death in Keian 3.10.17, or 1650.11.11. It was to him that Tadayuki sent the captured members of the Second Rubino Group. He was in Edo when the embassy of Gonçalo de Siqueira arrived in Nagasaki in 1647. He was sent by the *rōjū*, accompanied by the ubiquitous Inoue Masashige, to firmly refuse the reopening of trade but to politely allow the departure of the vessel unmolested. Most probably it was him that was the other commissioner in office at the time the book was put in the house of the Nishis. He would die in his post some days after Chūan's death. Were one to assume that the book was placed in the care

of the Nishi even before the former Jesuit's death, the two commissioners in charge would still have been Baba and Yamasaki.

It was not long after the Chūan's manuscript being moved to Nishi's house that "in the winter of the third year in the decahedral cycle and in the year of the Monkey in the duodenary cycle in the Meireki era,[642] the Nagasaki Commissioner, Lord Kainoshō Kiemon Tachibana Masanobu ordered me [Mukai Genshō] and Mr. Nishi [the following]: Kichibei was to read the letters of this Japanese book and I was to write this in Japanese letters". This Nagasaki commissioner, Lord Kainoshō Kiemon Tachibana Masanobu 甲斐庄喜右衛門尉橘正述 (? — Manji 3.6.5, ? — 1660.7.13), was an able official then at the top of his career.[643] He was the first born son to Kainoshō Kiemon Masafusa 甲斐庄喜右衛門正房 (1563?-1630) and to his wife, a daughter of Nakagurō Yahē 中黒弥兵衛, a vassal to the powerful Matsudaira Kaga-no-kami 松平加賀守. Kainoshō Masafusa had been a bureaucrat samurai that spent the best years of his career supervising some of the Pharaonic public works that the Tokugawa had began to use as a policy tool to achieve the double objective of keeping economic activity stable through the proto-Keynesian management of aggregate demand and of maintaining the great lords subjugated through the control of their expenses.[644] One of his most famous works was the celebrated temple of Ten'ōji. The family traced its roots back three centuries claiming to descend from Sichirō Masaki 七郎正季 (? — Engen 1.5.25, ? — 1336.7.4) the younger brother of Kusunoki Masashige 楠正成 (? — Engen 1.5.25, ? —

[642] This year corresponds in the Gregorian calendar to the period between 1656.1.27 and 1657.2.12.

[643] The main sources of information about the career of Kainoshō Masanobu are the *Kansei Chōjū Sho-kafu*, vol. 588, and the *Tokugawa Jikki*『徳川實記』.

[644] Together with the system of *sankin kōtai* 参勤交代, or alternate attendance, a succession of large building works was put in practice by the first three Tokugawa shoguns as an apparatus of control of their vassals: "Designed to drain away domainal resources, the *sankin kōtai* system was highly successful control measure. [... But] while the expenses involved in visiting the shogunal capital were crushing, a lord like Matsura Takanobu could at least expect them to remain roughly constant and hence plan around these costs. In contrast, the bakufu's demands for contributions to construction projects could devastate a domain because they were so unpredictable and because they placed such a huge burden on local finances. The Tokugawa bakufu made use of a series of vast building projects to project its power over the outlying daimyo, many of whom were quietly hostile to the regime. One such project, the construction of Osaka castle, lasted for nine years and consumed 15,767,311 koku, or about 88 percent of national production for one year." Clulow, *op. cit.*, pp. 13-14.

1336.7.4), portrayed in popular mythology as supreme paragon of imperial loyalty.[645] Their ancestral territory was Kainosho in Kawauchi, from where they had taken their family name. Thus the Kainoshō were close neighbors of Ieyasu, whom Masaharu 正治, the father of Masafusa, had loyally served in Hamamatsu. Masanobu's childhood name had been Denpachirō 伝八郎. He entered the service of Hidetada in the *Nishi-no-maru koshō-gumi*.[646] In 1626 he accompanied the shogun in his visit to Kyoto. In 1630, upon the death of his father he inherited his domain of Kainoshō in Kawauchi 河内錦部郡甲斐庄 with 2,000 *koku*, and became *shoinban*.[647] Not long afterwards, due to an undisclosed reason, he incurred the displeasure of his superiors. After 1638, when he was pardoned, he followed the typical career of a middle level shogunate bureaucrat. In 1640 he became *metsuke-dai*, or *bakufu* inspector, in Kuno, in the province of Tōmi, and then in Kakekawajō, also in Tōmi, when Matsudaira Iga no Kami Tadaharu 松平伊賀守忠晴 (Keichō 3 — Kambun 9.3.23, approx. 1598 — 1669.4.23) took possession of it in 1644. In both of these posts he had Ishikawa Yazaemon Takanari 石川弥左衛門貴成 as a colleague. Later he was given the charge of delivering Tanaka-jō in Suruga to Hōjō Dewa no Kami Ujishige 北条出羽守氏重 (1595-1658). After a short stint, starting in 1645 as *fushin bugyō* 普請奉行, or Construction Commissioner, he had become the seventeenth Nagasaki *bugyō* in 1652. His tenure was eventful but, except for the famine of 1659, crisis free. In 1653 he supervised the construction, ordered by the *bakufu* to Matsuura Hizen no Kami 松浦肥前守, of seven cannon batteries in and around the city. In the following year he allowed for the first time the Dutch to bury their dead in Goshinji 悟真寺 instead of throwing them to the fish. In 1655 the trading system between Japanese merchants and foreigners was reformed under his supervision. In 1659 he recommended to Ōmura Inaba no Kami 大村因幡守 that in the construction

[645] See Morita Yasunosuke 森田康之助, *Kusunoki Masashige: Utsushiku Ikita Nihon no Bushō*『楠木正成—美しく生きた日本の武将』, Tokyo, Shin-Jinbutsu Oraisha 新人物往来社, 1982, or Ivan Morris, *The Nobility of Failure: Tragic Heroes in the History of Japan*, London, Secker and Warburg, 1975, pp. 106—142.

[646] A military organization of young *hatamoto* whose duties consisted of, among others, policing the *shogunal* palace.

[647] A member of another military organization of young *hatamoto* with duties similar to those of the *koshō-gumi.*

of new Buddhist temples he should not be so biased towards the Hokke sect as he seemed to be. Some time later, in 1660.7.12, he would die during his fourth commission. Though he was an able bureaucrat, Masanobu's main claim to fame lies in his friendship with Ingen Ryūki 隠元隆琦 (1592.12.7 — 1673.5.19) and Mokuan Jōtō 木庵性瑫 (1611.3.16 — 1684.3.6), two Chinese monks that introduced the Ōbaku school of Zen Buddhism into Nagasaki and then to other Japanese regions in the 1650s.

Itsunen 逸然 (1601.8.28 — 1668.8.21) had arrived in Nagasaki on 1644, running away from the anarchy caused by the fall of the Ming dynasty. A talented painter he became the third abbot of the temple Sōfukuji. After two failed trials he finally persuaded Ingen to come to Nagasaki.[648] Ingen, who had gained fame as abbot of Wanfusi in Fujian, arrived in Nagasaki during 1654 accompanied by twenty monks and ten artisans. He was very warmly welcomed not only by the Chinese community in Nagasaki but also by its officials, Masanobu the first amongst them. Ingen, an exceptional calligraphist that together with his disciples Mokuan and Sokuhi Nyoichi 即非如一 (1616.6.27 — 1671.6.26) would later become known as the "Three Brushes of Ōbaku," made an impression on the artistic sensibilities of Masanobu and the two became friends. Through Masanobu's good offices Ingen gained access to Tokugawa Ietsuna 徳川家綱 (Kan'ei 18.8.3 — Empō 8.5.8, 1641.9.7 — 1680.6.4) and then to the Imperial family. In 1659 he was granted a large tract of land near Kyoto where he built Mampukuji, the central temple of Ōbaku. It was during Ingen's stay in Nagasaki that Masanobu would press Genshō to transliterate Chūan's manuscript and to write a commentary on it.

[648] For the artistic influence in Japan of this Zen sect in general and of Itsunen in particular see the books by Stephen Addiss, *The Art of Zen: Paintings and Calligraphy by Japanese Monks, 1600-1922*, New York, H.N. Abrams, 1989, or *Obaku: Zen Painting and Calligraphy*, Lawrence, Helen Foresman Spencer Museum of Art, 1978. Concerning Masanobu's relationship with Ingen, the Chinese abbot of Kōfukuji 興福寺, the principal primary source is *Ingen Zenshu*『隠元全集』, Hirakubo Akira 平久保章 (ed.), 12 vol., Tokyo, Kaimei shoin 開明書院, 1979. For a biography of Ingen see Hirakubo Akira 平久保章, *Ingen*『隠元』, Tokyo, Yoshikawa Kobunkan 吉川弘文館, 1962.

9. Dr. Genshō

The instructions of the Nagasaki Commissioner were that "Kichibei was to read the letters of this Japanese book and I was to write this in Japanese letters. Moreover he ordered me to add a commentary to the exposition in this book." These orders where directed to the author of the preface, Mukai Genshō.

Few people came to know Genshō as well as Kaibara Ekiken, perhaps his most famous disciple. His writings are thus an invaluable source of information concerning Genshō, as they are also about the seventeenth century history of northern Kyūshū in general, and of the Kurodas and their domains in particular, as we saw earlier.[649] Ekiken was born the fifth son to Kansai Tochiku 寛斎とちく (*fl*. sixteenth century) a retainer of the Kurodas. He was home-schooled under his father's supervision. It is said that he mastered the *Jinkōki*, the work of Spinola's former pupil, Yoshida Mitsuyoshi, early in his teens. At the young age of sixteen he entered the service of Tadayuki but soon incurred the disfavor of his volatile master. As a consequence, in 1649 he was deprived of his stipend, an incident that stains the once popular theory that life employment in modern corporate Japan has its roots in Tokugawa social organization. Unemployed, he took the chance to essay a career shift. He went to Nagasaki to study medicine and botany, and he certainly met there the most famous doctor and botanist in town, Mukai Genshō, who was also running his newly founded academy, Shagaku Hojin-dō 社学輔仁堂, also known as Reirandō 霊蘭堂. He stayed there until 1656 and then went to Edo as an assistant to his father who was representing the Kurodas' interests in the shogunal metropolis. There he sought the advice of Hayashi Gahō 林鵞峯 (Genna 4.5.29 — Empō 8.5.5, 1618.7.21 — 1680.6.1), the highest neo-Confucianist authority in Japan, who induced him to study the philosophy of Zhuzi. The son of Tadayuki, the third daimyo of Hakata-Fukuoka, Kuroda Mitsuyuki 黒田光之 (Kan'ei 5.5.16-Hōei 4.5.20, 1628.6.17 — 1707.6.19) restored his stipend and sent him off to Kyoto for further study. There he would make the acquaintance of several reputed scholars and would once again meet Genshō. A prolific writer his writings would have a huge popularity among all the social strata, making him one of the best known neo-Confucian philosophers of the first half of the Tokugawa period. Ekiken, besides the *Kuroda Kefu*,

[649] See sections 3 and 4 above.

is renowned for his botany opus *Yamato Honzō*『大和本草』and for his treaty on education *Wazoku Dōshi*『和俗童子』. *Onna daigaku*『女大學』, a popular manual for the moral training of women evolved from one chapter「教_女子_法」in this work. Finally it should be pointed out that he seems to have been the first Japanese neo-Confucianist scholar to perceive the importance of mathematics in understanding natural phenomena.[650]

Having established Ekiken's close relation to Genshō, and his reputation as one of the foremost Japanese philosophers of the turn of the seventeenth to the eighteenth centuries we can return to Genshō. Ekiken wrote the following in the funerary record of his Master.

"The Master's[651] clan was Fujiwara, his family was Mukai, his name was Genshō and his alias was Ijun. He was born in the village of Sakai, country of Kansaki in the state of Hizen on the second day of the second month of the fourteenth year of Keichō.[652] His ancestors were Iyo no Kami from Keiki.[653] During the times of Emperor Godaigo they followed King Kaijin, the Commander-in-Chief of the Expeditionary Force Against the West, and went to Higo, where their descendents stayed in the village of Mukai, country of Kikuchi. Consequently they took the family name of Mukai. Their descendents, after the demise of the Kikuchi, moved to the country of Kanzaki, state of Hizen, where they became castellan with a territory of several villages. They became powerful gentlemen. These are the Master's forefathers. Their descendent was Sakon, who later took the name of Kōen. He lost his castle to Sir Ryūzōji and falling into reduced circumstances went to the village of Sakai, country of Kanzaki. He made his

[650] An easily available biographical sketch is by Katagiri Kazuo, "Kaibara Ekiken", Kodansha Encyclopedia of Japan, vol. 4, Tokyo, Kodansha, 1983, p. 108. For a more detailed biography of Ekiken see Inoue Tadashi 井上忠, *Kaibara Ekiken*『貝原益軒』, Tokyo, Yoshikawa Kobunkan 吉川弘文館, 1963. For a study of his empiricism see Kaibara Morikazu 貝原守一, "Kaibara Ekiken: Nihon no Kagaku wo Sodateta Hitotachi"「貝原益軒―日本科學を育てた人たち」, *Kagaku Asahi*『科学朝日』, vol. 3, no. 6, 1943, pp. 88-91. His complete works can be found in Ekikan-kai (ed.), *Ekiken Zenshū*『益軒全集』, Tokyo, Kokusho Kankokai 国書刊行会, 8 vols., 1910-1911.

[651] *Sensei* 先生 is translated as *Master*.

[652] March 7, 1609.

[653] Keiki refers to the region around the capital city.

house wealthy, his servants surpassing one hundred mouths. Kōen's son, called Shirobee, left the [secular] world and took the name of Kakuhō. The son of Kakuhō was also named Sakon. His name was Kaneyoshi, Kohō in his old age. This was the Master's deceased Father. Kohō, *shikan*[654] of the Chiriku Hachiman Shrine in the country of Mine,[655] married a daughter of Sakon. This was the Master's deceased Mother. She gave birth to three boys and one girl. The first child was Kahee, then the Master, then the named Kujirō, then a girl. Kōen was infirm, and to avoid the village of Sakai he sought refuge in the country of Takaki in Nagasaki. The Master first read a book when he was twenty-two years old. [Then he] studied without tiring day and night [until] he finally became a doctor. Following the usual practice he shaved his head, took the name Genshō and the alias of Sohaku. At this time there wasn't a teacher or friend for him to follow in Nagasaki. With great pains he taught himself, studying day and night. Consequently he progressed, everyday surpassing himself, and students from all over the region made the Master their teacher, the Hall being always full with those listening to his lectures. Therefore his art gradually became known to the world, though mainly in the western regions [of the country]. The lords of the neighboring countries sent their messengers and their invitations saw no end. The lord prince of Hirado, state of Hi[zen], Tsunenobu Sir Matsuura, believing in his skill, invited the Master, wishing to present him with a territory of 300 *koku*, but he excused himself with many illnesses and did not take the position. The lord king of Chikuzen, Kuroda Tadayuki invited him and had his illness healed. He was exceedingly glad and besides wanting to give the Master a territory of 700 *koku* sent to the Court the petition for a title of peerage, but the Master alleging the old age of his parents did not accept. At forty-six he lost his parents, whom he deeply grieved. In the first year of Manji,[656] when the Master was fifty years old, he took his wife and children, moved to the capital and established his house there. But first he made a pilgrimage to the great god of Ise. In front of the shrine he tied up his hair, accomplishing a long-cherished desire. From his rough dress without lining he made a ceremonial dress called *utoki*, and with this he paid homage with polished taste. After being in the capital for some time, his skill became more and more vigorous.

[654] A degree of the Shinto priesthood. *Kannushi*.

[655] On the history of Mine see: *Mine-chō Shi*『三根町史』, Minechō-shi Hensan I-inkai 三根町史編さん委員会 (ed.), Mine-chō, Mine Chō Kyoiku I-inkai 三根町教育委員会, 1984.

[656] This year corresponds to the period from 1658.2.3 to 1659.2.21.

There were many seriously ill in the shrine Kongōjuin in the Eight Street, and there his skill excelled as a doctor to the multitudes. Following the Imperial Will of His Imperial Highness Gomizuno-o Taijokō[657] he presented His Imperial Highness some medicines that had excellent effect. As a sign of gratitude from His Imperial Highness he received two fans, one prelate staff, and a reed rod. He was honored by everyone. When ill, many Imperial Princes and Imperial Consorts as well as court nobles and grand seigneurs would seek an Imperial order for treatment by him. From the four cardinal points he was invited by the lords. Those seeking his treatment were as numerous as sand. As his fame became widespread, moving and shining over town and country, he received honor from those learning medicine. At that time when a good doctor was named, the Master would be mentioned as an authority. At sixty he cured the illness of Mr. Maeda, the minister of the state of Kaga. The following year, Mr. Okumura was also surrounded by illness. At his request he was treated and cured of all his illnesses. The prince of the state of Kaga was exceedingly glad at this. Wishing to pay him the monthly wages of one hundred servants, complemented by a special gift of one thousand *ryō* of pure gold, he asked the Master to build a school. The Master, excusing himself with his old age, did not accept. On the first day of the eleventh month of the fifth year of Empō, he died of illness in his house. He was sixty-nine. Nobody heard from him any lamentation or regret. On the eleventh day after his death he was buried on the eastern slope of Rinsenzan. In the sixth year of Genroku,[658] for some reason he was reburied on the southern side. The Master had been endowed with a pure and sincere spirit. With everyone with whom he had come into contact he had been faithful and loyal without regret, considerate without contempt, affectionate and humane, considerate in speech and in behavior. He had been loyal in his pledges, dignified in his dealings. Moreover he had loved the multitudes and had paid much importance to this. He had been self-sacrificing, simple and economical. He had appreciated frankness and had disliked affection. In his purity of intention and earnestness in his travails he had resembled the ancients. As he had spent his days and had grown old in the capital for the sake of the people he had become beloved. He had practiced filial piety to the outmost, regularly returning to his hometown. His filial piety had been highly commended there. From the beginning he had revered Confucianism and had had a fervent trust in the Saints of old.

[657] Emperor Gomizuno-o (Keichō 1.6.4 — Empō 8.8.19, 1596.6.29 — 1680.9.12; reigned 1611-1629).

[658] This year corresponds to the period from 1693.2.5 to 1694.24.

He had kept their scriptures and had read medical books and through serious study had known all of them thoroughly. He had been profound in divination and in the theory of vigor flows, and had disliked the reading of undiscriminating books. During his life he had authored seventeen books besides many poems and other writings. The Master in his last years had changed his name to Genshō and his alias to Ijin and had called himself Kansuishi. As his former school had been named Reirandō, his students respectfully had called him Master Reirandō from the time he was thirty seven years old. He had married [a woman] from the Kume family and had had five sons and four daughters. His elder son Gentan has succeeded him in his work and his skill is excellent, so the family name has not been lessened. Ah! I stop here naming the achievements of the Master. This is no more than a brief outline as in the *Records* of his life they are expounded in detail. I wish that the spirit of the Master may continue to be transmitted in his descendants. That the fame of the Master may continue for ever! That the smell of his virtue may not perish! As his body returns to earth that he may rest for ever!"[659]

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[659]「先生姓藤原。氏向井。名元升。字以順。慶長十四年二月二日生二于肥前州神崎郡酒村一。其先伊豫守京畿人也。後醍醐帝時。從二于征西将軍懐良王一往二肥後。其子孫留二居于菊池郡向井邑一。因以氏焉。其裔孫某二菊池氏之亡時一。遷二居於肥前州神崎郡一。領二數邑一而爲二城主一。爲二郡中之豪士一。是爲二先生之高祖一。其子左近後號二高圓一。爲二龍造寺氏一陥レ城。流落居二于神崎郡酒村一。其家富贍。奴稗百余口。高圓子曰二四郎兵衛一。後祝髪稱二覺保一。覺保之子又號二左近一。名兼義。衰年號二高甫一。是先生之考也。高甫娶二三根郡千栗八幡大神祠官中左近之女一。是爲二先生之妣一。生二三男一女一。長子嘉兵衛。次先生。次曰二久次郎一。次女子。高甫有レ病。避二酒村一隠二于高來郡長崎一。先生二十二歳始讀レ書。昕夕不レ倦。遂爲レ醫。從二俗尚一薙髪。稱二名玄松字素柏一。此時長崎無二師友之可一レ從。獨學刻苦日夜精研。故其所レ進日超詣。闔郷學者皆師二事先生一。聞レ講者常盈レ堂。用二心於方伎一深矣。故其術漸行二于世一。雖二僻在二西裔一。隣國諸侯遣レ使。招聘者不レ絶。肥州平戸牧君松浦氏鎭信信二其術一。招二先生一欲レ與二采地三百石一。辭以二多病一而不レ就。筑前國君黒田忠之招二治其病一有レ效。國君大悦。欲下以二七百石地一爲二先生之采邑一。且奏二朝廷一。昇中進于爵位上。先生以二親老一不レ應。四十六歳失二其怙恃一。哀悼切至。萬治元年先生五十歳。携二妻子一入二京師一而家居焉。先詣二伊勢大神一於二廟前一束レ髪。依レ有二夙志一也。以二俗服不一レ衷。依二舊式一自製。號二羽徳衣一以爲二禮服一。其制典雅而可レ謂レ稱二其身一也。在二京師一日久而後。其術益盛行。八條金剛壽院宮病篤。衆醫術窮。依二後水尾太上皇之詔一獻レ藥有レ驗。太上皇大感寵。錫以二御筆二握。如意一秉。蘆杖一莖一。人咸以爲レ榮。皇子後宮及公卿大夫。有レ病奉レ敕而爲レ治甚多矣。四方諸侯招聘。求レ治者亦不レ勘矣。名聲籍甚。震二耀于都鄙一。學レ醫者以景慕焉。稱二當世之良醫一必以二先生一爲二巨擘一。六十歳治二賀州宰臣前田氏之病一。翌歳奥村氏亦嬰レ病。又請而治レ之。皆有レ效。賀州牧君悦レ之。将下月給以二百人之俸一。且特賜以二兼金千兩一。而爲中建レ學之資上。先生以二年老一辭而不レ受。延寶五年一月朔日病卒二于家。享年六十有九。聞者無レ不二歎惜一。越十有一日葬二于洛東鈴聲山一。元祿六年有レ故改二葬于其南一。先生稟レ氣純厚。其接レ人也忠信而不レ欺。温恭而不レ侮。慈祥而愛レ人。言行進止必以二禮讓一。其持レ己也謙約有レ節。廉公有レ威。故衆咸愛重レ之。其自奉也儉素。

Some details may be added to this eulogy.[660] Genshō's father was mundanely known as Mukai Kaneyoshi 向井兼義 (*fl.* early seventeenth century). It was about 1617, when the young Genshō had around 8 years, that he moved to Nagasaki with his family. It was there that the future doctor got his elementary education. As the family had traditionally had a close relationship with Shinto, it is possible that this education was based in the scriptures of the Way of Gods. However it is also possible that he was schooled in the Southern Barbarian tradition, which many children, whether Christian or not, still got in Nagasaki in the late 1610s. This Southern Barbarian learning for children was taught in Japanese by Japanese and would certainly have included, besides the teaching of Japanese reading and writing, western style arithmetic and music. It is also possible that it included the rudimentary teaching of reading and writing Portuguese, a tongue understood and spoken by a large minority of the population, or even Latin, a language many had grown used to by hearing it for about one hour each week, and in which quite a few books on a wide range of subjects, from celestial theology to earthly natural philosophy could easily be had in Nagasaki. The reference made by Ekiken that Genshō first read a book, most likely indicating a book in the Confucianist tradition, at the age of twenty two, seems to mean that he received his education in the Chinese and Japanese classics quite late. Unless it is assumed that he

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常甘二澹泊一不レ好二華飾一。其清修苦節彷二佛乎古人一。在二京師一日聞二其爲一レ人者慕與レ之交。其事レ親至孝。定省不怠二乎晨夕一。郷里稱二其孝一。素崇二儒術一。篤信二聖人一。其冶二經籍一看二醫書一。皆爲二工夫一精密。最深究二於易及運氣一。不レ好レ泛二觀雜書一。平生所レ著之書凡十有七部。其餘所レ作詩文亦夥矣。先生晩年更二名元升字以順一。自稱二觀水子一。其前堂號二靈蘭一。故門人尊レ之稱靈蘭先生一。行年三十七歳。娶二久米氏一生二五男四女一。長子元端繼二其業一。其術精良不レ殞二家名一。嗚呼敍二先生之行實一止二乎此一。是其大略也。其詳載在二行状一。庶幾子子孫孫繼二先生之志一常保守不レ失。則以傳二慶於無窮一。銘曰。名歷レ久顯。徳歷レ久馨。形歸二窀穸一。萬世永寧。」, *Ekiken Zenshū*, vol. 2, pp. 309-311.

[660] For the life and work of Mukai Genshō see, for example: Hentona Tomokuni 辺土名朝邦, "Mukai Genshō ni Kansuru Oboegaki"「向井元升に関する覚書」, *Kassui Nichibun*『活水日文』, Nagasaki, Kassui Joshi Tanki Daigaku Nihon Bungakkai 活水女子短期大学日本文学会, paper published in three installments in no. 2, 1979, pp. 26-32, no. 3, 1980, pp. 38-43, and no. 4, 1981, pp. 27-33; Wakaki Tai-ichi 若木太一, "Mukai Genshō Jiryaku—Nyūraku Zengo"「向井元升事略—入洛前後」, *Gazoku*『雅俗』, Fukuoka, Kyushu Daigaku Bungakubu Kokugo-gaku Kokubun-gaku Kenkyushitsu 九州大学文学部国語学国文学研究室, no. 3, 1996, pp. 25-36; and Wakaki Tai-ichi, "Mukai Genshō Chojutsu-kō: Tozai Bunka no Sesshoku"「向井元升著述考—東西文化の接触—」, *Gazoku*『雅俗』, Fukuoka, Kyushu Daigaku Bungakubu Kokugo-gaku Kokubun-gaku Kenkyushitsu 九州大学文学部国語学国文学研究室, no. 8, 2001, pp. 105-132.

was an idler, which is out of character with his later career, the assumption that he filled at least some of his teenage years with Southern Barbarian learning becomes probable. The probability that he had as his teacher either Hayashi Kichizaemon or even one of his disciples, for example Higuchi Goemon 樋口権衛門, who would later become better known as Kobayashi Kentei, is not negligible.

Whatever that may have been, it is not to be doubted that, either from first-hand experience or from second-hand hearsay, Genshō would come to loath the Southern Barbarian scholar practice. In his late teens or early twenties he started immersing himself in the Confucian tradition and in the closely related Chinese medical school scholarship. Ekiken says that he had no teacher or friend from whom he could receive academic advice, which is a very curious remark. Thus either the city's cultural strength was foreign to Confucianism and the Chinese medical school, what with so many Chinese in town seems strange,[661] or Genshō could not get along with the masters of these schools that could be had then, which is also strange for someone who "had received a pure and sincere spirit."

In 1639, the director of the Book Inspectorate, the chief bonze of Shuntokuji, employed Genshō and put him in charge of the inspection of books brought in by the Chinese vessels. The books Genshō chose to apprehend were collected and conserved in the Momijiyama Bunko, which was under his care.[662] Thus Genshō had easy access to a wide range of forbidden material that probably complemented his study of the classics he was reading "without tiring day and night until he finally became a doctor." It is not clear when Genshō began practicing medicine but it was in 1648 that he opened his school Shagaku Hojin-dō and began teaching. He seems to have been a popular teacher

[661] Writting about the the schlastic background of the Chinese interpreters Aloysius Chang, *op. cit.*, p. 77 writes: "The interpreters were adept in both Chinese and Japanese languages as the complexity of the situation and the multiplicity of the cases so demanded. These interpreters were also knowledgeable in the Chinese classics, and their concomitant canons, historical books, commentaries, writings of the philosophers and their contemporary works. Then there was the endless list of all the regulations and customs that the interpreters had to know and apply. They were also men of letters, who could adequately express their thoughts, quote the classical texts with great facility and thus guide the ordinary people effectively."

[662] For more on this topic see Oba Osamu 大庭脩, *Edo Jidai ni Okeru Tōsen Mochiwatashisho no Kenkyū* 『江戸時代における唐船持渡書の研究』, Suita, The Institute of Oriental and Occidental Studies, Kansai University 關西大學東西學術研究所, 1967.

because “the Hall was always full with those listening his lectures.” One year earlier he had built a Confucianist temple on a piece of land made available by Commissioner Baba and had become its priest thus keeping the sacerdotal traditions of his family.

Ekiken mentions that Genshō wrote seventeen books. One was a translation of a “Dutch,” or European, medical treatise that he did with the help of Nishi Kichibei. He finished it in 1654 and gave it the name of *Mōkō-ryū geka hiyō*『紅毛流外科秘要』. This experience would be enough for Kichibei to start “the practice of surgery.”[663] One year later Genshō published *Chiji-hen*『知恥篇』where he attacked Christianity and the newly introduced Ōbaku school of Buddhism from a Shintoistic and neo-Confucianist perspective.[664] One wonders if it was not the reading of this work that inspired Masanobu to ask Genshō to transliterate and comment Chūan’s book.

It was “in the winter of the third year in the decahedral cycle and in the year of the monkey in the duodenary cycle in the Meireki era,[665] [that] the Nagasaki commissioner, the Lord Kainoshō Kiemon Tachibana Masanobu ordered” Mukai Genshō to transliterate Chūan’s book. When was this order given depends on whether winter is considered to fall on the beginning of the year or on its end. If winter is taken to mean the first months of the Japanese calendar, then the order was given by the Nagasaki commissioner on February or March of 1656. However if winter means the end of the Japanese year then it was on December 1656, January or early February, 1657 that the Lord Kainoshō asked Genshō to make the book readable and understandable. It must have taken Genshō almost one year to finish the task. If the second possibility for the time of the order is taken as more natural, as it seems to be because *risshun*, or The Day Spring Begins, falls on average on February 4 on the Gregorian calendar, then Genshō would have finished the *Kenkon Bensetsu* on October 22, 1657.

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[663] *Nagasaki-ken Shi*, p. 819. See above note 137.

[664] See Komoguchi Isao 菰口治, “Mukai Genshō no ‘Chiji-hen’ sobyō—Shintō, Bukkyō, Kirishitan-kan” 「向井元升の『知恥篇』素描—神道・仏教・キリシタン観—」(“A Sketch of Mukai Genshō’s ‘Zhi Chi Pian’(知恥篇) —His Views of Shintoism, Buddhism and Early Christianity in Japan”), Chugoku Tetsugaku Ronshu『中国哲学論集』, Fukuoka, The Chinese Philosophy Association (of Kyushu University), no. 19, 1993, pp. 54-69.

[665] This year corresponds on the Gregorian calendar to the period between 1656.1.27 and 1657.2.12.

In 1658 he went to Kyoto, became the most famous doctor of his age, and there, in 1677, he died and was buried. However, as Ekiken notes, his spirit continued to live on in his children and in his disciples. Genshō was succeeded by his elder son Gentan 元端 (1649-1704) in his medical practice and his teaching of the neo-Confucian view of the world, which in turn he passed on to his progeny. His second son, Kyorai 去来 (Keian 4 — Hōei 1.9.10, approx. 1651 — 1704.10.8) would become the second most celebrated haiku composer after his teacher and friend Matsuo Bashō 松尾芭蕉 (Shōhō 1 — Genroku 7.10.12, approx. 1644 — 1694.11.28).[666] His third son Gensei 元成, better known as Rochō 魯町 (Meireki 2.10.15 — Kyōhō 12.2.9, 1656.11.30 — 1727.3.31) became in 1685 *shomotsu aratame-yaku*, or Book Inspector, in the Office of the Nagasaki Commissioners, a position his descendants held until the fall of the Tokugawa regime.[667] Finally, one of his daughters, Chiyo 千代, was also a distinguished haiku poet.

10. The book on Heaven and Earth

Genshō, in writing his preface, was careful to give all the information any seventeenth century Japanese reader might wish to have had concerning the origin of the book. It was a foreign treatise on astronomy, brought into the country by a foreign *bateren* elder, after the landing in Ōshima, territory of the loyal house of Kuroda, of a foreign vessel. The book was presented to the Lord Inoue Chikugo no Kami. On his orders it was translated into Japanese by Chūan, himself a former foreign *bateren* elder, using Barbarian letters. Some years later, on the request of the Nagasaki commissioner, the Lord Kainoshō Masanobu, it was transliterated into Japanese script by Nishi and Genshō, and then commentaries to each chapter were added by Genshō. Any potential reader after going through Genshō's preface would be reassured that, although the subject matter of the treatise was a field touching the core of Imperial authority and

[666] See, for example, Mainichi Shinbun Tosho Henshū-bu 毎日新聞社圖書編集部 (ed.), *Mukai Kyorai*『向井去来』, Nagasaki, Kyorai Kenshōkai 去来顕彰会, 1954.

[667] See, for example, Henri Bernard, S.J., "Traductions Chinoises d'Ouvrages Européens au Japon Durant la Période de Fermeture (1614-1853)," *Monumenta Nipponica*, vol. 3, 1940, pp. 40-60.

dignity and therefore reserved to court astronomers and despite the fact that its primary authors were evil priests of the pernicious and proscribed Christian religion, the translation of the book and the commentaries written by Genshō were made on the orders of two high government officials and thus had all the exterior appearance of legitimacy and lawfulness.

Who the author was, what the title was, or who the printer of the original foreign treatise on astronomy was, were not things that might have interested any reader envisioned by Genshō. Therefore the preface is silent concerning these matters. Lack of hard documental evidence makes for soft speculation but some considerations are in order.

The first is that the contents of the Japanese version of this work closely resembles the subject matter of any elementary course on natural philosophy taught during the late sixteenth century or early seventeenth century in most European universities and Jesuit colleges. The first half of the work explains the sublunar world. Its main topics are the four elements, their properties, the possible relationships between them, their stratification and the dimensions of the four strata; element earth, its qualities, the sphericity of the earth, its location at the center of the Universe, its immobility, and earthquakes; element water, its qualities, hot springs and the sea; element air and phenomena that occur in it such as fogs and falling stars. These are topics that Aristotle dealt with in the third and fourth books of *De Caelo*, in *De Generatione et Corruptione* and *De Meterologica*. The second half deals with the superlunar realm. Its most important themes are movements of celestial bodies, the heavenly spheres, time and its measurement, lack of luminosity of the Moon, the diameters of the Sun and the Moon, eclipses, eccentric orbits, the firmament, and the dimensions of heavens. These are themes that Aristotle covered in the first two books of *De Caelo*. Though the treatment presented in this work can be called Aristotelian, it was that of a sixteenth century Aristotelianism, modified by a long tradition of Alexandrian, Arab and Scholastic scholarship.[668]

[668] On what made someone an Aristotelian in the period up to the early seventeenth century see Edward Grant, "Ways to Interpret the Terms 'Aristotelian' and 'Aristotelianism' in Medieval and Renaissance Natural Philosophy," *History of Science*, vol. 25, 1987, pp. 335-358.

The second point that should be stressed is that the treatment offered in the book that Genshō commented was elementary: it did not fully reflect the flimsy elaboration of Aristotelian physics or the geometrical sophistication of Ptolemaic astronomy, the two pillars of early seventeenth century European cosmology. It should also be noted that the exposition was systematic: it was an internally consistent, economical and methodical explanation.

These characteristics narrow the range of possibilities for the original work. It was not the work of someone without basic training in astronomy or lacking the ability to systematize a broad body of knowledge into a coherent whole. On the other hand, it was not, most probably, the famous and extremely influential *In Sphæram Ioannis de Sacro Bosco* of Christoph Clavius, because it lacks its detail and technicality.[669] It could have been, though, the lecture notes of any philosophy professor teaching an introductory course on natural philosophy. If such a professor were a Jesuit his course would almost certainly be based, either directly or indirectly, on Clavius' *opus*. It could also have been the notes taken by a student during those lectures. Thus it is possible that the book offered to the Lord Motomune were the lecture notes prepared by Rubino or those taken by Chiara or Cassola. However it could as well have been any other elementary book on natural philosophy written anytime during the sixteenth or early seventeenth century in Europe.

It has also been suggested that the original book might have been written by Chūan himself.[670] The three arguments in favor of this hypothesis are, first, that the preface might be a later forgery, second, that place names from Japan and the Philippines appear in several passages, and third, that several Portuguese words are used untranslated in some places. The first argument is given some credence by a peculiarity in the date appended to the preface.[671] East Asian place names are difficult to explain if

[669] This work was revised several times and had numerous editions. One was Christophori Clavii Bambergensis ex Societate Iesv, *In Sphæram Ioannis de Sacro Bosco. Commentarivs. Nunc quatò ab ipso Auctore recognitus, & pleríque in locis locupletatus*. Lvgdvni, Svmptibvs Fratrvm de Gabiano, 1593. For more details about this treatise and its author see James M. Lattis, *Between Copernicus and Galileo: Christoph Clavius and the collapse of Ptolemaic cosmology*, Chicago, University of Chicago Press, 1994.

[670] By Nakayama Shigeru, *A History of Japanese Astronomy: Chinese Background and Western Impact*, Cambridge, Harvard University Press, 1969, p. 90.

[671] See section 13 below.

the translation is assumed to have been faithful and made from a European book. They are easier to admit if the original work were the lecture notes of a philosophy professor with a few years of experience in the region, as was the case of Rubino. They are also understandable assuming that the translation of a European cosmological treatise was made in "the European medieval tradition of imitation" used by some of the Jesuit translators of the Japanese Mission Press where the "editors and translators attempted to recompose the book in Japanese on the exact pattern of the original, while remaining free to adapt or revise the content and modify the authorial intention for their own purposes." [672] Finally, Japanese and other East Asian place names are perfectly reasonable and understandable when they appear in the examples presented in a work composed by someone who had been living for a long time in Japan as Ferreira had. The usage of Portuguese words in a Japanese translation of a Latin book might appear strange at first. But if it is considered that Portuguese words used in philosophy, as "exalação", or used in navigation or astronomy, as "grao", had been adopted by the Japanese language, then it is natural that they should have been used even in a translation from Latin into Japanese. Thus the hypothesis of Ferreira's authorship hinges on two things: on how mistrustful one should be of the written word of the preface, and on how good Ferreira's astronomic competence was. Neither of these questions offers the promise of being solved definitively in the near future, if ever.

Unmindful of the controversies his preface would generate Genshō went on writing: "this is the way of the Barbarian learning, without knowledge of the *principle* and *vigor* [theory] or of the *telluric* and *solar* [theory], and perplexed by the theory of the *five phases*". The neo-Confucian cosmology focused in metaphysical questions. It believed in the existence of one unitary principle governing both the moral and the physical worlds. Without the understanding of this principle no one could have a proper appreciation of either celestial phenomena or human interactions. Everything one could do in such case was to describe in detail the exterior appearance of physical phenomena without reaching their inner real significance. Though everything had its origin in the *taikyoku* 太極, the Great Ultimate, *tài jí* in Chinese, the origin of everything and the original substance from which Heaven and Earth had been opened, this was a concept

[672] William J. Farge, *The Japanese Translations of the Jesuit Mission Press, 1590-1614:* De Imitatione Christi *and* Guía de Pecadores, Studies in the History of Missions, no. 22, Lewiston, N. Y., The Edwin Mallen Press, 2002, p. 79.

too high for the Southern Barbarians to grasp, misled as they were by a heretical and evil Christian theory concerning the creation of the world. So Genshō stressed their ignorance of those principles they had no excuse for not knowing. One was *ri* 理, *lǐ* in the Chinese language, the reason principle, the underlying or intrinsic pattern of everything. Genshō could have asked with the interlocutor of Kyo Kō 許衡, Xǔ Héng in Chinese: "If we fully exhaust the patterns of the things of the world, will it not be found that every thing must have a reason why it is as it is? And also a rule of the co-existence with all other things to which it cannot but conform? Is not this just what is meant by Reason?"[673] Another was *ki* 氣, *qì* in Chinese terminology, vigor, the principle of movement and life of everything in the universe. In the Book of Master Jun Kei 荀卿 (c. 298 BC-238 BC), Xún Qīng in Chinese, it was explained what vigor was: "Water and fire have vigor but not life. Plants and trees have life but not perception. Birds and animals have perception but not a sense of justice. Man has vigor, life, and perception, and in addition the sense of justice and therefore he is the noblest of earthly beings."[674] Yet another concept the followers of western learning did not appreciate was that of the telluric and solar principle *in-yō* 陰陽, *yīn yáng* in Chinese: "One Yin and One Yang; that is the Tao!"「一陰一陽之謂道」, or as the "Proclamation of Ieyasu" put it "[t]he Positive Principle is the father, the Negative Principle the mother by whom man is begotten, and with his birth the Three Powers are complete."[675] Thus Genshō could write about Southern Barbarian cosmology: "For this reason this teaching does not approach the learning that masters truth and exhausts [the principles of] nature, only arguing from the appearance of things and going no further. At least it can be said that it is detailed [concerning] the shape of Heavens and Earth, the sizes of the Sun and the

[673] Cited in *Song Yuan Xue An*『宋元學案』, ch. 90, of Kō Shū Gi 黃宗羲 (1610-1695), or Huang Zong Xi in Chinese, Shangai, Shang Wu Shu Guan 商務印書館, 1933. Translation based in Needham, *op. cit*., p. 163. It is interesting to consider the similarity of this reasoning with that that had been expressed some sixteen centuries before by Paul of Tarsus: "For what can be known about God is perfectly plain to [Man] since God himself has made it plain. Ever since God created the world His everlasting power and deity—however invisible—have been there for the mind to see in the things He has made." Romans 1, 19-20.

[674] Fujii Sen-ei 藤井専英 (ed.), *Jūn-shi*『荀子』, *Shinshaku Kanbun Taikei*『新釈漢文大系』, vols. 5 and 6, Tokyo, Meiji Shoin 明治書院, 1966-1969. Translation based in Needham, *op. cit*., vol. 2, p. 23.

[675] Cited in William Gray Dixon, *The Land of the Morning: An Account of Japan and its People*, Edinburgh, J. Gemmell, 1882, p. 59, from the translation of Ernest Satow, *Transactions of the Asiatic Society of Japan*, vol. 6, 1878, p. 42.

Moon, the degrees of celestial revolutions, the divisions and limits of days and nights. However, although it reaches the meaning of the forms, it is nothing but darkness and lack of clarity, without defense and incapable of moving forward. Finally, the theory of forms is brought to its last consequences! It results in a heretical and evil theory, as from the outset this is its origin. Who said that the astronomy and geography of Barbarian learning have superior explanatory power? That is now argued in its entirety and without exception, in the commentaries added at the end of each section, [and] where it is without error that is praised. In the rebuttal no doxastic argument will be made, everything said having its reasons, which as a rule are presented in the commentaries added to each passage. The errors of Barbarian learning are made open and avoidable. To reach the right theory about Heavens and Earth, it is necessary to possess a basic system, about which I do not write. Our erudite people, will further add opposing views and embellishments, so that the puzzlement of the Barbarian learning will not be taught to the coming generations, and isn't this good?"

Any reader would agree that it was good indeed. However, "[l]ooking back at Chūan's Barbarian manuscript, though the chance has already been lost, its name has not yet been laid down."

We know that eventually Genshō named the book *Kenkon Bensetsu*. But why *Kenkon Bensetsu*? If the word *kenkon* does not appear even once in manuscript, and was written neither by translator nor commentator, why name the treatise with it?

11. The majestic vessel

Names are symbols and Genshō was very much aware of their power. A symbol is something that represents and stands for something else. A flag, for example, stands for a country. It is a non-verbal representation of that country. It is one of its symbols. To disrespect it is to disrespect that country and those that feel represented by it. To salute it is not, to those who understand the power of symbols, to say hello to a piece of cloth. It is to say hello to those it stands for. A name is a verbal flag. When it represents a person, a country or a god, a name not only stands for those entities but also expresses their very essence. According to many cultural traditions, to know the name of someone

is to know his essence and this is a knowledge that gives power over that person. Japan is one of those cultures where names are all-important and are handled with the utmost care. One's social superior is never addressed by name. He is not Mr. Tanaka. He is *shachō(-san)*, or (Mr.) Company President, *buchō(-san)*, or (Mr.) Department Chief, *gakubuchō(-san)*, or (Mr.) Dean. A proven way for a faculty professor to insult his dean is to address him during a meeting as *Tanaka-san*, Mr. Tanaka. For a stronger effect he could simply say *anata*, you, but this would have the inconvenience of showing that he was completely mad. The personal names of emperors or princes are never pronounced or written, except perhaps by the visiting barbarian. As a rule, names, especially given names, are reserved for usage among close friends and direct blood relatives.

Though Genshō could remember many cases in the history of Japan and China when the remiss handling of a name had caused disaster, a recent one must have been foremost in his thought. After Sekigahara the Tokugawa's power had been systematically consolidated and increased but by 1614 its supremacy was not yet completely undisputed. In 1611 the Emperor Go-Yōzei 御陽成 (Genki 2.12.15 — Genna 3.8.26, 1571.12.31 — 1617.9.25, reigned 1586-1611), who seemed to be in a mood for brewing trouble, had been deposed. But a major threat remained: Hideyori, the *taikō*'s heir, considered the legitimate supreme leader by many Japanese, high and low, was still surrounded by faithful adherents.[676] One way to avoid his causing problems had been to try to keep him poor. To that end Ieyasu had imposed on Hideyori the reconstruction of the Hōkōji temple and statue of the *Daibutsu*, or Great Buddha, in Kyoto. However the old dictator's efforts to drain Hideyori's finances seemed to be having no effect and Hideyori still seemed to have been able to procure the best and most expensive arms on the market. Then one day it became known that one of the bells cast for the temple included the phrase *Kokka Ankō* 国家安康, or *The Nation is in Peace*. The phrase probably had no other intention than to thank that bodhisattva who being ready for nirvana had seen "the misfortune of the nation," at the time when "towards the end of the Ashikaga decadence, the Law of the Court felt, the Shogunate

[676] "After an interview with the domain's officials [of Hirado] in 1611, the head of the VOC factory described the young pretender in the following terms: "His lineage makes him the rightful ruler of Japan, but he does not rule through a variety of circumstances. When the old emperor [Ieyasu] dies, through the favor of the common people and some of the most powerful lords that are well inclined to him, he will gain the realm." Clulow, *op. cit.*, p. 18.

lost its power, all the lords fought each other, and the people felt in pain," an occasion when "there was no righteous sovereign above nor moral warriors below" and when "reaching this state of affairs the nation being on the brink of destruction, calamity happening upon calamity" had felt compassion for the sufferings of the people and thus had delayed his departure from transience to accomplish the "return of the house of Matsudaira" with the restoration of virtue and righteousness. However, a malicious neo-Confucian scholar pointed out that the two characters of the name of Ieyasu were split by a third. The intention seemed obvious: the insidious cleave of the name stood for the intended chopping of the body which it represented. When the inner determination of the plotters was thus revealed, appropriate and swift action was taken and their complete destruction accomplished. And this is as it should have been, as any attempt against the head of the state is the same thing as an attack on the body of the nation.

Besides names some images were also widely used to represent the body politic, the people, their masters the samurai, and the supreme ruler. Some of these metaphors were very ancient but the early ideologues of the Tokugawa regime spared no effort to bring them back to life. One of the most frequently used was that of the human body as a representation for the nation. Those that made use of this analogy were myriad but this image had been given an almost sacred status by the *Tōshōgu*, the deceased Ieyasu, in his testament:

"If one expands his own principle one fills *Tenchi*, or Heaven and Earth, with it. If ones reduces the principle of *Tenchi* it becomes hidden in one's mind. It is the state of one's mind that determines the long or short-lasting of one's life as well as the well being of one's body. To appreciate a long and good life one drinks bitter drugs, to avoid illness one submits to moxa cautery, when one's heart is not selfish one attains peace and long life. The same holds true for ruling the realm. One can never go wrong by comparing anything to oneself. Those that serve a lord, serve him as one of your own, serve your master with that heart! Because if an inferior is not loyal or behaves lawlessly you get angry, but when he is a good servant you rejoice. This is something evident. Also the ruling of the realm should be compared with one's body. Understanding should reduce the vastness of the realm to one's body and should also expand one's body to the realm. This should be the way of government. One should

understand the realm as the shogun's body, the way of the warrior as the shogun's mind, and his vassals as the shogun's five senses."[677]

One other frequently used image for the realm in Japan of this age was that of a vessel, or ship. One can easily find in the Japanese literature of the period that leads up to the establishment of the Tokugawa's regime analogies like the following: "The ruler is the vessel. The retainer is the water. Water has the ability of carrying the vessel and also of capsizing it."[678] The *Tōshōgu* himself had used the image of a ship in his Testament when he wrote: "generally those who govern a realm are like those who sit in a leaking vessel."[679]

If there was a vessel that symbolized the Japanese nation in general and the Tokugawa regime in particular, as the *Yamato* would embody the Japanese spirit three centuries later, it was the admiral vessel that Iemitsu had ordered to be built. Its construction was done under the supervision of Mukai Tadakatsu 向井忠勝 (Tenshō 10 — Kan'ei 18.10.14, approx. 1582 — 1641.11.16), better known as Mukai Shōgen 向井将監, or Admiral Mukai, as he would also become its first admiral. Tadakastu's father, Mukai Hyōgo no Kami Masatsuna 向井兵庫頭正綱 (Kōji 3—Kan'ei 2.3.26, 1557—1625.5.2) had already been Ieyasu's admiral with *Kuni-ichi-maru* 國一丸, or the *United Country* as his admiral vessel. A descendant, Mukai Shōgen Masanao 向井将監正直 would become the originator of Mukai-ryū, a swimming technique of the sea *ninja*

[677]「此一身の道理をのぶれば、天地にみち、天地の道理をちゞむれば、一身の内にかくるゝ也、此心の持様にて、命の長短身の善惡替りあり、長命善道を好ものはにがき藥をのみ、無病なれども灸をし、心を我まゝに持ざる時は、長命安樂なり、天下國家を治るも又如レ此なり、何事も我身にたくらべてなす時は、ひが事なし、君につかふる者は、我家人をつかふて、其心にて主人につかへよ、其ゆへは我下人我に不忠非法をなす時は、是をいかり、能つかへる時は悦ぶ、是眼前の儀也、尤天下國家の政道も、我身にたくらべてなすべし、其心得は廣き天下を一身にちゞめ、又ほそき一身を天下にひろめて、政道をなし給へと申べし、たとへば天下は將軍の身、武道は將軍の心と心得られ、臣下は將軍の五官と心得らるべし、」"Tōshōgu goikun"「東照宮御遺訓」, *Kakun*『家訓』, *Nihon Kyōiku Bunko*『日本教育文庫』, vol. 8, Tokyo, Dobunkan 同文館, 1910, pp. 256-257.

[678]「君ハ船也。臣ハ水也。水能載レ船又覆レ船。」, *Kajima Jiranki*『鹿島冶亂記』. This work dated of Daiei 6, approx. 1526, is reproduced in Hanawa Hokinoichi 塙保己一 (1746-1821) (ed.), *Kunsho Ruijū*『羣書類從』, vol. 13, Tokyo, Keizai Zasshi-sha 經濟雜誌社, 1900, pp. 861-868.

[679]「惣じて國を治め天下の主たるものは、もる船に座し」, "Tōshōgu Goikun," *Nihon Kyōiku Bunko*, *op. cit*., p. 254.

responsible for the costal defense of Japan. The Mukai family, no relation to the neo-Confucian scholar Mukai from Kyushu, would provide all the admirals down to the fall of the Tokugawa. Tadakatsu completed Iemitsu's admiral vessel in 1630 and this ship, with the occasional refit, would be kept functioning until 1862, almost to the end of the regime. This makes it the longest serving vessel in humanity's history, a detail that has the power to induce into lyricism the most technology-oriented Japanese naval historian. With a length of 21 meters, breadth of 7.2 meters, depth of 1.9 meters, with a total capacity for 86,640 liters, with 76 oars, 20 canons and 20 archers, it was the largest Japanese vessel for over two centuries and a half. Besides its functioning as an admiral vessel and its large size, the majesty of the vessel was also emphasized by its being completely red lacquered with the same hue as Ieyasu's mausoleum at Nikko.

12. The menacing vessel and the plot

In Japan, the Tokugawa only allowed themselves, and no one else, to have a navy. The reason for this policy was not only to avoid a possible military threat to the regime by some dissatisfied or overly ambitious daimyo. It was also to prevent anyone in the realm attempting to re-establish contact with the outside world, especially with those loathed Southern Barbarians. Thus no one else but the shogun was to build any vessel large enough to cross the seas, or anything but small boats.[680] Any attempt to the contrary was taken as rebellion.

One early example that the prohibition to build large vessels was a serious one was given by Fukushima Masanori 福島正則 (Eiroku 4 — Kan'ei 1.7.13, approx. 1561 — 1624.8.26). This old warrior, close to Hideyoshi since his childhood, had taken the side of Ieyasu at Sekigahara. As a reward he was given the countries of Aki and Bingo with a total revenue of almost 500,000 *koku*. Against him was brought, early in 1619, the accusation that he had repaired Hiroshima castle without authorization and that was building large vessels. Many thought then that these reasons were specious and chose to

[680] In 1609 "[a]ll vessels belonging to western daimyo with a capacity over five hundred koku were confiscated, and the construction by daimyo of new junks exceeding that size was banned." Robert LeRoy Innes, *The Door Ajar: Japan's Foreign Trade in the Seventeenth Century*, Ph.D. thesis, The University of Michigan, 1980, p. 125.

give other explanations for the real cause of the action taken against Masanori. Some missionaries attributed it to his philo-Cristianism.[681] However, most probably, comets appearing in his sky and beasts disappearing in his garden some time before, coupled with the dark interpretation Tsuchimikado Hisanaga had given to such observations, had made Hidetada grow afraid and he just choose to take action against one of his most powerful vassals, by now physically weakened by old age, to serve as an example to any potential real plotter. Masanori did his best to dispel the suspicions around him and in the end, as he behaved adroitly and as the accusation was flimsy, he was simply transferred to a small 20,000 *koku* fief in Shinano, and was spared the cutting of his own belly.

It was around this time that Kuriyama Daizen, a most trusted vassal, was able to dissuade Nagamasa of this plan of disinheriting Tadayuki.[682] The Kuriyama, originally from Himeiji, had served the Akamatsu for many generations. Kuriyama Bingo 栗山備後 (Tenbun 20 — Kan'ei 8, approx. 1551 — approx. 1631), Daizen's father, first became a vassal of Kuroda Yoshitaka in 1565. He started low but soon attracted the attention of his master. Five years later he was already receiving 86 *koku*. In the same year Yoshitaka presented him with the implements necessary for a horseman. Afterwards he would fight in the same wars as his master and later in the same battles as Nagamasa. Daizen also started serving the Kuroda at a very young age. His was, as it were, the continuation of Bingo's career. In 1617 he became senior minister of the Kuroda household, and some time later he was receiving 20,000 *koku*, the income of a small daimyo. Nagamasa had a deep trust in Daizen and it is doubtful that Tadayuki would have been able to inherit his father's fief without the senior minister's strong support. However Nagamasa accepted Daizen's advice only on the condition that he keep an eye on Tadayuki. This political understanding would prove to be eminently unstable and one wonders how two able administrators could concoct and agree to such an unnatural arrangement. Even if Tadayuki had not been as unpredictable as he was it is doubtful that such a settlement would not produce but instability because it put the

[681] Pagés, *op. cit*., p. 398: "Au commencement de l'année, le prince de Firoshima, grand homme de guerre, seigneur de deux provinces, et de qui les revenus s'élevaient à cinq cent mille sacs de riz, fut dépossédé par l'empereur et exilé, pour avoir été trop favorable aux chrétiens."

[682] See section 4.

servant in the position of watching over his master. Though Nagamasa's testament would later give him a reputation as a solid and orthodox Confucianist lord, the modus vivendi he imposed on his son and trusted vassal, betrayed a most shallow understanding of one of the basic principles of the moral philosophy of Master Kō 孔子 (ca. 552 B.C- 479 B.C.), better known as Confucius from the *Padres*' Latin and Kong Zi in Chinese, namely that the lord should lord and the vassal should obey: "even if the lord lacks [the qualities of] lordship, the vassal should not lack [in his] vassalage."[683]

Therefore it is not surprising that it didn't take long for Tadayuki to enter into conflict with his benefactor and guardian. Even when Nagamasa was still alive Daizen had already shown displeasure with some of Tadayuki's friends, Kurahachi Jūdaiū 倉八十太夫 (*fl*. seventeenth century; 倉橋 in some sources) first amongst them. However after Nagamasa's death the conflict was unavoidable. The minutiae of the origin and of the growth of this household conflict, the so-called Kuroda Disturbance 黒田騒動, are related in detail in the *Kan'ei Hakozaki Bunko*『寛永箱崎文庫』and in the *Iwai monogatari*『盤井物語』.[684] Of interest here is how the disturbance grew into a plot. All sources agree that Tadayuki, roused by his own haughtiness as well as inspired by Jūdaiū's hints, decided one night to have a huge sea vessel built. Like any other child he wanted his toy then and there. This usually is possible when one has the money and Tadayuki had it. He spared no expense to have the best artisans, the best wood, and the best canons. There were two twelve-hour shifts in the construction yards, which were so carefully guarded that the shogunate spies did not report anything amiss. The vessel had three decks and five sails, was lacquered dark red, any visible piece of metal was gold

[683]「君、君たらずといえども、臣、臣たらずんばあるべからず」, *Kobun Kōkyō*『古文考経』cited in Fukuda Chizuru 福田千鶴, *Oie Sōdō*『御家騒動』, Tokyo, Chuokoron-shinsha 中央公論新社, 2005, p. 11.

[684] The *Kan'ei Hakozaki Bunko* can be found in Mitamura Engyo 三田村鳶魚 (ed.), *Yanagisawa, Echigo, Kuroda, Kaga, Date, Akita Sōdō Jikki*『柳沢・越後・黒田・加賀・伊達・秋田騒動實記』, *Teikoku Bunko*『帝國文庫』, vol. 15, Tokyo, Hakubunkan 博文舘藏版, 1928, pp. 315-646. The *Iwai Monogatari*, authored by Kajiwara Kageyoshi 梶原景良, is reproduced in Kokusho Kankokai 国書刊行会 (ed.), *Rekkō Shinhiroku*『列候深秘録』, Tokyo, Kokusho Kankokai 国書刊行会, 1914, pp. 1-19. In the *Rekkō Shinhiroku* are also printed other documents of interest in the history of the "Kuroda plot," for example *Kuriyama Daizen-ki*『栗山大膳記』, pp. 40-54, *Kuriyama Daizen Kiji*『栗山大膳記事』, pp. 67-79, and *Fukuoka Yume Monogatari*『福岡夢物語』, pp. 79-96.

plated and the sails were earthen white with the Kurodas' crest dyed dark blue. And it was gigantic. From this point on there are two main versions.

According to one of them, when one day in 1633 Daizen saw the vessel for the first time his face did not change color nor did his voice betray any emotion. However he immediately realized the danger that the vessel posed to his master's permanence in this world and to the Kurodas' future status as great lords. As a good vassal, bearing no grudges for the multiple humiliations he had suffered from his master, he set out to find the best way to save Tadayuki and his house from the certain punishment they would meet from Edo.

The other version is symmetrical to this one. According to it, one day in 1633, when Tadayuki returned from his six-month stint in Edo, Daizen feigning illness was not waiting for him as any good and faithful servant should. Ordered to visit his master in the Fukuoka castle he did not go. Still Tadayuki, bearing no grudge for the slight inflicted by his minister, suffered him to continue in his post.

From this point all versions agree again: in the sixth month of the Japanese calendar Daizen, either thinking that such pre-emptive action would save his master, or out of spite and wishing to get Tadayuki's fief for himself, wrote to Bungo Metsuke Takenaka Uneme no Shō Shigeoki 豊後目付竹中采女正重興 (? — Kan'ei 11, ? — approx. 1634), the sixth Nagasaki commissioner, accusing Kuroda Tadayuki of conspiring against the shogun. The accusation was a serious one and the *bakufu* investigated the matter thoroughly. Tadayuki, Daizen and Jūdaiū, among others, were summoned to Edo and interrogated concerning the matter. The shogunate's conclusion was that there hadn't been any intention by Tadayuki to rebel. Nevertheless, because his extravagant behavior was unbecoming of a great lord, his fief was to be confiscated. However, taking into consideration the meritorious deeds of the loyal Jōsui, his grandfather, and of the faithful Nagamasa, his father, to the shogunal house, his fief was to be restored back to him one day after the confiscation took place. Finally Daizen and Jūdaiū were both to be exiled.

13. The solution

Chūan, either intentionally or out of forgetfulness had not written the title of the treatise anywhere. Genshō, sitting in his working room, was now looking at the translation complemented with his commentaries and thinking about how to name it. This was no minor problem, as any author knows very well, not only when he is eyeing the royalties a catchy name can bring in, but especially when he is aware of the symbolic power names have attached to them. *Tenchi Bensetsu*, or "An Exposition on Heavens and Earth," would have been one possibility. It would bring into the title one of the most used words in the text and it expressed well the subject matter of the treatise. However it, had several drawbacks. The most important problem was undoubtly that it would call into the mind of any potential reader the majestic vessel, that vessel that was one of the most important symbols of the Tokugawas' power over the *tenka*, or over all that is bellow Heaven and above Earth, the realm. As everyone knew, the name of the vessel entrusted to the Mukai Admirals was was *Tenchi-maru* 天地丸, or the *Heaven and Earth*. This vessel represented foremost the Tokugawa shogun and his power, the water representing the people. But the *Tenchi-maru* was also a symbol standing for Japan and for its eminent position as the Land of the Gods between Heaven and Earth.[685] The implications of naming the Southern Barbarian treatise as *Tenchi bensetsu* 『天地辨説』 could not be lost on Genshō. The theories exposed in the book were new, superficial, misguided, and alien. To name them after the vessel that represented the nation and its supreme leader, the guarantor of tradition, the source of seriousness, the assurance of orthodoxy and the embodiment of nationhood could not mean but slight or insult to Ietsuna for whom the *Tenchi-maru* stood. *Tenchi bensetsu* was not an option and Genshō knew it.

The solution to the problem, however, must have come easily to Genshō. If the *Tenchi-maru* was an inappropriate image for the Southern Barbarian treatise, the *Kenkon-maru*, or the *Heaven and Earth*, the name of the vessel Tadayuki had made, fitted it perfectly. As the menacing vessel was ostentatious in shape and color, tasteless in the idle show of wealth, pointless for the fief and its government, dangerous in the

[685] See Chapter I for the importance of hierarchy in Japanese society, and Benedict, *op. cit*., pp. 21-22 for how the Japanese have seen the international community to be arranged according to a hierarchy of nations.

threat that it posed to its owner and useless as it would later prove to be unfit for navigation in all but the most favorable weather conditions so were the Southern Barbarian theories pretentious in their attempt to explain celestial phenomena through geometrical devices, vulgar in their reference only to the exterior appearences of phenomena, futile in their attempt to grasp fundamental principles, threatening to the right view of the world and inadequate in their ignorance of the relationship between the realm of Heaven and the realm of Man. So Genshō wrote: "now we name it *Kenkon Bensetsu*," or "An exposition on Heavens and Earth." It was thus that the most well known treatise of Western cosmology written in Japan, that which came to symbolize the legacy of the Jesuit scientific influence there during the seventeenth century, was named after the vessel that gave shape to the "Kuroda plot" against the shogunate.

Kenkon and *tenchi* are synonyms but *kenkon* had a much more classical flavor that Genshō, who also paid so much attention to divination, would not fail to appreciate. The first chapter of the *Book of Changes*, the most important book in the world according Master Kō,[686] was about *Ken*, pure solar principle, represented by two ☰, or *ken*, put on the top of each other, Heaven itself. The second chapter was, of course, about *Kon*, pure telluric principle, represented by two ☷, or *kon*, put on the top of each other, Earth itself.[687] No one knowing two things about Confucianism would ignore this. Even Matteo Ricci (1552-1610), as Genshō was well aware, had freely used this

[686] Confucius is reported to have said on some occasion: "If some years were added to my life, I would give fifty to the study of the *Yi*, and might then escape falling into great errors." James Legge (trans.), *I Ching: Or, The Book of Changes*, edited with introduction and study guide by Ch'u Chai with Winberg Chai, New York, Bantam Books, 1969, p. 1.

[687] See Imai Usaburō 今井宇三郎 (ed.), *Ekikyō*『易経』, 2 vols., Tokyo, Meiji Shoin 明治書院, 2002. In these triagrams each complete line represents the solar principle and each broken line the telluric principle. The eight basic triagrams, viz., ☰, ☱, ☲, ☳, ☴, ☵, ☶, and ☷, can be combined in pairs to create sixty-four hexagrams representing as many natural phenomena. In the *Book of Changes* sixty-four chapters are dedicated to the explanation of each phenomenon based on the peculiar combination of the telluric and solar principles in its hexagram. These explanations constitute the basis of the several Chinese divination systems, one of which was used by the *capitán* of the Chinese vessel that brought Xavier to Japan. Xavier's virtue of patience was severely tested by "las continuas y muchas idolatrías y sacrificios que hazían el capitán y los gentiles a el ídolo que llevavan en el navío, sin las poder impidir, hechando muchas vezes suertes, hiziéndole preguntas si pudíamos ir a Japán o no, y si nos durarían los vientos necesarios para nuestra navegación. Y a las vezes salían las suertes buenas a las vezes malas según lo que ellos nos dizían y creían." Letter of November 24, 1550 by Francisco de Xavier to the Jesuits in Goa, in Juan Ruiz-de-Medina S.J., *Documentos del Japon 1547-1557*, Roma, Instituto Histórico de la Compañía de Jesús, 1990, p. 139.

classical expression in his effort to gain the hearts and minds of Chinese Confucianists. He had used it not only in his appologetic works, for example in the opening lines of his *Tenshu Jitsugi*『天主実義』, *Tian Zhu Shi Yi* in Chinese, but also in the naming of his cosmological treatise *Kenkon Taigi*『乾坤体義』, *Qian Kun Ti Yi* in the original, the Chinese equivalent of what Chūan had writen in Japanese about Heavens and Earth.[688] Therefore, even though the word *kenkon* had not been used by either author or commentator, without doubt a title with this word was appropriate: it fitted the subject matter and had the required classical flavor.[689]

The *Kenkon Bensetsu* would become extremely popular in the following years, certainly being the most widely read book on Western cosmology well until the end of the eigtheenth century. How much sought-after it was can be gauged not only by the number of extant manuscripts but also by the large number of variants that arose from Chūan's treatise. As its subject matter was reserved for court and shogunal bureacrats it was never printed during Tokugawa times. Anyone wishing to have a duplicate would have to copy it. Though most would be faithful to the original text, some would change the order of the subjects to fit their interests, possibly also deleting what was not of interest, thus giving origin to a new variant. Besides the *Kenkon Bensetsu* at least seven other titles have survived which attribute themselves Chūan's authorship.[690] From the multifarious shapes into which the *Kenkon Bensetsu* metamorphosed during the one hundred years after its composition it is evident that the Japanese actively sought to know the Jesuit cosmology. As the Jesuits were active players on the supply side of the market for silk in the sixteenth century, their infuence was felt also in the supply side of the market for cosmological ideas in Japan during the seventeenth and eighteenth centuries. It is however, with a pain in the heart that one notices that none but one of all these variant manuscripts includes Genshō's commentaries. No one seemed to be

[688] In the openning lines of *Tenshu Jitsugi* Ricci had writen:「中士曰、聞尊教道淵而旨玄、不能以片言悉。但貴國惟崇奉天主、謂其始制乾坤人物而宰安養之者、愚生未習聞、諸先正未嘗講。幸以誨我。」

[689] Genshō used *kenkon* only in the preface. In the long preface it appears twice, the second time being in sentence "now we name [this book] *Kenkon Bensetsu*." In the short preface it appears only in this baptismal formula.

[690] See Appendix 2.

interested in Genshō's refutation, either because neo-Confucian theories were well known, or because they seemed relevant no more.

Genshō probably felt relieved by being able to successfully complete the mission entrusted by the Lord Kainoshō. When tension is eased, it often happens that attention slacks. As a consequence mistakes are made and accidents occur. So it happened with Genshō. He wrote the date, "the 15th day in the ninth month of the sixth year of the decahedral cycle and year of the Boar of the duodenary cycle of the Meireki [era]," the place "Hiyō, Nagasaki," and signed "Mukai Genshō." Then, in all likelihood, he wiped his brush and put it down. Peradventure, without a second look at what he had just written, Genshō neatly arranged the sheets of paper where he had written the preface and placed them on the top of the treatise. He called a servant and asked that they be sewn in two separate volumes, the first dealing with the Earth, the second with the Heavens.

It is doubtful that Genshō would ever want to see the *Kenkon Bensetsu* again. Bureaucrats who author reports commissioned by someone higher in the hierarchy seldom take pleasure in the reading of their past output. And he was a busy man, with multiple interests and many responsibilities. Even if he had had the intention of re-reading it the uncertain future, most probably he wouldn't have found the time. Therefore he never noticed the mistake made when writing the date. No "sixth year of the decahedral cycle and year of the Boar of the duodenary cycle" fell in the Meireki era and thus some uncertainty will remain concerning the year when Genshō wrote the preface. This is because there were just three years in in the Meireki era and none was a "sixth year of the decahedral cycle and year of the boar of the duodenary cycle". The first one was the second year of the decahedral cycle and year of the Sheep of the duodenary cycle *Kinoto-Hitsuji* 乙未, the second one was the third year of the decahedral cycle and year of the Monkey of the duodenary cycle *Hinoe-Saru* 丙申, the third one was the fourth year of the decahedral cycle and year of the Hen of the duodenary cycle *Hinoto-Tori* 丁酉. Therefore there was not any year *Tsuchinoto-I* 己亥 in the Meireki era, and the two ways the Japanese calendar uses to number years do not match in the date incribed by Genshō in the preface. If it is assumed that there is just a partial mistake in the above date and that either the cycle name or the era name is right, then there are the following possibilities. If the era name is assumed to be right, as there is no way to tell to which of the three years of Meireki this date belongs, there are three possibilities: October 14, 1655, November 2,

1656, or October 22, 1657. If the cycle name is assumed to be right, and if the additional, but reasonable assumption is made that this date corresponds to the nearest possible year to Meireki, then this date corresponds to October 30, 1659, in the second year of the Manji era. The date corresponding to 1659 is improbable, because Genshō had already moved to Kyoto, but not impossible because he returned frequently to Nagasaki to pay his respects to his deceased parents. As it was "in the winter of the third year in the decahedral cycle and in the year of the Monkey in the duodenary cycle in the Meireki era" that "the Nagasaki Commissioner, the Lord Kainoshō Kiemon Tachibana Masanobu ordered" Genshō and Nishi to make the transliteration of Chūan's book October 14, 1655 can be excluded with certainty. As winter almost certainly indicates the end of the year of Meireki 2, the probability of Genshō having signed his preface in November 2, 1656 is slim. Thus October 22, 1657 stands out as the most probable date for the completion of the *Kenkon Bensetsu*.

Had someone pointed to him the mistake in the date and asked Genshō why it would be full Moon in all the above mentioned four days that can correspond to the date brushed in the preface, I guess he would probably have replied: "The question is shallow and the answer is evident. But if an explanation is needed, read the *Kenkon Bensetsu*. The Southern Barbarians are foolish in their theories concerning Heaven and Hell but have ingenious explanations for that kind of question."

Let us then read the *Kenkon Bensetsu*.

PART 3 — THE BOOK

CHAPTER V—PRINCIPLES FOLLOWED IN THE TRANSLATION OF THE BOOK

Japanese is not a difficult language. Arguably it can take time and effort to memorize a vast vocabulary, with few words similar to those in the lexicon of western languages, and commit to memory some two to six thousand characters one needs to know to be able to read and write. But the grammar is simple and the pronunciation far less hazardous than that of Chinese or English.[391] Still, it is an Altaic language extremely different from the Indo-European languages of Western Europe, English and Portuguese included. Therefore it presents abundant and multifarious difficulties to translate to one of these idioms.

Different sentence patterns (verbs always come last!), frequent lack of subject, or its recurrent repetition in the same sentence, vocabulary developed around a different vision of the World[392], all of these and other peculiarities make the task of translating from Japanese perilous when precision is sought.

Let's consider some examples. One has to do with the Japanese tendency to particularize the general, so that a word like "flower" rapidly becomes a particular kind of flower. "It is not easy to say "flower" in Japanese," says one renowned literary translator and scholar. "The difficulty has to do with the Japanese insistence upon the specific in the observation and description of nature. In the best short dictionary of the Japanese language, the first definition of *hana*, informing us that it refers to the reproductive parts of higher flora, seems to satisfy the need for a general term. The second definition is an extension of the first, covering the branch at the end of which the *hana* appears. It is with the third and fourth that trouble begins: *hana*, without qualification, becomes the cherry blossom and the plum blossom."[393]

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[391] This statement in no way should be constructed as advice to study the Japanese language. Anyone tempted by that task should bear in mind the words Edward Seidenstiker wrote some half a century ago in his regular column in the Yomiuri, the English language newspaper: "I suspect that were America to come to me and ask if it should learn Japanese, I would be tempted to reply: 'America, if you have all that spare time, go learn French, German, Spanish, Italian, and Russian instead. You could learn all in about the time it would take you to learn Japanese, and you would find richer rewards waiting at the end of the struggle that you would find after your conquest of Japanese.'" February 1, 1962.

[392] See Nisbett, *op. cit*., pp. 148-152, for a discussion of the centrality of verbs in East Asian languages and substantives and adjectives in European tongues.

[393] Edward Seidensticker, *This Country, Japan*, Tokyo, Kodansha International Ltd., 1984, p. 1.

Another difficulty a translator finds has to do with the Japanese usual refusal to generalize from the particular to the general, their inability to take something out of context. "Dr. Kenneth Pike, the eminent linguist, likes to tell [this experience]. His most famous and popular lecture is a demonstration of how to get into an unknown language without resorting to the devices of a known language. He first establishes a small vocabulary of nouns by showing his informant, a speaker of an unknown language who is assumed to speak no English, a number of objects and inviting vocal equivalents. The demonstration failed to get started when the informant was a Japanese, because he quite refused to give the word for "branch." Instead he gave the name of the tree from which the present branch had come."[394]

One last example is the Japanese tendency to see things in their relation to and linked with other things and with the environment where they are placed. In Japanese there is no word for "brother." One must choose either "older brother" or "younger brother." When it is needed to say "you" to Mr. Suzuki, care must be exercised: there is plenty of choice including "anata," "sonata," "sochi," "kimi," "omae," "anta," "temee" when he is and equal or inferior in the particular situation at hand, but there is no pronoun when he in a superior position, and most probably one would be safe avoid all of the above pronouns irrespective of relative position and call him by his organizational position ("shacho-san," "bucho-san," "kacho-san," etc), line of work or office ("untenshu-san," "omawari-san," "kanrinin-san") or familiar relation to oneself ("oka-san" to the mother in law, "one-san" to the wife of the elder brother of one's wife).

Given the differences between Japanese and European languages it is not rare to find two completely different English versions of the same Japanese book. This is understandable as translators sometimes like to bring the work "nearer to the reader," and conceivably there are many different types of readers. Thus it has been said of Waley's English version of *The Tale of Genji* that "[i]f one reads his translation with care it sometimes seems that his ladies wear farthingales and live at Hampton Court, and sometimes as if they were odalisques in Constantinople."[395] One reason for this

[394] *Ibid*., p. 1.

[395] *Ibid*., p. 76. One edition of the mentioned translation is *The Tale of the Genji: A Novel in Six Parts,* by Lady Murasaki, translated by Arthur Waley, Tokyo, Charles E. Turtle, 1970.

might be that "not very many people knew much about Japan and its curious ways" at that time. But one may ask if they could learn much about them with such a translation.

One anthology of Japanese literature once listed as its first guiding principle for inclusion of a literary piece "Japanese works which translate into interesting and enjoyable English." It added that "no matter how important a work may be in the original, if it defies artistic translation" it would not be included.[396] It goes on to say that "[a]s I have noted, the translations in this book are meant to be literary and not literal. For example, names of persons, titles, and places not essential to a story have sometimes been omitted in the interest of easy reading for Westerners not able to absorb large quantities of Japanese proper names. Puns, allusions, repetitions, and incommunicable stylistic fripperies have also been discarded whenever possible. Extracts have been made with the intent always of presenting the given work in as favorable a light as possible, even though it might at times be fairer if the book were presented as rather uneven."[397]

In a different case, the preface to the translation of a Japanese literary masterpiece noted that "Subjects of sentences are often omitted, and the other clues to the identity of the subject may be inadequate. The translator must make a choice, though he knows it is hardly more than a guess. I have described in my notes some instances where the interpretations most conspicuously vary. Another problem encountered by every translator is how to render into acceptable English the frequently repeated sentence patterns. Such repetition is not objectionable as far as Japanese style is concerned, but in English it quickly becomes tedious. I have tried to vary the sentences as much as possible, but my object has otherwise been to remain as close to a literal translation as English style will permit. For this reason I have retained, except in a few cases where it would result in unusually cumbrous expressions, Kenko's practice of referring to people by their titles rather than their names, and his oblique allusions to the writings of the past. I have provided in the notes the necessary factual information,

[396] *Anthology of Japanese Literature: From the Earliest Era to the Mid-nineteenth Century*, compiled and edited by Donald Keene, Boston, Tuttle Publishing, 2002, p. 9.

[397] Idib, pp. 9-10.

identifying persons mentioned and so on, but in general the notes are intended for the specialist and are not necessary for ready understanding of the text."[398]

The *Kenkon Bensetsu* was not a literary work. Mukai Genshō, after remembering that Chūan could speak Japanese well and was familiar with some of the classics of its literature, noted that: "The original of Chūan, with its colloquialisms and vulgarities, has also parts where there isn't any punctuation. [T]hese passages […] were written as if there weren't any rules."

Genshō went on to state the principles he followed in his editing of the text: "Thus not one letter or one sentence was corrected, because if one letter or one sentence were corrected, the meaning intended by Chūan might become distorted, and the spirit of Barbarian learning might not be made manifest." I make Genshō's principles my own principles: as Chūan did not write a literary piece, nor did Genshō make one out of it, neither does this translation pretend to upgrade it to that level. Further, I am certain that nobody will seek to read the *Kenkon Bensetsu*, either the original or this translation, in search of literary refinement. However, I do hope that a few researchers might be interested in ascertaining what was said in the seventeenth century in Japan by a former Jesuit concerning European natural philosophy and what an erudite neo-Confucian scholar had to reply to that. I believe that for these readers, precision in translation is far more valuable than easy and fluid readability. Therefore, the two, not wholly compatible, goals of this translation are:

1) to be as faithful as possible to the text,

2) while attempting to achieve a minimum of readability in English.

The above ordering should make clear the pecking order followed in those cases where there was an incompatibility. No attempt was made to present the *Kenkon Bensetsu* in a better, or worse, light than a Japanese reader might get from the original. The translation is thus as literal as feasible: a conscious effort was made to discard nothing from the original, if possible not a single word, especially not nouns, verbs or adjectives. Thus, 「夜のつべくこと百七十八夜なり」was translated as "the night is one that continues for one hundred seventy eight nights" without any attempt to slim or beautify it up because 夜 "night" in fact appears twice in the original. Also, almost all

[398] *Essays in Idleness: The Tsurezuregusa of Kenkō*, translated by Donald Keene, Tokyo, Charles E. Tuttle, 1981, p. IX.

repetitions have been maintained, although some unavoidable deletions were necessary to clear the path so that the reader could proceed on. Further, it was also attempted to keep nuances and differences in expression whenever possible. For example care was taken to translate「南北の筋」always as "the Southern and Northern Lines" while 「南筋北筋」 was faithfully expressed as "the Southern Line and the Northern Line," though it may be considered that actually both phrases mean the same. To keep the translation readable these objectives, unfortunately, were not always achievable. Another similar effort was made to add nothing to the original, if possible not a single word. However, as subject sentences are often omitted, it became sometimes necessary to provide one. To minimize the effects of the intrusion of the translator between writer and reader, whenever it was necessary to make a choice this was included [inside square brackets.]

Still, the mission of the translator is to translate. No matter how faithful to the original sentence the translation "the Tao is in the following of the Yin and Yang that originate in the Taiji" might be, if the reader has no possibility of knowing what is meant by Tao and Taiji, by Yin and Yang, the chances of his understanding the thought of the author are nil. And if he knows what these words mean and all their nuances, he probably has the privilege of choosing to read the book in the original. On the other hand "[…] the Prince Enlightened Virtue asked his attendant Faithful Clarity […]", not only does not add anything to comprehension but clouds the real identity of the personages. Therefore a middle way is attempted here: except for proper names and the units of the measurement systems everything else is translated, even those concepts which are so rich and have so many different meanings as to be considered untranslatable. One reason measurement units were not translated is that quite a few of them, for example *ri* 里 and *jin* 仞, had different definitions in Japan, and these different definitions were sometimes discussed in the exposition. The definitions and values of these units are provided in the notes.

In almost all cases a single English word is used throughout for the same Japanese word, no matter how impoverishing this technique might be considered. It certainly is no worse than using the same unintelligible Japanese or Chinese word throughout. When a word appears for the first time an attempt is made to present its various possible meanings in the notes. From then on it is up to the reader to assign any other of the possible significations to that word as he may want. For example, when he

finds *telluric* (meaning: pertaining to the Earth) instead of *yin*, he has the same freedom to interpret it as *female*, *dark*, *below*, *posterior*, *soft*, and *heavy* if he so wishes, and as without doubt he would have done when confronted with the Chinese original word in his translation.[399] A handful words remain un-translated and are represented by their (probable) Japanese pronunciation. They are a testimonial to my ignorance and, let's not be unduly humble, a remembrance that sometimes, not even the best reference works, listed earlier, can help us to know the meaning of everything written in Japanese about the Heaven and the Earth.

In spite of my overriding aim of being faithful to the text, I hope to have achieved a modicum of readability. The translation here presented has gone through several phases. In the first phase, a very unreadable almost word for word translation was made. This version was then adapted to improve its English quality, a work that was performed in several rounds, each made with many months of interval from the previous revision.

Most readers of Edward Gibbon's *The History of the Decline and Fall of the Roman Empire* usually admit that half the fun of reading it is in the footnotes. I will readily admit that half the fun of making this translation was in the research that it required, and which is, for most part, reflected in the notes that accompany it. The notes added are thus an integral part to this translation. Like the research they result from they are of four types: notes about vocabulary, notes making critical comparisons between the edited version used and other manuscripts, notes about people and historical events, and notes about ideas and their history. There are also some notes that include two or more of these aspects.

First there are notes concerning word meaning and usage. They typically consist of a short list, in English, of the more common meanings of a certain Japanese word. This list is followed by excerpts, from one or more dictionaries, to support and illustrate the definitions given previously. As in scholarly research in the physical and social sciences computer programs and questionnaires are fully disclosed, it is only natural that research involving translation reference be made to the equivalence established between words. Finally, wherever possible, a few short passages from some of the most

[399] To my knowledge, the first author to translate into English "yin and yang" as "tellural and solar" was J. J. Hoffmann, *A Japanese Grammar*, Leiden, E. J. Brill, 1876, p. 270.

well known pieces of Japanese literature are added to further illustrate the usage of that word. The Japanese works chosen are either contemporary to or older than the *Kenkon Bensetsu*. It was given priority to books published by the Jesuit Mission Press, to those the missionaries said they were familiar with, and to those they probably knew. This choice seems evident and reasonable and therefore does mot require further justification. These are by far the more numerous notes. Not every Japanese word in the *Kenkon Bensetsu* has a note. Notes were included for all terms having to do with scientific, philosophic and religious concepts. For other words not fitting in these categories notes were included either because they were considered important to understand a choice made, or because they were considered interesting in some other way. Therefore notes were also included for all other words I had doubts about the best English word to use, either because the Japanese word did not seem to fit in the sentence written by Chūan or Genshō, or because there were many possible choices from the English vocabulary, or because there were too few. In a very few cases I decided to add a note by personal interest or whim or, if the reader can take a more charitable explanation, for artistic reasons. Therefore none is trivial. Notes concerning meaning and usage are of little or no interest to most readers unfamiliar with the Japanese language. However it is hopped that they may be of some interest to two types of readers. To those familiar with Japanese they may help them understand why a certain English word was preferred over other possibilities. Further, they may help them in the work of revise and better this translation. To those who are interested or studying seventeenth century Japanese, it is hoped that these notes will make the effort to ascertain the meaning of a certain word as effortless as possible.

Second, there are notes calling attention to characters, words, and setentences found in some of the consulted manuscripts which are different from those in the edited version transcribed and used as basis for this translation.

Third, there are a few notes concerning the people referred in the text and some facts related to them. These are by far the fewer.

Finally there are also notes concerning the ideas being presented, either to clarify what may be meant by the author, or to show dependencies on or similarities to other works.

When necessary to distinguish between the part of the text that is attributed to Chūan from that written by Genshō I will call to the first *primary text* and the second *commentary*.

THE CRITICAL EDITION AND MANUSCRIPTS USED IN THIS TRANSLATION

The basis of this translation is the printed critical edition found in *Bunmei Genryu Sosho*. This edition was a collation of the text of two manuscripts named respectively ア (a) and イ (i). Manuscript (a), [A13] in Appendix 2, belonged to the Baron Hosokawa Junjirō 細川潤次郎 (1834—1923). Manuscript (i), [A5] in Appendix 2, belonged to Kanō Kōkichi 狩野享吉 (1865—1942). The Japanese text presented in the following pages is a transcription of this critical edition. See Appendix 2 for a list of the known manuscripts of the *Kenkon Bensetsu* and its variants.

However, because the manuscripts that served as basis for this critical edition have some deficiencies (such as a few missing and wrong characters) in this translation the manuscripts [A4] and [A5], listed in Appendix 2, were also used, with especial reliance in manuscript [A4]. References to variants found in these manuscripts that can affect the reading of the text are made in the accompanying notes.

CHAPTER VI — THE TRANSLATED BOOK

乾坤辨説序

此篇、南蠻不留都我留國之人忠庵所二編述一也、忠庵南蠻浮屠耶蘇之僧、其學精二天文一、耶蘇之法、此謂二鬼利支端一、其僧云二破天禮一、云二意留魔牟一、風聞、鬼利支端之法、悲二無常一以怨二人世一、願二安楽一以貪二幽途一、教レ之以二天堂地獄之説一、率レ之以二慈悲惻怛之行一、是以困窮愚瞑者、如二風草之偃一、而喪二天眞之守一、蠻僧乘レ機馭レ勢、動則謀二其國一、以滅二國禮一、(イ祀)[400]忠庵悔レ非改レ過、著二顯僞録一、寛永廿年癸未、於二筑前一、太守源忠之公擒二捉破天禮十餘人一、達二江武井上筑後守基宗[401]公一、基宗公下二之於獄一、不二數歳一皆悔レ罪、改宗而爲二我民俗一、其破天禮長老、有下精二天文一者上、乃以二天文書一進二上基宗公一云々、後令二忠庵譯一レ之、其書則此篇也、明暦丙申之冬、長崎奉行甲斐庄喜右衛門尉橘正述公、命二僕及西吉兵衛一、倭二書之一、吉兵衛讀二蠻字一、僕以二倭字一寫レ之、重命レ僕考二辨此書一、夫蠻學之爲レ術、未三曾知二理氣陰陽一、惑二五行の説一、徒就二形器之上一以論レ之而已、是以至二形而上之儀[402]一、則晦盲不レ明、否塞不レ通、今悉考辨、以附二各條文後一、或其不レ誤者、存而稱レ之、顧忠庵蠻稿、雖二既脱一レ機、未レ題而斃、今號曰二乾坤辨説一、

時明暦己亥九月望日

肥陽長崎　　向井玄松序

[400] The editor of *Bunmei Genryu Sosho* notes that different manuscripts present dissimilar characters for ending character of *kokurei*: *rei* 禮 ("salutation, salute, bow, courtesy, property, ceremony, thanks, appreciation, remuneration, return present", Nelson) and *shi* 祀 ("enshrine; worship", Nelson). Both words may be appropriately translated as "national customs".

[401] [A4] instead of Motomune 基宗 has *bō azana* 某字, meaning "uncertain name".

[402] [A5], writes 義 (meaning, sense), instead of *Bunmei Genryu Sosho* which writes 儀 (rule).

Preface to the *Exposition on the Heavens and the Earth*[403]

This book was composed[404] by Chūan, a Portuguese from the Country[405] of Southern Barbary[406]. Chūan was a Jesuit priest[407], bonze[408] of Southern Barbary, with excellent astronomical learning.[409] {With the law of Jesus we mean Christianity, its

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[403] This is the shorter of two extant prefaces. *Kenkon* 乾坤 means Heaven and Earth, i.e., the Universe: *Ken* 乾: Heaven; high, bright and strong Heaven; it also means pure *yang*, or Solar Vigour (「㊀❶周易の八卦(ハッカ)のはじめの卦。強い・天・主君・男性などのシンボルとなる。また、六四卦の一つ。乾下乾上(ケンカケンジョウ)。❷高く明るく強い天。また、転じて、強い、剛健なさま」, Kanjigen). *Kon* 坤: earth; it also means pure *yin*, or telluric vigour (「❶つち。地 ❷周易の八卦(ハッカ)のひとつ。陰性で柔弱なことを示す。また、六四卦の一つで坤下坤上(コンカコンジョウ)。」, Kanjigen). *Benzetsu* 辨説 means exposition or explanation (「物事の論理を説き明かすこと。論証。弁償」, Kojien).

[404] *Henjutsu* 編術: compose ("Cotobauo tçuzzuru. Compor bem, ou ornar com palauras postas por ordem, ou bem enfiadas", Vocabvlario, fl. 252; 「文章をつづってまとめること」, Kojien; Tsuzuru 綴る: write, compose:「② 言葉を連ねて詩歌・文章を作る」, Kojien;「文書をまとめつづること」, Nikkoku).

[405] *Kuni* 國: country ("Cuni. *Reino*. ¶ Cuniuo tairaguru. *Destruir o reino*. ¶ Cuniuo nabicasu. *Rẽder, ou inclinar o reino à sua parte*. ¶ Cuniga xizzumaru. *Aquitarse o reino*. ¶ Cuniuo arasô. *Contenderem dous, ou mais sobre o reino*. ¶ Cuniuo motçu. *Ter Reino, ou Reinar*." Vocabvlario, fl. 65). This is a word with a very strong emotional content and with many meanings: Earth (as opposed to Heaven), territory, government, government official, country side, and region among others (「① (天や海に対して) 大地。土地。陸地。②一つの区域をなした土地の称。③国家。また、特に日本国をいう。④天皇の位。また、天皇の政務。⑤日本の行政上の一区画をなした土地の称。⑥国府。また、国司による政治。⑦任国。知行所。⑧生国。郷里。故郷。」, Nikkoku). In Paragraph 22 of Book Four it will even be used to designate regions in the Heavens.

[406] *Nanban* 南蠻: word for word "Southern Barbary", Portugal ("Nanban. Minamino yebisu. *Partes do sul*. Vt, Nanbangocu. *Reinos da parte do sul*.", Vocabvlario, fl., 176). This denomination was first used to indicate the Portuguese and was later expanded to other Europeans, especially Spaniards.

[407] *Sō* 僧: priest ("Sô. Fijiri. Bonzo", Vocabvlario fl. 223; "monk, priest", Nelson; "a (Buddhist) priest; a clergyman; a monk; a bonze; the clergy", Shinwaei; 「(梵語 samgha の音写「僧伽(そうぎや)」の略。和合衆・衆と訳す) ① 仏教の修行者の集団。「僧院・僧物」 ② ①に属する修行者。特に中国・日本では、仏門に入って仏道修行する各個人の称。沙門。出家。比丘(びく)。法師。「僧侶・尼僧」」, Kojien).

[408] *Futo* 浮屠: bonze (「 (仏) ①(梵語 buddha)仏陀(ぶつだ)に同じ。② (梵語 stūpa 卒塔婆)塔。そとば。③ 転じて仏寺・僧侶の意にも用いる」, Kojien; *Sōryo* 僧侶: "a (Buddhist) priest; a bonze; a monk", Shinwaei).

[409] Chūan says about himself in the *Kengiroku*: "From my earliest years I devoted myself exclusively to the teachings of the Kirishitan religion, and finally I left my home to become a monk. And as I grew older I formed in my heart the deep desire to spread this faith in Japan, and I did not deem the thousands and tens of thousands of miles too far a distance." Translation in Elison, *op. cit.*, p. 295.

priests are called *Bateren*, are [also] called Iruman.}[410] According to hearsay[411], to lead a life for the sake of Christianity is to grieve[412] transience[413] and to fell bitter against this fleeting World of Man[414], wishing for peaceful comfort and craving for the other World. [The Southern Barbarian priests] had used the teachings concerning the theory of Paradise[415] and Hell[416], as well as works of charity[417] and compassion[418], and because

[410] Small type in the manuscript is shown in this translation by {curved brackets} as in this phrase. They indicate explanatory notes introduced into the text: these are usually two lines of smaller letters, with varying lenght, which are introduced so as to fit in the space of one line of the main text.

[411] *Fūbun* 風聞: hearsay, what is heard but is not verified, rumour, literally, "hearing the wind" ("Fŭbun. i. Xejŏno sata. *Fama, ou rumor q corre no pouo*. ¶ Fŭbun suru. *Soar, ou correr fama*", Vocabvlario, fl. 105;「ほのかに聞くこと。うわさ。とりざた。風説。風評。かぜのたより」, Kojien;「ほのかに伝え聞くこと。うわさに聞くこと。うわさ。また、さまざまにとりざたすること。いいふらすこと。ふぶん。風評。」, Nikkoku).

[412] *Kanashimu* 悲しむ: grief ("Canaxij. *Cousa triste*. Canaxisa. Canaxu", Vocabvlario, fl.35v; "Canaximi. *Tristeza*. ¶ Canaximiuo caquru. *Dar tristeza*. ¶ Canaximiuo moyouosu. *Entristecerse muito*. ¶ Canaximi qimoni mezuru. *Penetrar a tristeza muito a alguem*. ¶ Canaximimini amaru. *Ter grandissima tristeza*", Vocabvlario, fl. 35 v; "Canaximi, u, uda. *Entristeçerse*", Vocabvlario, fl. 35v). This word is found in the Japanese translation of *Contemptvs mundi* published in 1596 at Amakusa. The passage "Proh dolor! statim post modicam recollectionem foris erumpimus, nec opera nostra districta examinatione trutinamus" is translated as "Canaxij cana! Sucoxi cocorouo todome cufŭuo corasu cato sureba, tachimachi mata cocoro sărā xi, qibixiqu vareraga xiuazano fodouo tadasu coto naxi", *Contemptvs mundi jenbu. Core yovoitoi, Iesv Christono gocŏxeqiuo manabi tetematçuru michiuo voxiyuru qiŏ*, 1596, p. 246.

[413] *Mujō* 無常: transience ("Mujŏ. i, tçune naxi. *Miseria, ou breuidade das cousas do mundo*. ¶*Item, Morrer. Vt*, Mujŏno cajeni sasouaruru. *Ser leuado, ou arrebatado da morte*. ¶ Vy mujŏ no narai. *Costume das cousas do mundo q se acabão, ou mudão facilmente*.", Vocabvlario, fl. 170;「①一切の物は生滅・変化して常住でないこと。②人生のはかないこと」, Kojien).

[414] *Jinsei* 人世: this life, the fleeting (or transient) World of Man ("Iinxe. *Espaço em quanto hum viue, ou està em este mundo*. Iinxei. Idem. ¶ Iinxei xichijŭ, corai mare nari. *Chegar a vida do homem atè os 70. ainda antigamente foi cousa rara*. S.", Vocabvlario, fl. 143;「人の世の中。世間。うきよ」, Kojien;「①人の世の中。世間。浮世。この世。現世。」, Nikkoku).

[415] *Tendō* 天堂: paradise: the palace in Heaven, or above Heaven, where the gods and buddhas live, the Heavenly Palace; the World above Heaven, the Pure Land paradise; the Paradise, or Heaven, of Christianity (Christian churches do not use this word anymore) ("Tendŏ. *Em cima do ceo, ou ceo*", Vocabvlario, fl. 254v;「① 天上にあって神仏のいますという殿堂。天宮(てんぐ)。②天上界。天国。」, Kojien;「① 天上にあって神仏のいますという殿堂。天宮(てんぐ)。②天上界。天国。」, Kojien;「①天上界あって神仏の住むという殿堂。天宮(てんぐ)。②天上界。極楽浄土。③キリスト教で、天国のこと。現在は用いない。」, Nikkoku).

[416] *Jigoku* 地獄: hell ("Infernus, i. Iap. Gigocu." Dictionarivm, fl. 371;「①(梵語 naraka 奈落、niraya 泥梨の訳)六道の一つ。現世に悪業(あくごう)をなした者がその報いとして死後に苦果を受ける所。贍部洲(せんぶしゆう)の地下にあり、閻魔(えんま)が主宰し、鬼類が罪人を呵責(かしやく)するという。八大地獄・八寒地獄など、多くの種類がある。②(宗)(Infernus ラテン)キリスト教思想で、救われない魂が陥るという世界。」, Kojien).

of these [teachings and works] the destitute and the simpletons, as the grass is bended down by the wind[419], lost their adherence to the heavenly truth[420].[421] The Southern

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[417] *Jihi* 慈悲: charity, mercy ("Iifi. *Misericordia, ou esmola*. ¶ Iifiuo mopparato suru. *Ter por cousa muito necessaria, & principal fazer esmolas*. ¶ Iifiuo taruru, I, suru. *Fazer esmolas*. ¶ Iifiuo vquru. *Receber esmolas*", Vocabvlario, fl. 141v.;"(情け) mercy; (恵み) charity; benevolence; (哀れみ) pity; compassion", Shinwaei;「① 仏・菩薩が衆生をあわれみ、いつくしむ心。一説に、衆生に楽を与えること(与楽)を慈、苦を除くこと(抜苦)を悲という。特に大乗仏教において、智慧と並べて重視される。② いつくしみあわれむ心。慈悲心」, Kojien;「①(「慈」は梵 maitrī、「悲」は梵 karuṇā の訳) 仏語。衆生をいつくしみ、楽を与える慈と、衆生をあわれんで、苦を除く悲。喜びを与え苦しみを除くこと。②(形動)いつくしみあわれむ心。また、なさけ深い様子。また、そのさま。③(―する)あわれんでなさけをかけること。また、「お慈悲でございますか」などの形で、あわれみを請う意の慣用表現としても用いる。→慈悲をすれば仇(あだ)する」, Nikkoku).

[418] *Sokudatsu* 惻怛: compassion (「悲しんで心をいためること」, Nikkoku). "Works of charity and compassion" performed by Christians seem to have made a profound impression on the psyche of the Japanese, both Christian and the non- or anti-Christian. For example in the English translation of *Kirishitan Shumon Raichō Jikki* 『切支丹宗門来朝実記』, an anti-Christian tract of the Horeki 宝暦 era collected in M. Paske-Smith (ed.) *Japanese Traditions of Christianity, being some old translations from the Japanese, with British Consular reports of the persecutions of 1868-1872*, Kobe, J. L. Thompson & Co., 1930, pp. 22-23, we can read: "Furaten, in order to aid the sick, having brought a large quantity of medical plants, requested Nobunaga to give him a plot of ground, where he might plant the seed. (…) Every day persons were sent to hunt up and bring the outcasts and beggars who slept under the bridges, the incurable sick left to die in the hills and moors, besides the very sick and hard to cure, from every place. To the poor money was given, and out of every ten that the Romans prescribed for, eight or nine were restored to health. Clothing was also given them; those who were yesterday wearing rags, today were wrapped in silk. The number of those who blessed their beneficence could not be counted".

[419] This was a widely used expression. For example, in the above mentioned English anonymous translation of *Kirishitan shumon raichō jikki*, we can find: "The Emperor Ogimachi, highly approving of this, allowed Nobunaga to come to his palace, so that his power was like that of the dragon when it gets in a cloud, and the five Southern provinces bent to him, like the trees and grass bending to the wind." Paske-Smith, *op. cit*., p. 14. Also, Neil S. Fujita, *Japan's encounter with Christianity: The Catholic mission in pre-modern Japan*, p. 116, translates a passage, where this same expression can be found, from a letter written in the spring of 1588 by several leading Japanese Christians of the region around the capital: "the people fear him [Hideyoshi] just as the grass bends before the wind".

[420] *Tenshin* 天真: heavenly truth ("Tenxin. Tenno macoto. *Verdade diuina*", Vocabvlario, fl. 255v.;「天然自然のままで、偽りや飾り気のないさま」, Kojien;「天然のままで、かざり気がないこと。また、そのさま」, Nikkoku).

[421] The explanations advanced by Japanese anti-Christian literature for the success of Christian proselitism uniformly include works of mercy and doctrinal teachings concerning the after-death. For example, the above cited *Kirishitan shumon raichō jikki* rationalizes it thus: "The King asked: 'What plan then would you adopt?' Furaten replied: 'Most men are afflicted with either poverty or disease; if I went to Japan I would aid the poor by giving them gold and silver, and the sick I would supply with medicine, and thus deliver them from poverty and disease; explaining the three worlds—the past, present and future—and convincing them by various miracles; then, with the mirror of the three worlds which I possess, I would lead them as I did the Chinese (Champa 占波), and as bring Japan for the most part into

Barbary priests seizing the favourable opportunity took control of the events, planned to take over the country and to destroy national customs[422]. Chūan regretted his wrong doings and to right his wrongs he wrote *Deceit Disclosed.*[423] In the twentieth year of Kan'ei, tenth year in the decahedral cycle and year of the Sheep in the duodenary cycle,[424] in Chikuzen ten and some *Bateren* were captured[425] and made prisoners[426] by the Honourable *Taishu*[427] Minamoto no Tadayuki[428] and were sent to the honourable

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submission, and then your Majesty can take such measures as you think best.'" Paske-Smith, *op. cit.*, p. 20.

[422] *Kokushi* 國祀: national customs (「国家の行う祭り。国際。(周禮)掌レ立ツルヲ二國祀之禮を一。」, Kōkanwa). Different manuscripts present two different words: *kokurei* 國禮 (with *rei* 禮 meaning "salutation, salute, bow, courtesy, property, ceremony, thanks, appreciation, remuneration, return present", Nelson) and *kokushi* 國祀 (with *shi* 祀 meaning "enshrine; worship", Nelson). Both words may be appropriately translated as "national customs", especialy taking into the account of the cited passage of *Zhōulǐ*『周禮』.

[423] *Kengiroku* 顯僞録: Deceit Disclosed or Record of Deceits Disclosed. Work of Sawano Chūan dated of 1636. The Japanese text is printed in *Giya do pekadoru gekan, Myōtei mondō, Ha Daiusu, Kengiroku*,『ぎや・ど・ぺかどる 下巻、妙貞問答、破提宇子、顯僞録』, Nihon Koten Zenshū 日本古典全集, Tokyo, Nihon Koten Zenshū Kankōkai 日本古典全集刊行會, 1927. An English translation can be found in George Elison, *Deus Destroyed: The Image of Christianity in Early Modern Japan*, Cambridge, Council on East Asian Studies, Harvard University, 1988. There we can read: "In everything they but deceive the people; using religion they plot to usurp the country." (p. 301).

[424] *Mizunoto-Hitsuji* 癸未: tenth year in the decathedral cycle and year of the sheep in the duodenary cycle. The first day of this year was February 19, 1643. The last day was February 7, 1644.

[425] *Toraeru* 捉: captured ("Torauare, ruru, eta. *Ser preso, ou catiuo na guerra, &c*." Vocabvlario, fl. 262; "catch, seize, arrest, capture", Nelson).

[426] *Toriko* 擒: prisoner ("Torico. *Catiuo, ou tomado em guerra*. ¶ Toriconi suru. Tomar, ou catiuar na guerra.", Vocabvlario, fl. 263; 「❶とらえる。とりこにする。網や包囲網の中に閉じこめて、とらえる。❷とりこ。とらえられた人。またとりこにすること」, Kanjigen; "captive", Nelson).

[427] *Taishu* 太守: Class of official created by imperial rescript in the sixth day of the nonth month of the third year of the Tenchō (826 A.D.) during the reign of Emperor Junna 淳和 (786—840, reigned 823—833), based on the original chinese system of the Táng 唐 dinasty. During the Edo Period it was used popularly to designate the daimyo with a fief ("Taixu. Vôqini mamoru. i, Cunino nuxi. *Senhor grande de algum reino ou mais*.", Vocabvlario, fl. 238v.; 「たいしゅ 太守 親王任国と定められた上総・常陸・上野の長官の称。天長三年(八二六)九月六日この制度を定めた際、唐で一時わが国の律令制下の国にあたる州を郡と改め、その長官である刺史(しし)を太守としたことにならったものであろう。ただし、同三年の文書には上総守親王・上野守親王などとも記されている。太守は常に遙任で、介が事実上の守であった。後世も『神皇正統記』に上野太守成良親王などとみえるが、江戸時代には国持大名の俗称に用いられた。」, Kokushi daijiten).

[428] Kuroda Tadayuki (Keichō 7.11.9—Jōō 3.2.12, or 1602.12.22—1654.3.30), second daimyo of the Chikuzen-Fukuoka fief, who succeded to his father Kuroda Nagamasa 黒田長政 (Eiroku 11.12.3—Genna

Etake Inoue Chikugo no Kami Motomune[429]. The Honourable Motomune threw them down into prison and not before long all of them regretted their crimes, changed religion

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9.8.4, or 1568.12.21—1623.8.29) . After the death of his father in 1623 he entered in conflict with the *jūshin* (senior official) 重臣 and *roju* (conselor) 老中 Kuriyama Daizen 栗山大善 (Tenshō 19 − Jōō 1.3.2 or 1591—1652.4.10) that his father had appointed in his will as senior assistant to Tadayuki. Daizen denounced to the *bakufu* in 1632 Tadayuki and his protégé Kurahachi Jūdaiū 倉八十太夫 (*fl.* 17th century; 倉橋 in some sources) as conspirators, thus igniting the so called Kuroda Disturbance 黒田騒動. This disturbance ended with the banishement of Daizen and Judaiū and the forgiveness of Tadayuki in consideration for the meritorious deeds performed by his father. This incident is related in *Kan'ei Hokozaki Bunko* 『寛永箱崎文庫』. In the eighteenth year of Kan'ei (1641), or two years before the incident refered to in preface, the lords of the Chikuzen and Saga fiefs were given the post of *Nagasaki Keibi Goban* 長崎警備御番 or "Watcher over the Security of Nagasaki", which they were to keep in alternate years until the end of the shogunate in the second half of the nineteenth century. One amongt the several duties of holders of this post was to prevent the entry of unauthorised foreigners and their capture in case of infiltration:「鎖国後江戸幕府が、長崎の警護のために近隣諸藩に課した特殊な軍役。長崎警衛ともいう。一般には福岡・佐賀両藩が一年交代で港口の西泊・戸町の「沖両番所」を守備するのをいうが、広義には大村藩担当の不法外国人などの大村牢収監、異国船の航路にあたる大村・五島両藩の海上警備、主に熊本藩による長崎奉行御用船の提供、また異国船渡来など非常時における大村藩の長崎市中警備やその他諸藩兵の出動を含めていう。慶長十九年(一六一四)幕府は長崎の教会破壊などに大村・島原・平戸の三藩兵を動員したが、鎖国の過程で唐船を長崎に限り、寛永十六年(一六三九)ポルトガル船の渡来を禁じるとともに、西国大名へ沿岸警備と漂着船の長崎廻航を命じ、十七年貿易継続願いに渡来したポルトガル使節以下を処刑した。十八年二月福岡藩主に対し参勤を免じて長崎警備(大村・五島藩は自領海警備)を命じたが、これはポルトガル側の報復に備え、平戸オランダ商館の長崎移転に対処したものと解せられる。翌年佐賀藩がこれ仁代わり、以後両藩の隔年勤番となった。正保四年(一六四七)ポルトガルの使節船が再渡来し、長崎奉行は九州諸藩の約五万の兵員を動員し、「御名代」四国高松城主松平定行の指揮のもとに警戒にあたった。これを契機に西国諸藩三十六の長崎蔵屋敷ができ揃い、明暦元年(一六五五)に港口の内外に七ヵ所の台場が構築された。警備の両藩は、毎年四月に交賛九月半ばまでは約千人(大番)、その後一部撤兵を原則とし、主要火器の石火矢・大筒約五十挺、弾・火薬は幕府が貸与した。」, Nihon Rekishi Daijiten.

[429] Inoue Chikugo no Kami Masashige (1585-1661). Manuscript [A4] instead of *Motomune* 基宗 has the expression *name uncertain* 某字. Fourth son of Inoue Kiyohide 井上清秀, younger brother of Inoue Masanari 井上正就 (1577-1628) the lord of Tōtōmi-Yokosuka 遠江横須賀. *Gometsuke* 御目付 in 1625, *Chikugo no kami* 筑後守 in 1628, *Ōmetsuke* 大目付 in 1633, lord of *Kazusa* 上総 in 1640, he played a pivotal role in the anti-Christian persecution. Biographical sources are found in *Tokugawa Jikki* 徳川實紀 (parcially translated in Elison, pp. 191-192) and 『寛政重修諸家譜』. The Kokushi daijiten, has the following entry concerning his carrer:「いのうえまさしげ 井上政重 一五八五 – 一六六一 江戸時代前期の幕臣。清兵衛と称す。天正十三年(一五八五)遠江国に生まれる。井上清秀の四男。母は永田氏の女。二代将軍徳川秀忠に廩米二百俵で仕えて大坂の陣に参加。その後三代将軍家光に仕えて寛永二年(一六二五)に御目付となり、同四年従五位下筑後守に任ぜられた。九年十二月柳生宗矩・水野守重・秋山正重とともに最初の大目付となる。島原の乱に際しては、十五年正月上使の命をうけ、子息清兵衛を伴って島原半島へ赴き、松平伊豆守・戸田左門の相談役となった。また同年七月の松倉長門守譴責賜死のときには検使役になるなど、乱の処理に関して重要な役割を果たした。十七年上総国に所領一万石を得、この年幕府の鎖国・禁教政策の徹底のために西国と長崎に行き、外国商船取締りとキリスト教禁圧の政策実行を主導した。このとき平戸のオランダ商館倉庫に、キリスト紀元の年号が刻まれているのを見て、それを破壊させたことが商館の長崎出島移転の契機になった、といわれる。二十年五月禁

and became members of our nation. That *Bateren* elder was a man that excelled in astronomy. This man brought a book of astronomy and offered it to the Honourable Motomune. Afterwards an order was given to Chūan to translate it, and this volume is that book. In the winter of the third year in the decahedral cycle and in the year of the Monkey in the duodenary cycle in the Meireki era, the Nagasaki Commissioner, the Honourable Kainoshō Kiemon Tachibana Masanobu[430] ordered me and Nishi Kichibei [the following]. Kichibei was to read the Barbarian letters of this Japanese book and I was to write this in Japanese letters. Moreover he ordered me to add a commentary to the exposition in this book. This is the way of the Barbarian learning, without knowledge of the *principle* and *vigour* [theory][431], of the *telluric* and *solar* [theory],[432]

教上の功績によって、さらに三千石を加封されたが、その後万治三年(一六六〇)に引退するまで、宗門改役として禁教政策の最高指揮者となり、邪宗門絶滅という幕藩制国家確立期の恩想政策を推進した。曲寛文元年(一六六一)二月二十七日没。年七十七。江戸丸山の浄心寺に葬る。法号は幽山日性玄高院。」.

[430] *Bugyō* 奉行, or commissioner ("Buguiŏ. Vqetamauari, voconŏ. *O que preside, ou tem cuidado de algũa cousa*. ¶ *Itẽ, Official del rei, ou de outro senhor*." Vocabvlario, fl. 25), of Nagasaki from Jōō 1.1.28 to Manji 3.6.5, or 1652.3.8 to 1660.7.12, with 2.000 *koku*.

[431] *Ri-ki* 理気: principle and vigour (*lǐqì* in Chinese). *Ri* "is the principle basic to existence of all things as well as to natural law and social norms. Because [*ri*] does not assume any shape, function, or motion, it cannot result in phenomena by itself; only in conjugation with [*ki*] does it take on a concrete existence in the form of animate or inanimate beings. [*Ki*] is a kind of gaseous matter and by self-induced motion can become *yin* and *yang* and the five elements (wood, fire, earth, metal, and water) which determine the shape and quality of all things. Yet the basis for the functioning of [*ki*] is found in [*ri*]. When [*ri*] and [*ki*] combine, [*ki*] is condensed, and beings are produced; when they separate, beings cease to exist", Miyake Masahiko, "Shigaku", Kodansha Encyclopedia of Japan, Tokyo, Kodansha, 1983, vol. 7, p. 190. *Ri*: principle ("Ri. Cotouari. *Rezão, ou arrezoamento*. ¶ Rini voruru. *Ser vencido da razão, ou sujeitarse à razão*. ¶ Rini cacauarazu. *Não ter de ver com arezão*. ¶ Riuo maguru. *Torcer a razão*. ¶ Rini tçumaru. *Ficar concluido com a razão*. ¶ Riuo tçucusu. *Dizer todas as razoens, ou arrezoar bem, & diffusamente*. ¶ Rini fazzururu. l, moruru. *Discrepar da razão*", Vocabvlario, fl. 209; "reason, justice, truth, principle", Nelson. Also:「①物事の筋道。不変の法則。ことわり。道理。また、理屈。②理性。③理性。④仏語。真理としての普遍的なもの。また、現象の背後にあって現象たらしめているもの。事(じ)に対する。⑤宋儒の説で、人倫を含む宇宙間の根本原理、あるいは存在の理法。」, Nikkoku). *Ki*: vigour ("Qi. *Coração, espiritos vitaes, ou vigor do coração*", Vocabvlario, fl. 194; "Qi. Influencia, ou vigor. *Vt*, Nichirinno qi. *Infuencia do sol. S*", Vocabvlario, fl. 370;「勢力,または,活力.例, Nichirinnoqi. (日輪の気) 太陽の勢力.文書語」, Nippō-Doi. "energy, essence; spirit, mind, soul, heart", Nelson;「❹漢方医学で、人体を守り、生命を保つ陽性の力のこと。❺ 天候や四時の変化をおこすもとになるもの。❼形はないが、なんとなく感じられる勢いや動き。❾宋(ソウ)学で、生きている、存在している現象をいう」, Kanjigen;). As *ki* is not a un-divisible personal being "spirit" is avoided. *Ki* is present in non-rational and non-biologic natural phenomena and thus "mind" and "soul" are also avoided. According to Chinese and Japanese philosophic ideas *ki* is that which fills the Universe, being one of its basic components; it is also that force or *vigour* that gives life and motive power to living beings and, at a third level, it is the movement of the heart in sentient beings (「❶天地間を満たし、宇宙を構成する基本とかんがえられるもの。また、その動き。③万

and perplexed by the theory of the *five phases,*[433] only arguing from the appearance of things[434] and going no further its arguments stop there, and with this it reaches the meaning[435] of the forms. It is nothing but darkness and lack of clarity, without defence

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物が生ずる根元。❷生命の原動力となる勢い。活力の源。❸心の動き・状態・働きを包括的に表す語。ただし、この語が用いられる個々の文脈において、心のどの面に重点を置くかは様々なである。①(全般的に見て)精神。②事に触れて働く心の端々。③持ち続ける精神の傾向。人がら。④ある事をしようとする心の働き。つもり。⑤ある事をしようとして、それに引かれる心。関心。⑥根気。⑦あれこれと考える心。⑧感情。❹はっきりとはは見えなくとも、その場を包み、その場に漂うと感ぜられるもの。①空気。大気。②水蒸気などのように空中にたつもの。け。③あたりにみなぎる感じ。④呼吸。いきづかい。❺その物本来の性質を形作るような要素。特有の香や味。け」, Kōjien). Though obviously inadequate to express all the possible meanings of *ki*, *vigour* seems to be the English word that best expresses this concept. Instead of leaving Japanese words with manifold meanings untranslated we follow the rule of presenting italicized the English word with most close signification to the Japanese primary meaning.

[432] *In-yō* 陰陽: the *telluric* and *solar* (*vigour*). Also pronounced *on-yō* in Japanese, and *yin-yang* in Chinese;. ("Vonyǒji. Vranaiuo suru mono, l, facaxe. *Feiticeiro, ou adiuinho*. Vonyǒno cami. *Idem*." Vocabvlario, fl. 282). From the Chinese classics one can gather that in 陰 has also the meanings of female, dark, below, posterior, soft, and heavy, while *yō* 陽 has the opposite characteristics: male, bright, above, anterior, hard and light (cf. Forke, *op. cit*., pp. 167-168).

[433] *Gogyō* 五行: *five phases* (Goguiǒ. *Cinco partes, ou materiaes de que se compoẽ os corpos mistos*. i, Mot, qua, do, gon, sui.", Vocabvlario, fl. 121, 「①中国で、万物を生じ、万象を変化させる五気としての木火土金水をいう。木火土金水は、元来は日常生活に不可欠な五つの物質であるが、転じてこれらの物質によって象徴される気、あるいはそのはたらきの意となりいわゆる五行説として展開する。行とは運行の意で、五つの物質が五行となるのは、天上の五遊星にその名をあてたことに由来する。陰陽道では、運勢を判断するのに用いる。」, Nikkoku). Some authors prefer to translate as *five elements*, *five polarities*, or *five agents*.

[434] *Keiki* 形器: appearance of things, things with shape (「(「易経—繋辞上」の「形乃謂二之器一」また「形而下者、謂二之器一」による語。天地陰陽の変化が形となって現われたものが「器」)形あるもの。また、道具」, Nikkoku; 「形あるもの。また、道具」, Nikkoku). The *Nikkoku* uses the present passage of the *Kenkon Bensetsu* to illustrate this concept.

[435] We follow the reading in manuscript [A4], which has *gi* 義 (meaning) instead of *Bunmei Genryu Sosho* which writes *gi* 儀 (rule). As for the difference in meaning of these two words: *gi* 義: meaning, sense; *gi* is also one of the five cardinal Confucian virtues, justice, the others being politeness, wisdom, fidelity and benevolence ("Gui. *Hum dos cinco primores, ou custumes politicos celebrados dos Chinas, & Iapoens que he como humildade, comedimento, & moderação em tudo*.", Vocabvlario, fl. 117; 「❶すじ道。かどめ。かどめが正しい。孟子によると、よしあしの判断によって、適宜にかどめをたてること。荀子によると、長い経験によって、社会的によいと公認されているすじ道。儒教の五常(仁・義・礼・智・信)の一つ。❷よい。利欲に引きかれず、すじ道をたてる心。みさお。かどめただしい。日本では、特に、主君への義理だての意。❸公共のためにつくすこと。また、そのさま。❹ことばや行いに含まれている理由。わけ。意味。❺約束してちがった親類関係の。❻名目上の。かりの。人工の。」, Kanjigen). On the other hand, *gi* 儀: ceremony, rule (「❶のり。手本とすべき、ほどよく整った基準。❷形よく整った作法。❸ほどよくきれいに整ったさま。❹のっとる。かっこうのよい手本として従う。❺「両儀」とは、宇宙の規準となる陰と陽の二要素のこと。❻「渾天儀」「地球儀などの「儀」とは、天文や地理の基準を示す機械や測定器のこと。」, Kanjigen).

and incapable of moving forward. That is now argued in its entirety and without exception, in the commentaries added at the end of each section, [and] it is praised where it is without error. Looking at the Barbarian manuscript, though the chance has already been lost, its name has not yet been laid down. [Therefore] we name it now "Exposition on the Heavens and the Earth".

In the 15th day in the ninth month of the sixth year of the decahedral cycle and year of the Boar of the duodenary cycle[436] of the Meireki [era][437]

Hiyō, Nagasaki Preface by Mukai Genshō

[436] *Tsuchinoto-I* 己亥: the sixth year of the decathedral cycle and year of the boar of the duodenary cycle.

[437] There were three years in in the *Meireki* era: the first one was the second year of the decathedral cycle and year of the Sheep of the duodenary cycle *Kinoto-Hitsuji* 乙未, the second one was the third year of the decathedral cycle and year of the Monkey of the duodenary cycle *Hinoe-Saru* 丙申, the third one was the fourth year of the decathedral cycle and year of the Hen of the duodenary cycle *Hinoto-Tori* 丁酉. Therefore there wasn't any year *Tsuchinoto-I* in the Meireki era, and the above date is wrong. If it is assumed that there is a partial mistake in the above date and that either the cycle name or the era name is right the following possibilities sugest themselves. If the cycle name is assumed right, and if the additional but reasonable assumption that this date corresponds to the nearest year to *Meireki* then it corresponds to October 30, 1659, in the second year of the *Manji* era. If the era name is assumed right, and as there is no way to tell to which of the three years of *Meireki* this date belongs there are three possibilities: October 14, 1655, November 2, 1656, or October 22, 1657. See discussion on Chapter IV.

乾坤辨説序

此篇者、南蠻不留都我留國之人忠庵所二編述一也、忠庵者南蠻浮屠耶蘇之僧、其學精二天文一、耶蘇之法、此謂二鬼利支端一、其僧云二破天禮一、云二意留魔牟一、風聞、鬼利支端之爲レ法、悲二無常一以怨二人世一、願二安樂一以貪二幽途一、教レ之以二天堂地獄之説一、率レ之以二慈悲惻怛之行一、是以困窮愚瞑者、如二風草之偃一、而喪二天眞之守一、蠻僧乘レ機馭レ勢、動謀二其國一、以滅二國禮一、其爲二謀計邪術一可レ知、我國家不幸、方二足利衰世の末一、朝廷墜二綱紀一、柳營失二權威一、諸侯相征伐、民庶墜二塗炭一、上無二教化之君一、下無二道義之士一、至レ是國家壞亂極矣、又復不幸、至二於蠻僧窺レ隙乘レ弊入レ法謀一レ國、而無レ有下能知二其機一者上也、諸侯迨三乎歸二松平家一、而後天下曩察二僧之至情一、則以二鬼利支端之法一爲二國家之大禁一、其法嚴矣、而後吾人始知下忌二蠻宗一惡中蠻僧上、而覺二蠻法之非一レ道、各歸二正道一、以復二其初一、當二此之時一、忠庵首以二蠻法一自任、微服潛行、山食野臥、以俟レ時者若干年矣、然萬國一統之乾綱正張、而無二漏レ網之潛魚一、於レ是忠庵悔レ非改レ過、著二顯僞録一篇一、以奉レ上、遂出二耶蘇一歸二我道一、而爲二治世之民俗一、夫顯僞録之爲レ書、顯二證鬼利支端入レ法取レ國之蹟、以レ謀爲レ宗之情一、所三以名二顯僞録一也、寛永廿年癸未、筑之前州大島之海上、卒然怪船漂蕩、大島戍長忽視執レ之、以レ状聞焉、其人十有餘人、皆蠻僧破天禮鬼利支端之徒也、筑前之太守源忠之公、令二士擒捉一、寄二之長崎奉行所一、以達二江武井上筑後守基宗公一、基宗公下二之於獄一、不二數歳一皆自悔レ非謝レ罪、改二鬼利支端一而爲二我民俗一、破天禮長老有下精二天文一者上、乃以二天文書一進二上井上筑後守基宗公一、二三年之後、基宗公令二忠庵譯一レ之、譯功漸成、進二上其書一、即此篇也、蓋南蠻學家天文地理之説、悉載二此書一、其草稿猶在二忠庵家一、終篇譯以二倭語一、書以二蠻學一[438]、吾人雖二博學之士一、不レ能レ讀レ之、唯通辭西吉兵衛能讀二蠻學一[439]、長崎奉行所、置二此書於西吉兵衛家一、不三敢許二人之見一、其命嚴矣、明暦丙申之冬、長崎奉行甲斐庄喜右衛門尉橘正述公、命二僕及西氏一、倭二書之一、吉兵衛乃讀レ字、僕以二倭字一寫レ之、重命レ僕考二辨此書一、夫蠻學之爲レ術、未三曾知二理氣陰陽一、惑二五行之説一、是故其教不レ道、窮レ理盡レ性之問學、徒就二形器之上一以論レ之而已、是以天地之形體、日月之大小、運行之度數、晝夜之際限雖二稍詳一、而形而上之義一[440]、則晦盲不レ明、否塞不レ通、遂執二形器之説一以爲レ至矣、所三以其爲二異端邪説一者、職此之由也、孰云三蠻學能解二天文地理一耶、今悉考辨、以附二各條文後一、或其不レ誤者存而稱レ之、非下敢爲二臆説一以詰上レ之、皆有レ所レ

[438] In this phrase Bunmei uses the character for *leaning* 学 while [A4] uses the character for *letter* 字. We follow this later reading in the translation.

[439] Here also Bunmei uses the character for *leaning* 学 where [A4] uses the character for *letter* 字.

[440] This passage reads in manuscript [A4] as follows: 「而至二形而上之義一」.

由也、凡所レ加二考辨一、闢二蠻學之非一而已、至二於乾坤正説一、原自一家、不三敢附二於此一云、吾人專學之士、更加二討論修飾一、以教三後人無二蠻學之惑一、不二亦善一矣、顧忠庵蠻稿雖二既脱一レ機、未レ題而斃、今號曰二乾坤辨説一、

時明曆己亥九月望日

肥陽長崎　　向井玄松序

Preface to the *Exposition on the Heavens and the Earth*[441]

The editor of this book was Chūan a Portuguese from the Country of Southern Barbary. Chūan was a Jesuit priest, bonze of Southern Barbary, with excellent astronomical learning. {With the law of Jesus we mean Christianity, its priests are called *Bateren*, are [also] called Iruman.} According to what is heard, to lead a life for the sake of Christianity, is to grieve transience and to feel bitter against this fleeting World of Man, wishing for peaceful comfort and craving for the other World. [The Southern Barbary priests] had used the teachings concerning the theory Paradise and Hell, as well as works of charity and compassion, and because of these [teachings and works] the destitute and the simpletons, as the grass is bended down by the wind, lost their adherence to the heavenly truth. The Barbarian priests seizing the favorable opportunity took control of the events, planned to take over the country and to destroy national customs. That plan and evil arts employed should be made known. To the misfortune of our nation, towards the end of the Ashikaga decadence[442], the Law[443] of the Court fell, the shogunate[444] lost its power, all[445] the lords[446] fought each other, the

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[441] This is the longer of the two extant prefaces. It is included in manuscripts [A1] and [A4].

[442] *Suisei* 衰世: decadence (「おとれた世。道徳がすたれた世。末世」, Kojien).

[443] *Kōki* 綱紀: the Law, the general laws and the minute regulations, law and order; the control and rule of a coutry, political power (「(「綱」は大づな。「紀」は小づなの意)①国家を治める大法と細則。また、一般に規律。物事のしめくくり。②(―する)国家を統べ治めること。物事を締めくくること。」, Nikkoku).

[444] *Ryūei* 柳營: the bakufu; the headquarters of an army in campaign, the general staff of the shogun; the shogun, the family of the shogun; the headquarters of the bakufu; (「(中国漢の将軍周亜夫が匈奴(きょうど)征討の時に細柳という地に陣し、軍規正しく威冷がよく行なわれたという「漢書―周勃伝」の故事による)①出征中の将軍の陣営。幕府。②将軍。将軍家。③幕府の所在地。」, Nikkoku).

[445] *Moromoro* 諸: all, everyone ("Moromoro. *Todos*. ¶ Moromorono fito. *Todos os homẽs*", Vocabvlario, fl. 167;「多くのもの。すべてのもの。皆。」, Kojien). This word was used in the translation of a famous phrase: "Cajeni nabiqu mimo naqi taqeni sugaritanomu coto nacare: sonoyuyeua moromorono cotnicuua xibacusa nari: sono yeiguamo mina nobeno fanano gotoqu chirubeqi nari", *Contemptvs mundi jenbu. Core yovoitoi, Iesv Christono gocŏxeqiuo manabi tetematçuru michiuo voxiyuru qiŏ*, 1596, p.109. The original reads: "Non confidas nec innitaris super calamum ventosum, quia omnis caro foenum, et omnis gloria eius ut flos foeni cadet". In the same rendition of *Contemptvs mundi moromoro* can also be found: "Moromorono fitoua sono michiuo tagayetaruni yotte cano côzui qitaritaruto iyeri", pp. 246-247. This is a translation of the sentence "Omnis quippe caro corruperat viam suam, et ideo sequebatur diluvium magnum."

[446] *Kō* 侯: lord, feudal lord (「❷封建時代の領主。大名の称号」, Kanjigen).

people fell in pain[447], and there was neither a righteous[448] sovereign[449] above nor moral warriors below.[450] Reaching this state of affairs the nation was on the brink of destruction[451], calamity happening upon calamity. From the crevices the Barbarian priests crept in, saw the destruction, brought in [their] law and took aim at the country. However there was no one that was aware of the criticality of the moment. The lords wished[452] the return of the house of Matsudaira. Then, some time later, the earlier[453] and true feelings of the [Barbarian[454]] priests were made clear to the realm, that is to say that the state strictly prohibited the Christian Law, and this was a rigorous order. Afterwards the people of our country began to abhor the Barbarian religion and to know the wickedness of the Barbarian priests and thus became aware of the unrighteousness of the way of the Barbarian law and each one returned to the right path and was restored to the original state. At that moment, Chūan through the Barbarian law nominated himself ringleader, changed clothes and went underground, retired into the wildness and nourished himself in the mountains.[455] Biding his time he spent thus several years.

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[447] *Totan* 塗炭: in pain, literally "smeared with dirt and with charcoal fire" (「① 泥にまみれ火に焼かれるような極めて苦痛な境愚。② 泥と炭。きわめてきたないもののたとえ」, Kojien).

[448] *Kyōka* 教化: the educative deeds of a righteous man, the actions of someone who makes others advance in virtue and goodness through guidance and teaching (「①教え導いて善に進ませること。②(仏)⇨きょうけ」, Kojien; Kyōke 教化: guidance through teaching to bring the multitude to the Buddhist way「①衆生(しゅじょう)を仏道へと教え導くこと。②法要に際して歌う仏教歌謡」, Kojien).

[449] *Kimi* 君: sovereign ("Qimi. *Senhor.* ¶ Qimiuo vocasu. *Matar seu senhor, ou aleuantarse contra elle, &c.*", Vocabvlario, *fl.* 196;「❶人のかみに立って支配する者。①国家の元首。帝王。君主。②自分が仕える人。主人。主君」, Kojien).

[450] According to Lu Jia (?— 170 BC), "[w]hen rites and rightness [i.e., the five Confucian basic social relations] were not practiced and regulations and disciplines were not maintained, succeeding generations became weak and decadent". See excerpt in Chapter VII.

[451] *Kairan* 壊亂: destruction (「やぶれ乱れること。やぶり乱すこと」, Kojien).

[452] *Negau* 迫: wish ("Negai, ŏ, ŏta. *Desejar.* ¶ Goxŏuo negaŏ. *Desejar a saluação.*", Vocabvlario, *fl.* 180;「㊀ およぶ。いたる。まで㊁ ねがう」, Daikanwa jiten, vol. 11, p. 9, character no. 38791).

[453] *Saki* 曩: earlier ("Saqi. *Antes, ou diante, primeiro, auante, &c.*", Vocabvlario, fl. 219;「❶ さき。以前。間に日数をはさんでいること。❷ さきに。以前に」, Kanjigen).

[454] The word *Barbarian* appears only in manuscript [A4].

[455] This sentence refers to Ferreira becoming the Vice-Provincial of the Jesuits in Japan and also the Vicar General of the Diocese of Japan. Although it may have seemed so to Genshō, it was not Ferreira who nominated himself as it was then the practice that when a Provincial died, or for some other reason became incapacited, the senior professed Jesuit of the Province would succedd provisorily pending the

However the dry rope of the myriad countries was stretched to the maximum, thus not one fish escaped through the net. Chūan regretted his wrongdoing, and to right his wrongs he wrote *Deceit Disclosed* in one volume, which he offered to the authorities. Eventually he left the Jesuits and entered our way and changed into one of the realm's folk. He wrote *Deceit Disclosed* to disclose as a proof that the introduction of the Christian law is closely followed[456] by the theft of the country, a scheme which is brought about through the passion of religion. That is the reason for the name *Deceit Disclosed*. In the twentieth year of Kan'ei, tenth year in the decahedral cycle and year of the Sheep in the duodenary cycle[457], in the state of Chikuzen in the sea waters of Ōshima[458], suddenly a mysterious vessel wandered[459]. Ōshima Inunaga saw and apprehended it on the spot. Interrogated through letters, these ten and some persons, were [found to be] all Barbarian priests, *Bateren* and Christian followers. The honorable *Taishu* Minamoto no Tadayuki of Chikuzen, ordered their prison, and sent them to the office of the Nagasaki commissioner, and thus they reached the Honorable *Etake* Inoue Chikugo no Kami Motomune. The Honourable Motomune threw them down into imprisonment and not before long all of them regretted their own wrongdoings and apologized for their crimes, converted from Christianity and became members of our

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nomination of a new Provincial. Thus Ferreira replaced Sebatião Vieira when this was arrested in the summer of 1633. "Ferreira was not a Provincial nominated by the General in Rome in accordance with Jesuit Constitutions, but merely the locum tenens exercising authority until a new Provincial could be appointed." Actualy "Ferreira was officially apointed Vice-Provincial of Japan on 23 December 1932" but "the nomination never reached him." See Hubert Cieslik, "The Case of Christovão Ferreira," *Monumenta Nipponica*, vol. 29, n. 1, p. 12. Concerning this period of his life Chūan wrote in the *Kengiroku*: "When I reached this Realm of the Sun, for years on end I endured hunger and cold, labor and privation, and that without complaint: it was all for the sake of preaching this [Kirishitan] doctrine to every creature. I hid myself in the wilderness of the mountains and of the plains; I did not grudge my very life. I feared not law or regulation; I floated between east and west. And I spread this doctrine." Translation in Elison, *op. cit.*, pp. 295-296.

[456] *Seki* 蹟: closely follow, follow the footsteps, follow previous examples or rules (「❶ あと。あしあと。建物の土台のあと。また、物事が行われたあと。❷ ふむ。足あとをふんでいく。先例や、ルールにしたがう」, Kanjigen).

[457] The first day of this year corresponds to February 19, 1643 in the Gregorian calendar. The last day corresponds to February 7, 1644.

[458] The largest island off the coast of Chikuzen, situated some seven kilometers from the coast. It has 3.5 km of perimeter, and 7.5 square km of area. It has played an important role in the contacts between Kyushu and the Korean peninsula since immemorial times.

[459] *Hyōtō* 漂蕩: wander (「①水にただよい動くこと。② さすらうこと。さまようこと」, Kojien).

nation. There was a *Bateren* elder that excelled in astronomy. This man brought a book of astronomy and offered it to the Honorable Inoue Chikugo no Kami Motomune. Some two or three years later, the Honorable Motomune ordered Chūan to translate this, and as the success of the translation was gradually brought to fruition, he presented this book to his Honor. This volume is precisely that. Probably[460] the astronomical and geographical theories of the Southern Barbarian scholars are all recorded in this book. The draft was kept in Chūan's house. This volume was thoroughly translated using Japanese, but written in Barbarian letters, so that ours, even though they are erudite men, cannot have the chance to read it. Only the interpreter Nishi Kichibei can read Barbarian letters. The office of the Nagasaki commissioner placed this book in the house of Nishi Kichibei and according to a most strict order nobody was to see it. In the winter of the third year in the decahedral cycle and in the year of the Monkey in the duodenary cycle in the Meireki era[461], the Nagasaki commissioner, the Honorable Kainoshō Kiemon Tachibana Masanobu ordered me and Mr. Nishi [the following]: Kichibei was to read the letters of this Japanese book and I was to write it in Japanese letters. Moreover he ordered me to add a commentary to the exposition in this book. This is the way of the Barbarian learning, with no knowledge either of *principle* and *vigour* or of the *telluric* and *solar* [theory], and perplexed by the theory of the *five phases*. For this reason this teaching does not approach the learning that masters[462] *principle* and exhausts[463] [the knowledge of] nature, only arguing from the appearance

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[460] *Keda(shi)* 蓋: probably ("Qedaxi. *Adu.. Prouentura. S.*", Vocabvlario, fl. 189; "probably; after all", Nelson).

[461] This year corresponds in the Gregorian calendar to the period between 1656.1.27 and 1657.2.12.

[462] *Kiwame* 極: master, understand totaly or to the limit ("Qiuame, uru, eta. *Consumar algũa cousa*. ¶ Yeiguauo qiuamuru. *Gozarde todas as prosperidades, & riquezas*. ¶ Cŏmiŏ uo qiuamuru. *Alcançar grande nome cõ proezas feitas na guerra*. ¶ Riuo qiuamuru. *Dar as milhores razoẽs que sepodẽdar*. ¶ Macotouo tçucuxi, riuo qiuamete notamaiqereba, &c. Taif. *Lib*. 20. *Dizendo toda a verdade, & arrezoando marauilhosamente*." Vocabvlario, fl. 201). This word is employed in a meaning similar to that of Avicenna (980—1037) in his autobiography: "I continued until I made myself master of all the sciences; I now comprehended them to the limits of human possibility." Arthur J. Arberry, *Avicenna on Theology*, London, John Murray, 1951, p. 11.

[463] *Tsukusu* 盡: exhaust ("Tçucuxi, u, ita. *Gastar de todo, esgotar*. ¶ Cocorouo tçucusu. *Ter grande cuidado, ou por muita diligencia com aflição*. ¶ Yomi tçucusu. *Ler tudo sem ficar nada*. ¶ Monouo cuitçucusu. *Comer tudo*. Teuo tçucusu. *Esmerarse em fazer algũa cousa, ou usar de todas as artes, ou lições que hum aprendeo como na esgrima, &c*. ¶ Fixxeiuo tçucusu. *Esmerarse em escreuer boa letra, ou em pintar*." Vocabvalrio, fl. 246;「①つきるようにする。なくする。終わりにする。②その極まで達する。できるかぎりする。きわめる。③十分にする、すっかりする、余すところなくするの意を添える。④他のものの

of things and going no further[464]. At least[465] it can be said that it is detailed [concerning] the shape of Heavens and Earth[466], the sizes of the Sun and the Moon, the degrees of celestial revolutions[467], the divisions and limits of days and nights. However, although it

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ために働く。人のために力をだす。⑤十分に表現する。くわしくのべる。⑥心をよせる。熱をあげる。」, Nikkoku).

[464] *I* 已: stop, leave (「❶ やめる。そこまででやめる。中止する。❷ やめる。官職をやめる。❸ すでに。もう…してしまった、の意をあらわすことば。❹ はなはだ。程度がはげしいさま。ひどく。度をすぎて。❺ のみ。文末につけて、ずばりと言い切る語気をあらわすことば」, Kojien; 止める: "〈中止する〉 stop《doing》; leave off doing; cease (from)《doing》;)discontinue《doing》; 〈終わりにする〉 end; put an end to; 〈断念・放棄する〉 give up (the idea of)《doing》; decide not《to do》; abandon; abstain from", Shinwaei).

[465] *Yōyaku* 稍: at least, at last ("Yŏyacu. *Idem, quod* Yŏyŏ." Vocabvlario, fl. 325; "Yŏyŏ. *Adu. Escasamente, ou a penas*." Vocabvlario, fl. 325; "1〈ついに〉 at last; at length; finally. 2〈辛うじて〉 barely; narrowly; with (considerable) difficulty", Shinwaei). The alternative reading of *yaya* for 稍 would change the meaning of this sentence to "it can be said that it is somewhat detailed".

[466] *Tenchi* 天地: Heavens and Earth; by extension, the World, the Universe ("Tenchi. Ame, tçuchi. *Ceo, & terra*. ¶ Tenchi caifiacu yori conocata. *Desdo principio, ou começo do ceo, & terra atè agora*", Vocabvlario, fl. 254; 「①天と地。天壌。あめつち。②宇宙。世界。世の中。」, Kojien; 「①天と地。あめつち。天壌。また、天の神と地の神。②宇宙。世界。世の中。」, Nikkoku). A classical exemple of use of this word meaning Heavens and Earth is found in DOCTRINÆ CHRISTI. / anæ rudimenta, cum alijs pijs Orationibus / NAGASAQVI EX OFFICINA / Gotô Thome Sôin typographi Societatis IESV. / Cum facultate Ordinarij, & Superiorum. / Anno 1600.「慶長五年三月上旬 / おらしよの飜譯 / 付きりしたん教の条々」in fl. 3 (from the right): 「○萬事(ばんじ)かなひ玉ひ天地(てんち)をつくり玉ふ御おや *D* と。その御ひとり子我等が御あるじぜずきりしとを真にしんじ奉る。」, (reproduced in Hayashi Shigeo 林重雄 (ed.), "Bauchizumo no Sazukeyau, Orashiyo no Honyaku Honbun oyobi Sōsakuin" 「ばうちずもの授けやう・おらしよの飜譯 本文及び総索引」, *Kasama Sakuin Sōkan* 『笠間索引叢刊』, vol. 77, Tokyo, Kasama Shoin 笠間書院, 1981, p. 125). The use of this word to express "World" is found, for example, in *Taiheiki* 『太平記』, a chronicle authored originally, according to Imagawa Sadayo 今川貞世 in his *Nan Taiheiki* 『難太平記』, by Echin 恵鎮 (?-1356) a monk of Hosshōji 法勝寺, during the years of the Kōei era 康永 (1342-1345), being then composed of some thirty books. After revisions by Gen-ne 玄慧 (?-1350) and others it acquired the actual form with 40 books in 1370. There, *tenchi* can be found in the following sentence with the meaning of "World": 「三間茅屋千株松風、コトニ人問ノ外ノ天地也ケリト、心モスミ身モ安ク覺ヘケレバ」, "Taiheiki" 「太平記一」, Vol. 3, edited and annoted by Gotō Tanji 後藤丹治 and Kamada Kisaburō 釜田喜三郎, *Nihon Koten Bungaku* 『日本古典文學体系』, Vol. 36, Tokyo, Iwanami Shoten 岩波書店, 1962, p. 137.

[467] *Unkō* 運行: revolution; the regular or cyclic movement following a determined course, like the revolution of a celestial body; the forward movement of people, affairs or things (「①物事や人が進み動くこと。②きまった道筋に沿って巡り進むこと。現在では多く、天体や交通機関などについていう。」, Nikkoku; "1〈天体の〉 revolution《of a planet》; movement《of a heavenly body》¶ 運行する revolve [go, move, orbit, travel]《round [around] the sun》", Shinwaei). One example of the first meaning is found in *Tōji Hyakugō Monjo* 東寺百合文書, in its entry for Ōan 応安 6. 2.14 (1373): 「〔庄〕去四日評議之旨、故眞祐〔法橋〕納帳、□課于〔先代〕官淨圓之處、太略雖令紛失、僅稱相殘、〔貞和〕□年〔納〕帳一通出進之、但非眞祐自筆、於衆座面々披覽訖、彼納帳至年貢惣員數者、大底無子細歟、但校合于曆應帳

reaches the meaning of the forms, it is nothing but darkness and lack of clarity, without defense and incapable of moving forward. Finally, the theory of forms is brought to its last consequences! It results in a heretical and evil theory, as from the outset this is its origin. Who said that the astronomy and geography of Barbarian learning have superior explanatory power? That is now argued in its entirety and without exception, in the commentaries added at the end of each section, [and] where it is without error that is praised. In the rebuttal no unfounded[468] argument will be made, everything said is supported by reasons, which as a rule are presented in the commentaries added to each passage. The errors of Barbarian learning are made open and avoidable. To reach the right theory about Heavens and Earth, it is necessary to possess a basic system, about which I do not write. Our erudite people, will further add opposing views and embellishments, so that the puzzlement of the Barbarian learning will not be taught to the coming generations, and isn't this good? Looking back at Chūan's Barbarian manuscript, though the chance has already been lost, its name has not yet been laid down. [Therefore] we name it now "Exposition on the Heavens and the Earth".

In the 15th day in the ninth month of the sixth year of the decahedral cycle and year of the Boar of the duodenary cycle of the Meireki [era]

Hiyō, Nagasaki Preface by Mukai Genshō

之處、有四段減、其上無坪付之間、無左右難趁注斗代、當時所作之百姓名字不符合、仍疑貽尚有之、所詮且爲未來龜鏡、且爲土貢公平、召河内左衛門親安、以曆應帳引合于故眞祐法橋納帳、可付注斗代歟之旨、披露之處、此條凡不可有子細歟、然而親安之爲躰、急速難運行哉、幸親父政安、爲當識而于今令現存之上者、寫下曆應帳政安所進、可付進斗代之由、直可下于政安之條、叶理致歟之旨、衆議一同訖、」; this passage is conviniently reproduced in *Dai Nippon Shiryō*『大日本史料』, ed. by Tokyo Daigaku Shiryō Hensansho 東京大學史料編纂所, Vol. 6-39 第六編之三十九, Tokyo, Tokyo Daigaku Zōhan 東京大學藏版, 1983, p. 196.

[468] *Okusetsu* 臆説: unfounded, doxastic, opinion based on hypothesis and guesses (「事実でなしに、推測や仮定にもとづく意見」, Kojien).

一、　忠庵が草稿は、蠻字を以て倭語を書す、忠庵は蠻人也と云へども、日本に住する事四十年に及べり、故に能く倭語に通じて、太平記等の書を讀習へり、是を以て蠻書を譯する時、倭語を用ゆと云へども、其書寫に至ては倭字に不レ能也、是故に蠻字を用たり、今西吉兵衛をして、原本の蠻字を讀（よましめ）て、予倭字を以て寫レ之、

一、　忠庵が原本、其詞語或は鄙俚にわたり、或は句讀なきに似たるものあり、是を讀むの間、統歸なきが如し、然れども讀終て歸着あり、故に一字一句も改ず、若し一字一句も改る事あらば、忠庵が意に違（ちがふ）て、蠻學の本旨顯はるべからず、其中に又蠻語あり、今皆原本の儘寫レ之、讀む人博識の士と云ども、一句一字も不レ可レ改、只蠻學の意義を可レ見、著す所の諸圖、皆忠庵蠻家之圖也、

一、　予愚昧にして辨説を附す、蠻學に憚り無しと云へども、天地の義に於て甚だ恐れあるべし、然れども世人天文地理の説、蠻學を至れりと思ふ事久し、是を以て予嘗て闢レ之正レ之と欲することも又年あり、今此時を幸ありとして辨説す、讀人理義未だ達せざる所は正レ之、詞語俚俗なるは改レ之、後世の學者に便あらしめ、世人の或をなからしめよ、最も是所レ願也、

Chūan wrote the draft in Japanese with Barbarian letters. Although Chūan was a Barbarian, he lived in Japan for forty years. Therefore he could communicate very well in Japanese, having learned to read the Taiheiki and other [Japanese classics]. With this [knowledge], when he translated Barbarian books, he used Japanese though he was not able to write down the Japanese letters, and for this reason he used Barbarian letters. Now I put it down in Japanese letters while Nishi Kichibei is reading the Barbarian letters of the original.

The original of Chūan, with its colloquialisms and vulgarities, has also parts where there isn't any punctuation. While reading these passages that were written as if there weren't any rules, there are nevertheless conclusions at the end of each passage. Thus not one letter or one sentence was corrected, because if one letter or one sentence were corrected, the meaning intended by Chūan might become distorted, and the spirit of Barbarian learning might not be made manifest. In these passages there are also Barbarian words, all of which are now transcribed intact as they appear in the original. Even though the reader is a learned gentleman, he should not change neither one sentence nor one letter but look only to the meaning intended by the Barbarian learning. The several drawings found [in the text] are all drawings by Chūan and Barbarian scholars.

Ignorant as I am I added explanations, not being intimidated by the Barbarian learning. It should be in extreme awe that the meaning[469] of Heaven and Earth should be inquired about. Though the astronomical and geographical theories of Barbarian learning have been considered to be the best for a long time this is an opinion I consider wrong and that for many years have wished to make right. Now, in this occasion most fortunately I could [write a] commentary. For the reader who has not yet reached an

[469] *Gi* 義: meaning, sense ("2〈意味〉 sense; meaning", Shinwaei). *Gi* is one important concept of Japanese and Chinese philosophy and as "justice" one of the fundamental Confucian virtues. In the Nikkoku no less than eight different meanings are listed: (the virtue of) justice, truth, meaning, aim, teaching, (own) merit (or works to attain salvation), the Christian meaning of justice, and (contracted familial or social) relationship and the accompanying duty: 「① 五常(仁・義・礼・智・信)の一つ。他人に対して守るべき正しい道。物事の道理にかなっていること。道義。② 道理。条理。理由ある事。③ 意味。意義。わけ。④ 趣旨。趣意。儀。すじ。⑤ 教説。教義。教え。⑥ 仏教でいう「自力」を存在せしめる主体的な心のはたらき。⑦ キリスト教で、倫理的意味での個人的な正しさや、社会的正義を超えるもの。⑧ ある関係を本質として持たないものが、その関係を結ぶこと。親子、兄弟など親族関係に用いる場合が多い。義理」, Nikkoku.

appropriate understanding of reason and rightousness[470] this [commentary intends] to clarify, and colloquialisms and vulgarities are corrected. This is done in the hope that it might be of some profit to scholars of future ages, and that the people of the present age may be freed from their actual confusion.

[470] *Rigi* 理義: reason and rightousness. (「道理と正義」, Kojien).

乾坤辨説

本論忠庵編述

辨説玄松考議

四國學例　　向井玄松議

一、　四國とは日本、震旦、天竺、南蠻、此四ケ之大境也、此外大國大境多しと云へども、癡愚蒙昧夷狄禽獸なる故に小國と等し、日本は粟散偏地の小國と雖も、才幹知行道義心術、誠に天性自然の尊品なる故に震旦國も其左に坐すべからず、天竺、南蠻尤其下に侍ぬべし、故に日本は小國と雖も大國と何レ言、然るに四國の人物自然の風儀あり、其徳行心術も自然の行あり、依レ之其學術一律ならず、各其國の便宜に依て、論學窮理の法あり、今其略を顯はす、

一、　文字を縦に寫し、食する時に箸を用る國の人物は、論學窮理の法は、理氣陰陽五行の説を宗本とせり、其國は日本、震旦也、其家は神家、儒家、醫家、若夫天文、暦術、陰陽家、則其支流にして、百家衆技も亦其餘滴を汲む、

一、　文字を横寫し、食する時に箸を不レ用、直手に食する國の人物は、論學窮理の法は理氣陰陽を不レ知、五行の節を疑ふ故に、但だ地水風火の四大を宗主とせり、其國は天竺、南蠻なり、阿蘭陀の學術は南蠻と同じ、

一、　南蠻學の説には、萬物の本元は土水風火之四大也、此四大和合して萬物生成する物也、故に萬物の體に、骨肉は土の類也、血水は水の類也、温煖なるは火の類也、氣息運動は風の類也、此外には萬物の體に具はる物なし、其性徳は寒熱濕燥之四ツ也、此外に性徳なし、寒は水の性徳也、熱は火之性徳也、濕は風の性徳也、燥は土の性徳也、此四大和合して地の體あり、偖四大の在處は、土は最下にあり、水は其上にあり、風は水の上にあり、火は又風の上にあり、火大の上は天也、天は各別の體にて、四大の類に非ず、故に寒熱濕燥の四氣の性徳もなし、萬物の本元となることなしといへり、是によつて五行

の説を疑ひ、理氣陰陽を不レ知、只形器の上の工夫而已也、是を以て形已上の義に於ては、暗して明ならず、疑へども恐れて不レ辨して、其論學只形の上の説に詳也、是を以て三世の理にくらく、天堂地獄之説に迷ふ、形の上の説も理氣陰陽の義を不レ知、故に凡鄙俗義なる故に、愚昧の凡俗迷ひ易く入やすし、故に南蠻學士、みな蠻學を世界第一の學道と心得て、他國迄其法を勸るなるべし、其故に蠻學は邪見偏僻にして、過去未來の説を勸る時は、幻化の説多し、實に異端妖術也、

一、　天竺の學術は佛家之學也、其説には地水風火之四大を、萬物生成の元體本質とせり、生住壞空の四義を以て、萬物生成の象とせり、本より理氣陰陽の説なし、四大の外に空を立て、五輪の説をなすと雖も、空とは萬物色體の本質に非ず、其四大和合、融通無碍の處を指て空と云ならん、故に空をば無碍也と釋す、四大を色相と云、融通無碍を空と云、故に色即ち是れ空、空は即ち是色と云り、四大和合、無碍融通して、妙合の機動じて萬物出生す、此所を指て識と云けらし、空識一致の處を稱して妙と云けらし、地水火風空識と云是なるべし、是より變化次第にあらはれて、八識九識の説あり、然れども四大體用變化漸成の外に非ず、一心三觀一念三千も、此處に於て觀見あるべし、夫空の義は廣大也、四大色體を離れて云ふ時は、四大未合の已前をも空と云、四大分離の後をも空と云、三世圓通なるが故に、不生不滅、不法不來共、本來無一物共云、本來面目共云、阿彌陀共云、無量壽共云、佛性共云、（イ法性共云アリ）中道共云けらし、其故に（イ虛空者即是佛性、佛性則是如來とも云へり又アリ）虛空佛性只是中道異名而已共云り、空を以て心法觀をなすは大乘と云、空觀（イ無アリ）識量に依て不可思議とも云、三世不可得とも云、不見心了可得とも云けらし、四大色體は合離聚散の時あるが故に、假相共云けらし、色體形器の修行を小乘と云り、小乘を輕んじ大乘を至れりとす、是故に色體形器の説に詳ならず正からず、須彌の四州、三十三天、三界、十界、三千世界の説と云へども、皆心法觀相を以て、天地萬物を表示する故に、色體形器の説は、茫茫とし幻々として明かならず、正からず質直ならずして、天堂地獄の説ふかし、是佛家天竺の學術も、天地萬物の學詳ならず、理氣陰陽五行の説に暗し、

一、　震旦は聖人の教儒者の學也、其天地萬物を論ずるは、理氣陰陽五行の説に詳にして、學を論じ、理を窮るゆへに、理氣陰陽五行の外に、天地日月もなく、人倫萬物もなく、理氣陰陽五行を修する外に道義もなく、理氣陰陽五行の大和[471]保合の外に性徳もなく、理氣陰陽五行の外に、過去もなく未來もなき事を、知覺悟了する物也、是故に天地萬物、鬼神幽明、生死魂魄、千變萬化、其理窮り盡して、うたがひ無もの也、而天道を重じ、神明を敬み、身を修するを以て本とし、理を窮を學とせり、故に君子は聖人の道を貴み好む、其教神道に本て觀ぜり、醫家の學術同レ之、其他説も是より出て、是に本付たり、

一、　日本の學は神道也、其學尤理氣陰陽五行を以て論じ理を窮む、其内妙異寄怪の事を云は、皆婬巫妖祝の婬詞也、又兩部集合よりでたる説あり、夫學家多しと云へども、理氣陰陽五行を捨て、他に學を求むるものは實學に非ず、正道を不レ知者也、神道を觀ぜずんば、儒者の學も刑名功利に落べし、儒學に詳ならずんば、神家の徒も又異端妖術に入べし、天地の理義に明ならずんば、幻の説に迷ひ、三世の理に暗かるべし、是に於て南蠻學士忠庵が編集する天地萬物の説を取て、是非を辨じ、邪正を明らむ、其辨論は臆説に似たりと云へども、私に非ず、皆由來ある者なり、後の識者重て明辨考正して、道を正し玉へどぞ、

[471] Manuscripts [A1] and [A4] have 太 instead of 大 here.

An Exposition on the Heavens and the Earth

Main text composed by Chūan

Exposition by Genshō

A Comparison Between the Learning in Four Countries

Considerations by Mukai Genshō

The four countries are the Land of the Rising Sun[472], the Country of the Shinning Thunder[473], the Land of the Searing Heaven[474] and Southern Barbary, these four having far reaching frontiers. Besides these there are many other large countries with far reaching frontiers, but because of their imbecility[475], ignorance[476], barbarism[477] and

[472] *Nippon* 日本: literally "the Land of the Rising Sun", Japan ("Nippon. Fino moto. *Iapão*.", Vocabvlario, *fl*. 183v.). In classical literature many other names for Japan are used (cf. Vocabvlario; for example, "Xiqixima. Iapam. P.", fl. 395). The lack of usage of other classical names for Japan in this work can be taken as an indication of the rudimentary literary level of the language it employes. Hereafter Japan will be used.

[473] *Shintan* 震旦: verbatim "the Country of the Shinning Thunder", a classical expression for China, a literary alternative to more commonly used expressions like Chugoku 中国 and Chūka 中華. From now on China will be employed.

[474] *Tenjiku* 天竺: literally "the Land of the Searing Heaven", a classical expression for India. In Historia *Tenjiku* is used several times. In some instances it presents a imprecise explanation: "Os bonzos folgarão muito de ver o Padre e praticar com elle, por lhes parecer que era homem que vinha do Tengicu, que é dos reinos de Sião, donde dizem serem naturaes seos passados deozes." Vol. 1, p. 30; "e dizendo a el-rey que era homem este do Tengicu, id est, do reino de Sião, donde são seos fotoques, disse que o queria ver." Vol. 1, p. 31; "Se vós outros sois do Tengicu (que quer dizer dos templos dos ceos) porque não dizeis lá em riba que não deitem cá tanta neve?" vol. 1, p. 35. It is clear from Fóis work that the missionaries were thought to come from India. For example: "e pregavão à gente popular que tudo [o que] dizião os Padres de Tengicu era mentira," vol. 1 p. 68. The Portuguese came to Japan as *Tenjikujin* and left it as *Nanbanjin*: the use of *Nanban* and *Nanbanjin* to call the Portuguese probably started some ten or more years after the first portuguese arrived in Japan. In the Historia it appears for the first time for 1560. As Fróis quoted extensively from previous documents, especially from the letters that were written in the years he was narrating about, we can deduce that *Nanban* and *Nanbanjin* started to be used some ten years after Xaviers's arrival and only became dominant some years latter.

[475] *Chigu* 癡愚: imbecility ("imbecility; stupidity", Shinwaei; 「① おろかなこと ② 知的障害で中度(IQ 20-40)のものをかつて区分して呼んだ語。Idiota」, Nikkoku).

bestiality[478] they are similar to small countries. Although Japan is said to be tiny[479] as scattered millet grains[480] and marginal in the confines of the land, because of her skills[481], abilities[482], moral sense[483], virtues[484], and in all truth, because of her innate[485]

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[476] *Mōmai* 蒙昧: ignorance ("unenlightened; ignorant; uncivilized", Shinwaei; 「暗いこと。また、もやや霧などで暗いこと。また、そのさま。転じて、人知が開けず物事の判断にくらいこ。愚かで道理にくらいこと。愚昧。曚曖ぼうまい」, Nikkoku).

[477] *Iteki* 夷狄: barbarism ("Iteqi. i, Inaca. *Aldea, ou reino fora da China*. ¶ Iteqino fito. *Barbaros, ou estrãgeiros de fora da China*.", Vocabvlario, fl.136;「野蛮な異民族。えびす。えみし」, Kojien;「(古代中国において東方の未開国を「夷」、北方のそれを「狄」といったところから)辺境の民族や外国人を野蛮人と卑しめていうご」, Nikkoku).

[478] *Kinjū* 禽獣: birds and beasts, savage beasts; a person that similarly to the beats does not know gratitude or reason ("Qinjŭ. Tori, qedamono. Aves, & animaes.", Vocabvlario, *fl*. 196v.;「①鳥と獣. また、その総称。②恩義や道理を知らない人をののしっていう語。畜生。」, Kojigen). The *Book of Rites*『礼記』defines as beasts those animals that having the body of men do not know or practice courtesy or that engage in immoral sexual behavior:「〇鸚鵡能言、不レ離二飛鳥一。猩猩能言、不レ離二禽獣一. 今人無レ禮、雖二能言一、不二亦禽獣之心一乎。夫惟禽獣無レ禮。故父子聚レ麀。是故聖人作、爲レ禮以教レ人、使四人以レ有レ禮、知三自別二於禽獣一。」, "Rei-ki"「礼記」, vol. 1 上, *Shinshaku Kanbun Taikei*『新釈漢文大系』, vol. 27, Tokyo, Miji Shoin 明治書院, 1971, p. 15. On the other hand, Buddhists had, in general, a more optimistic view of of birds and animals. They admited that the presence of holy men could have a uplifting influence on the beasts' souls, as can be seen from the following excerpt from Dōgen (1200—1253) *opus magnum Shōbōgenzō* (1231—1253):「おほよそ・山は国界に属せりといへども、山を愛する人に属するなり。山かならず主を愛するとき、聖賢高徳やまにいるなり。聖賢やまにすむとき、やまこれに属するがゆゑに、樹石鬱茂なり、禽獣霊秀なり。これ聖賢の徳をかうぶらしむるゆゑなり。しるべし、山は賢をこのむ実あり、聖をこのむ実あり。」, *Shōhōgenzō*『正法眼蔵』, ed. by Ishii Kyōji 石井恭二, vol. 2, Tokyo, Kawade Shobo Shinsha 河出書房新社, 1996, p. 324.

[479] Genshō has just classified Japan as one of the four large countries because of its "far reaching frontiers". Here is argument relies on her other qualities to refute the popular misconception that it is a small country. A modern author makes the following observations concerning her size: "Japan is commonly described as a small country, which it is as compared with China or the United States. It is only the size of Montana, but a fairer comparison would be to the nations of Western Europe. Though smaller than France. Japan is larger than the British Isles, Italy, or the two Germanies combined. In population it is unquestionably a big country. For many centuries it has had a much larger population than any of the major powers of Western Europe(…).", John K. Fairbank, Edwin O. Reischauer, Albert M. Craig, *East Asia: Tradition and Transformation*, Boston, Houghton Mifflin Company, 1973.

[480] *Zokusan* 粟散: small as a millet grain (「(仏)粟粒を散らしたようにこまかく散ること」, Kojien. Also *Zokusankoku* 粟散国:「粟粒を散らしたような小さい国。昔、インドや中国などの大国に対して日本のことをもいった」, Kojien).

[481] *Saikan* 才幹: skill (「物事をきちんとやりとげる能力、うでまえ。十訓抄」, Kojien).

[482] *Chikō* 知行: ability (「知ることと行うこと。知識と行為。」, Kojien).

[483] *Dōgi* 道義: moral sense「人の行うべき正しい道。道徳のすじみち」, Kojien.

and natural[486] exalted attributes[487], even China should not sit to her left, nor should India or Southern Barbary serve under her. Therefore, though Japan is a small country it can be said to be a large country. Furthermore[488] the people of the four countries have their natural customs[489], as well as their natural moral behavior[490] and virtues. Consequently[491] their sciences are not uniform, and depending on the convenience of each country there is a [different] method of deepening knowledge[492]. A summary of this is presented next.

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[484] *Shinjutsu* 心術: virtues (「①[管子(七法)「実也、誠也、厚也、施也、度也、恕也、謂之心術」] こころだて。こころばえ」, Kojien), or dispositions (「①　心の持ち方。こころね。こころだて」, Nikkoku).

[485] *Tensei* 天性: innate; the nature or characteristics received from heaven. (「①天から受けた性質。うまれつきそなわっている性質。天資」, Kojien;「天から授かった性質。生まれつき。また、天然自然のなりゆき。生得。天資」, Nikkoku).

[486] *Shizen* 自然: nature (「①おのずからそうなっているさま。天然のままで人為の加わらないさま。あるがままのさま(…) ②人工・人為になったものとしての文化に対し、人力によって変更・形成・規整されることなく、おのずから生成・展開によって成りいでた状態。超自然や恩寵に対していう場合もある」, Kojien).

[487] *Hon* 品: attributes (「①能力・性質などでいくつかに分けたもの。また、仏典で、章・編に用いる」, Kojien).

[488] *Shikaruni* 然るに: furthermore, nevertheless ("Xicaruni. *Sendo assi, ou portanto*.", Vocabvlario, *fl*., 299v;「①そうであるのに。それなのに。②そういうことであるなら。③さて。ところで。」, Kojien; "and yet; however; but; (while) on the other hand; nevertheless; whereas", Shinwaei).

[489] *Fūgi* 風儀: customs (「① ならわし。風習。行儀作法。 ② 作法にかなったなり・姿。型どおりの姿」, Kojien).

[490] *Tokugyō* or *tokkō* 徳行: moral behavior ("virtuous deeds, goodness", Nelson; "virtuous conduct; virtue", Shinwaei;「① すぐれた徳とその行い。また、徳の高い行い。 ② 仏語。功徳と行法。また、功徳をそなえた行、すなわち功徳行のこと」, Nikkoku;「道徳にかなったよいおこない」, Kojien).

[491] *Kore ni yotte* 依レ之: consequently, therefore, *igitur* (lat.).

[492] *Rongaku kyūri* 論学窮理: deepening of knowledge, scholarly investigation. *Kyūri* 窮理: the uttermost principle of things. It also means searching for the first principles of things. According to Zhuzi philosophy this is one of the core problems in the process of cultivation of the mind. Through the complete knowledge of each thing, one reaches the reason of things and events, and this in turn leads to discovery of the first principle that pervades everything. This being central to the teaching of Zhuzi philosophy it became also usual to call this school of thought *Kyūrigaku* 窮理学. (「① 物事の道理、法則をきわめること。 ② 朱子学における修養の中心課題の一つ。格物致知の方法により、一事一物の道理をきわめ、そこに一貫する原理を発見すること」, Nikkoku;「① 物事の道理・法則をきわめつくすこと」, Kojien;「①物事の道理、法則などをきわめること。」, Nikkoku).

The people of the countries where letters are written vertically and chopsticks are used when eating make as their central methods of deepening knowledge the *principle* and *vigour* [theory], the *telluric* and *solar* [theory] and the [theory of] *five phases*. These countries are Japan and China and their schools are Shintoism, Confucianism, and the Medical School. Astronomy, calendar making and telluric and solar [divination] practice are the branches[493] [of these schools], and the hundred arts feed from their remains[494].

The people of the countries where letters are written horizontally and do not use chopsticks when eating, but instead use their hands directly while eating, do not know the methods for deepening knowledge that are the *principle* and *vigour* [theory] and the *telluric* and *solar* [theory] and doubt what pertains to the [theory of] *five phases*. Therefore they simply make the four elements[495] earth[496], water[497], air and fire[498] their

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[493] *Shiryū* 支流: branch (“tributary; a feeder; a branch”, Shinwaei;「① 本流に注ぎこむながれ。また、本流から分れ出た川。えだがわ。支川。② 本家から分れた家系。分家。③ 文脈。分流」, Kojien).

[494] *Yoteki* 余滴: remains (「残りのしずく。残滴。余瀝（よれき）」, Kojien).

[495] *Shidai* 四大: the four basic elements that, according to Buddhism, entered in the composition of all bodies, namely earth, water, fire and air. Other meanings of this word are: the human body as made up by the four elements; the four exceptional things according to Confucionism, namely Way, Heaven, Earth, Kingship (“Xidai. i, Gi, fui, qua, fũ. *Quatro elementos*”, Vocabvlario, fl. 300;「①(仏)一切の物体を構成する地・水・火・風の 4 元素。四大種。②四大①からなる人の身体。③[老子「道大・天大・地大・王亦大、域中有四大」]道・天・地・王の四つの偉大なるもの。④(四大天王の略)」, Kojien). *Shidai* was used in *Hōjōki*『方丈記』, an literary jewel composed in 1212 by Kamo no Chōmei 鴨長明 (1155?—1216):「四大種ノナカ二、水・火・風ハツネニ害ヲナセド、大地ニイタリテハ殊ナル変ヲナサズ。」, “Hōjōki, Tsurezurekusa”「方丈記・徒然草」, edited and annotated by Satake Akihiro 佐竹明広 and Kubota Jun 久保田淳, *Shin Nihon Koten Bungaku Taikei*『新日本古典文学大系』, vol. 39, Tokyo, Iwanami Shoten 岩波書店, 1989, p. 15. This passage is translated as “of the four great elements, water, fire, and wind are continually causing disasters, but the earth does not normally aflict man”, by Donald Keene in *Anthology of Japanese Literature: From the Earliest Era to the Mid-nineteenth Century*, compiled and edited by Donald Keene, Boston, Tuttle Publishing, 1956, p. 204.

[496] *Chi* 地: earth, Earth, land; some other meanings are “place”, “position”, and “territory” (“Gi, I, chi. Tçuchi. *Terra*.” Vocabvlario, fl. 124v.;「①つち。りく。②ところ。場所。③立場。位置。境遇。④領土。なわばり。⑥大地を主宰する神。地祇。地神。」, Kojien).

[497] *Mizu* 水: Water (“Mizzu. *Agoa*.”, Vocabvlario, *fl*., 163).

[498] *Fi* 火: Fire (“Fi. *Fogo*.”, Vocabvlario, fl. 87v.”)

main[499] [theory]. These countries are India and Southern Barbary. The science of Holland is the same as that of Southern Barbary.

According to the theory of Southern Barbarian learning, the first cause[500] of the myriad things is in the four elements earth, water, air and fire. From the combination[501] of these four elements the myriad things are produced[502]. Consequently, forming the bodies[503] of the myriad things, the bones and flesh[504] are in the category[505] of earth,

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[499] *Sōshu* 宗主: main, most important (「① 本家・本流であるところの長。本家の嫡子。また、仰ぎ尊ぶ所の首長」, Nikkoku).

[500] *Honmoto* 本元: first cause (“origin, source”, Nelson;「最も根源的なもと」, Kojien, 「① いちばんのもと。おおもと。根源。② 本家」, Nikkoku).

[501] *Wagō* 和合: combination; union, bonding, melting or mixing together of two or more things; the combination or mixture that results (“Vagŏ. Yauaracanivŏ. *Ajuntamento, ou vnião, ou mistura*. ¶ Xidai vagŏno yexin. *Corpo humano composto dos quarto elementos vnidos*. Anima, xiqitai vagŏ suru. Vnirse a alma, & o corpo como forma, & material. ¶ Permet. Fazerse amigo cõ alguem.” Vocabvlario, fl. 267; “Vagŏ. ワガッ (和合) Yauaracanivŏ. (和らかに合う) 会って一緒になること、あるいは、一つに合体すること、または、入れまじること. ¶ Xidai vagŏno yexin. (四大和合の依身) 四つの要素が一体となって構成された人間の肉体. ¶ Anima, xiqitai vagŏ suru. (アニマ、色体和合する) 霊魂と肉体とが、形相と質料として結合して一体となる. ¶ 比喩. 人と仲良くなること”, Nippō-Doi, p.676r; 「① 二つ以上のものが結合し、とけあうこと。② 二つ以上のものを混ぜ合わせること。また、組んで一つにすること」, Nikkoku).

[502] *Seisei* 生成: produce (“creation, formation, generation”, Nelson; “create, generate, form” Shinwaei; 「① 生じて形を成すこと」, Kojien).

[503] *Tai* 體: substance; body; something with shape, shape, form; state, condition; it also used to indicate the style of a literary work, the statues of Shinto deities and Buddhas, and a counter for dead bodies (“Tai. *sustancia*”, Vocabvlario, fl. 237;「①からだ。②かたちのあるもの。かたち。形式。形態。③ありさま。ようす。④物事がはたらく際、もとになる存在や組織。⑤身をもって行うこと。⑥生花の上段または下段の役枝の称。⑦神仏の像を数える語。躯。」、Kojien,「【体・躰】㊀①からだ。み。むくろ。身体。②ありさま。すがた。様子。てい。③かた。かたち。形式。きまり。形態。④作用の根源。本体。物事の本質。本性。⑤(④から転じて)連歌、俳諧で、その詠まれる題材のうち、その語の本体、存在を表わす語。引く・張るに対して弓、咲く・匂うに対して花など。⑥ことばの表わすものについて、事物のはたらき、すなわち用に対する本体。また、事物のはたらきを表わして活用のあることに対する、本体を表わして活用のないこと。⑦しまり。正体。たいあい。意地。⑧生花の上段の役枝(やくえだ)の称。㊁神仏の像。または死体などを数えるのに用いる。」, Nikkoku). *Tai* is used in the sense of “substance”, for example, in *Fūshi kaden*『風姿花伝』(c. 1400-1402):「さるほどに、音曲は体なり、風情は用なり。」, “Renga ronshū, Nōgaku ronshū, Haironshū”「連歌論集 能楽論集 俳論集」, translated and annotated by Okuda Isao 奥田勲, Omote Akira 表章, Horikiri Minoru 堀切実, Fukumoto Ichirō 復本一郎, *Nihon Koten Bungaku Zenshū*『日本古典文学全集』, vol. 88, Tokyo, Shogakkan 小学館, 2001, p. 266), and also in *Shōbōgenzō*『正法眼蔵』,「釈迦牟尼仏言、「唯仏与仏、乃能究尽、諸法実相。所謂諸法、如是相、如是性、如是体、如是力、如是作、如是因、如是縁、如是果、如是報、如是本末究竟等」。」, *Shōhōgenzō*『正法眼蔵』, ed. by Ishii Kyōji 石井恭二, vol. 3, Tokyo, Kawade Shobo Shinsha 河出書房新社, 1996, p. 171. *Tai* is used in the sense of body in *Fūshi kaden*「風姿花伝」:「体も腰高になれば、かかり失せて、過ぎし頃の、声も盛りに、花やかに、易かりし時分の移りに、手立はたと変りぬれば、気を失ふ。」, op. cit., p. 213; and also in the

blood is in the category of water, [bodily] heat[506] is in the category of fire, respiratory movements are in the category of air, and beside these four there is no other thing in the body of the myriad things. Their characteristics[507] are four: coldness, hotness, dampness, and dryness, and besides these there are no other attributes. Coldness is the attribute of water, hotness is the attribute of fire, dampness is the attribute of air and dryness is the attribute of earth. In the body of Earth there is a mixture of these four elements. Then, in what concerns the place where the four elements are, earth is in the

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version of *Heike Monogatari* known as the Takano manuscript, of the first half of the thirteenth century:「それ臣は君を以テ心とし、君は臣をもって躰(タイ)とす」, *Takano hon Heike Monogatari*『高野本平家物語』, ed. by Ichiko Teiji 石古貞次, vol. 10, Tokyo, Kasama Shoin 笠間書院, 1974, p. 40. With the meaning of "style" *tai* is found in *Kōdanshō*『江談抄』, for example「古集体、或有対、或有不対、如何。被命云、是方干者欠唇者也。盧照隣者悪疾人也。李白者謫仙也。或人問云、以李白号謫仙人之由見文集。是謂文章之体警謫仙歟、又実以金骨之類歟。被答云、実謫仙也。」and「又或人云、随音変訓之字、不労其音用之事、文章之一体。古人之所伝也。」, Gotō Akio 後藤昭雄, Ikegami Jun-ichi 池上洵一, Yamane Taisuke 山根對助 (eds.), *Kōdanshō Chūgaishō Fukego*「江談抄 中外抄 富家語」, *Shin-Nihon Koten Bungaku Daikei*『新日本古典大系』, vol. 32, Tokyo, Iwanami Shoten 岩波書店, 1997, p. 527 and p.531. The use of *tai* to represent statues of Shinto deities and Buddhas can be exemplified by the sentence「丈六の仏九体、いと尊くて並びおはします。」found in ch. 25 (第二十五段) of *Tsuretzure Kusa*『徒然草』, an essay composed around 1331 by Kenkō 兼好 (1283?—after 1352), that gained wide readership in the early years of the Edo period. This classic of the Japanese literature can be found in "Hōjōki, Tsuretzure kusa"「方丈記・徒然草」, edited and annotated by Satake Akihiro 佐竹明広 and Kubota Jun 久保田淳, *Shin Nihon Koten Bungaku Taikei*『新日本古典文学大系』, vol. 39, Tokyo, Iwanami Shoten 岩波書店, 1989; the passage transcribed is in p. 104.

[504] *Kotsuniku* 骨肉: bones and flesh, the flesh, the bones and flesh that form the human body; blood relatives, the relationship between parent and child and between siblings (" Cotnicu. Fone, xixamura. *Ossos, & carne*. ¶ Cotnicuno nozomi. *Desejos da carne*. ¶ Cotnicudôfô, *Da mesma carne ossos, & casta*. Vt. Cotnicu dôsõno ninguen. *Homem da mesma massa, & natureza*. ¶ Cotnicu dôhõno qiõdai. *Irmaõs do mesmo Ventre*", Vocabvlario, fl. 59v.; "Caro, nis. Lus. Carne, ou sustancia do peixe, frusiras, etc. Iap. Xiximura, nicutai, vuono mi, l, conomino mi", Dictionarivm, p. 104;「①骨と肉。肉体。②親子、兄弟など血縁関係にある者。肉親。やから。」, Nikkoku;「❶人体を構成する骨と肉と。また、肉体。❷親子兄弟など、同じ血で分けた間柄にある者。」, Kokanwa).

[505] *Rui* 類: category, kind, species ("Rui. Tagu-i. Especie, ou laya de cousas.", Vocabvlario, fl. 213;「①たぐい。また、なかま。②うから。やから。一族。③生物分類上、綱、目、科・属などに当る分類群を慣用的にいう言。」, Kojien).

[506] *Ondan* 温煖: warm (「【温暖】気温がほどよくあたたかで、過ごしやすい気候であること。」, Kojien;「【温暖】あたたかいさま。気候などがおだやかなさま。」, Nikkoku).

[507] *Seitoku* 性徳: character, attribute, endowed characteristic, nature (「生まれつきの徳。もちまえ。しょうとく」, Nikkoku). The Nikkoku uses one passage in Paragraph 1 of the *Kenkon Bensetu* as example of usage of this word (「天體循環し、三光照臨して其性徳を下し、地は天の性徳を受て、萬物を生ずと雖ども、天は萬物の本となる事なし、」).

lowest [place], water is above it, air is above water, and again fire is above air. Above fire are the Heavens[508], which are composed of a special substance that does not belong to the kind of the four elements, and hence does not have the attributes of the four *vigours*[509] of coldness, hotness, dampness and dryness. [The Southern Barbarian theory] states that [Heavens] are not the origin of the myriad things, and from this it doubts what concerns the theory of the *five phases* and ignores the *principle* and *influence* [theory] and the *telluric* and *solar* [theory]. Thus it is simply a means[510] [of knowing about] the appearances of things. Consequently, concerning the meaning beyond appearances, they are dark without any light. Doubting but not exposing because of fear, their knowledge is simply a detailed explanation of the outside appearance of things. In what pertains to the knowledge of the Three Ages[511] they are dark, as they have gone astray with the theories of Paradise and Hell. The theories [built] on top of appearances that ignore the meaning of the *principle* and *vigour* and the *telluric* and *solar* [theory] is knowledge that is only but base vulgarity[512]. Therefore the ignorant masses can be easily lead astray and initiated into it. Consequently Southern Barbarian scholars, all of them, regard Barbarian learning as the principal way to knowledge in the World[513], and

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[508] *Ten* 天: Heavens ("Ten. *Ceo*. ¶ *Item, Nos liuros he o mesmo que Tentõ. O dem, ou reuolução, & gouerno do ceo, pollo qual algũs parece q entendẽ a Deos ou o gouernador do ceo*", Vocabvlario, fl. 254; "Cælum, i. Lus. Ceo. Iap. Ten. ¶ De cælo seuare. Lus. Agourar obseruando o ceo. Iap. Tenuo mite vranõ", Dictionarivm, p. 92). According to Aristotle, On the Heavens, Book 1, Chapter 9, *Heaven* has three possible meanings: the outermost circumference of the World, the entire celestial region, including the Moon and the other celestial bodies, and the World in its entirety.

[509] *Shiki* 四気: four vigours. The four vigours that are produced and dissolved between the Heaven and the Earth, namely, the warmness of spring, the hotness of summer, the coolness of autumn and the coldness of winter (「天地の間に生じたり消えたりする四つの気。すなわち、春の温（生）、夏の熱（長）、秋の涼（収）、冬の寒（蔵）をさす。四時」, Nikkoku)..

[510] *Kufū* 工夫: means, manner, mode, contrivance, device (「① いろいろ思案して、よい方法を考え出すこと。あれこれと思いめぐらすこと。また、その方法。手だて。手段。②（作業に従事する人のこと。その一心に努めるさまから転じて）一心に仏道修業などに精進努力すること。特に、禅宗では、座禅に専念することをいう」, Nikkoku; "a device; a contrivance; a plan; a means", Waei; also "scheme"; 「①いろいろ考えて良い方法を得ようとすること。また、考えついた方法」, Kojien.).

[511] *Miyo* 三世: Three Ages: past, present and future (「過去・現在・将来の三世。さんぜ」, Kojien).

[512] *Hizoku* 鄙俗: vulgarity (「①いなかびていること。②いやしいこと。卑俗」, Kojien).

[513] *Sekai* 世界: World ("Xecai. *Mundo*.", Vocabvlario, fl., 293; 「① (仏)(梵 loka-dhātu)宇宙の中の一区域。一仏の教化する領域。また、一説に「世」は過去・現在・未来の三世、「界」は東西南北上下を指し、「世界」はすなわち衆生が住む時間・空間。」, Kojien). An example of usage for *sekai* in found in the

go even to other countries advocating their law. Therefore Barbarian learning is evil[514] and biased, and when offering explanations about the past and the future makes abundant use of fallacious theories, being really a heretical sorcery.

The science of India is that of Buddhist learning. Its theory is that the four elements of earth, water, air and fire are the basic substances and essences[515] that produce the myriad things. Making the four meanings of birth, life, destruction and void[516] a figure of the production of the myriad things, it does not have from the outset the *principle* and *vigour* [theory] and the *telluric* and *solar* theory. Besides the four elements [it] introduced [the concept of] void, giving rise to the theory of the *five wheels*[517]. However void is not in the essence of the bodies[518] of the myriad things, but

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opening pages of *Contemptvs mundi jenbu*: "Xecaino mimonaqi cotouo iyaxime, Von aruji IESV Christouo manabi tatematçuru coto", *Contemptvs mundi jenbu. Core yovoitoi, Iesv Christono gocŏxeqiuo manabi tetematçuru michiuo voxiyuru qiŏ*, 1596, p. 3.

[514] *Jaken* 邪見: evil ("Iaqen. Yocoximani miru. *O ver julgãdo mal ou deitando à maa parte*. Bup. ¶ *item, Crueldade*. ¶ Iaqen fõitnaru fito. *Homem muito cruel, ou deshumano*.", Vocabvlario, fl. 139v.; 「① (仏) 因果の道理を無視する妄見。五見・十巻感の一。 ② よこしまな見方。誤った考え」, Kojien; *yokoshimana*: "〈邪悪な〉 wicked; evil; vicious 〈不正な〉 dishonest", Shinwaei).

[515] *Honshitsu* 本質: essence (「①その物のもっている本来の、独自の性質。本性。②一時的偶然的に存在に付着するような偶性に対して、存在そのものの性質や基礎をなすもの。実存に対する語としてはなんらかのものが現に存在しているという事実に対し、そのものが「何」であるかということの規定。そのものの本性[…]」, Nikkoku).

[516] *Kū* 空: void ("Cù. Bup. *Hũa cousa imperfectissima, & de minimo ser como materia prima, ou vacuo*." Vocabvlario, fl, 62;「①天と地の間。そら。空間。虚空(こくう)。②うつろ。から。空虚。③事実でないこと。根拠のないこと。④無益なこと。無意味なこと。むだ。」, Nikkoku). Before Aristotle void had been an important concept in Greek philosophy. Democritus of Abdera (fl. 420 B.C.) had made it one of the two basic realities of the Universe: "Sweet exists by convention, bitter by convention, colour by convension; atoms and Void (*alone*) exist in reality. … We know nothing accurately in reality, but (*only*) as changes according to the body condition of those things that flow upon (the body) and impinge upon it." Kathleen Freeman, Ancilla to the Pre-Socratic Philosophers: A Complete Translation of the Fragments in Diels, Oxford, Basil Blackwell, 1948, p. 93. After Aristotle, who denied its physical existence, void lost its centrality in western philosophy, and was not mentioned in the basic exposition of the *Kenkon Bensetsu*. However it was an important concept in Buddhism. That much Christian missionaries were aware of: in *Sumário dos erros en que os gentios do Japão vivem e de algumas seitas gentílicas en que principalmente confiã*, Documentos I, pp. 665-666, we can read: "E [os bonzos] dam-lhe outra meditação em que lhe perguntão: aquelle que está fora de todas as coussas visiveis, que coussa hé. E depois de bem meditado, acha que hé huma coussa que estáa cheio, a qual hé este espaço que há entre o ceo e a terra, a qual coussa acha que não vive nem more nem crece nem ninguoa nem vai nem vem, que hé nada.".

[517] *Gorin* 五輪: Five Wheels: Buddhist designation for the five elements that constitute everything: the wheel of earth, the wheel of water, the wheel of fire, the wheel of air and the wheel of void (「密教で、物質構成の要素である五大を円輪に擬していう語。地輪・水輪・火輪・風輪・空輪の総称」, Kojien). This sentence is corroborated by a passage in Historia, vol. 1, p. 176: "Já que pela ventura tereis sabido que os

void is said to indicate the state of free flow[519] and fusion of those four elements. Therefore it interprets void as being complete freedom, it calls to the four elements *marks of corporality*[520], and it calls void to the state of free flow. Accordingly it asserts that the objective World[521] [cognizable to the senses] is void and void is the objective World. The combination of the four elements, through free flow and the movement of the mysterious chance creates the myriad things. Awareness[522] seems to have been used to indicate this state. The state of oneness of void with awareness is called Mysterious. This is what is called earth, water, fire, air, void and awareness.[523] From this variations gradually appeared, and there are [now] the Theories of the Eight Kinds of Awareness

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jenxus confessão haver 4 elementos e, alem delles, acrescentão mais uma quinta-essencia a que chamão nada, e isto não abertamente mas, por muitos nomes que lhe impõem, querem declarar o seo proprio ser,".

[518] *Shikitai* 色體: body ("Xiqitai.*Corpo*.", Vocabvlario, fl. 305; 「⑤肉体」, Kojien).

[519] *Yuzū muge* 融通無碍: free flow (「(滞りなく通じてさまだけのない意から)考え方や行動が何物にもとらわれず自由でのびのびしていること。また、そのさま」), Nikkoku; *Yuzū*:「①滞りなく通ずる。相互の間に障害ものなく通用すること。また、隔てなく気持などが通じ合こと。ゆずう。③仏語。異なる別々のものがとけあって邪魔しないこと。互いにとけあって一体となることゆずう。」, Nikkoku; *muge*: "Mugue. Sauari naxi. *Sem estoruo*", Vocabvlario, fl. 170,「仏語。さしさわりのないこと。障害のないこと。さまたげられていないこと。とらわれることなく自由であること。また、気ままで勝手であること。また、そのさま。」, Nikkoku).

[520] *Shikisō* 色相: Marks of Corporality: forms and shapes apprehended through the eyes ("Xiqisŏ. Iro catachi. Cousa corporal, ou que tem cor, ou figura." Vocabvlario, fl. 305;「①(仏)肉眼で見える姿・形」, Kojien). In a document of 1556, the *Sumário dos erros en que os gentios do Japão vivem e de algumas seitas gentílicas en que principalmente confiã*, Documentos I, p. 665. we can read: "E [Xaqua] também declarou que avia outro chamado Xiquisso, que quer dizer todas as criaturas que desta matéria e forma nascem, e crescem e emvelhecem, e que morrem e tornão a nascer, e que não hái outra vida mais que a presente."

[521] *Shoku* 色: objective world (cognizable to the senses) (「❺ (仏), 感覚でとらえる客観の世界のこと。精神的要素に対して、物質的性質をいう」, Kanjigen).

[522] *Shiki* 識: awareness (「①見分け知ること。「識別・認識・識字」②(仏)(梵語 vijñāna)対象を識別する心のはたらき。感覚器官を媒介として対象を認識する。六識・八識などに分ける。また、十二因縁の一としては、前生の煩悩によって、現世に母胎に託された刹那の意識を指す」, Kojien).

[523] These are also the six elements of Dainichi 大日. According to *Myōtei Mondō*: "The Dainichi of the six elements are earth, water, fire, air, void and awareness." 「六大の大日というのは地水火風空識の六つのことである。」 Ebisawa Arimichi (ed.) 海老沢有道, *Nanbanji Kōhaiki, Jyakyo Tai-I, Myōtei Mondō, Hai-Daiuso* 『南蛮寺興廃記・邪教大意・妙貞問答・破提宇子』, Tokyo, Heibonsha 平凡社, 1964, p.126.

and Nine Kinds of Awareness. However, the body and operation[524] of the four elements has never ceased to be subject to change and evolution. The [doctrines of the] Three Views Contemplated Inside One Heart[525] and One Thought Encompassing Three Thousand[526] should also be observed in this regard. The meaning of void is extremely broad[527]. When referred separately from the four elements and body, void refers not only to the [state] before the four elements were combined but also to the [state] after the split of the four elements. Because the Three Ages are in [a state] of perpetual flow[528], they are called Unborn and Un-Extinguished[529], Without-Law[530] and Without-

[524] *Taiyū* 体用: the body and its actions or emanations (「事物の本体と、それから生ずるはたらき」, Kojien).

[525] *Ishin-sangan* 一心三觀: the three truths that can be contemplated at the same time inside one's heart according to a doctrine of Tendai (「天台宗の観法。自己の心中に三諦(さんたい)を同時に観ずること」, Kojien; *santai* 三諦: the three truths according to Tendai「(仏)(サンダイとも。「諦」は真理の意)天台宗で説く 3 種の真理。一切存在は縁起によって仮に存在するという仮諦(けたい)と、一切存在は空・仮を超えた絶対のものであるという中諦。空仮中(くげちゅう)この三諦を観ずるのが三観」, Kojien; *sangan* 三觀:「(仏)真理を観察する三つの仕方。空観・仮観・中観。天台三観」, Kojien; *kūkan* 空観:「(仏)現象の背後に固定的な実在はないと観察すること。三観の一」, Kojien); 仮観: ; *chūkan* 中観:「(仏)現実を有と無の 2 辺に偏らず、正しく観察すること。また、空・仮を超えた中の真理を観察すること。天台では、三観の一とされる」, Kojien;).

[526] *Ichinen-sanzen* 一念三千: One Thought Encompassing Three Thousand (「(仏)人の日常心(一念)に宇宙存在のすべてのあり方(三千)が含まれるとする考え。天台宗の究極的真理とされる」, Kojien).

[527] *Kōdai* 廣大: broad, vast, large, immense (「ひろく大きなこと。」, Kojien).

[528] *Enzū* 円通: perpetual flow (「(仏)すべてにわたって滞ることなく融通無碍であること。仏・菩薩の悟りの境地をいう」, Kojien).

[529] *Fushō- fumetsu* 不生不滅: unborn and un-extinguished, meaning him who has transcend the relative happenings of life and death and attained the absolute eternal truth of the World (「(仏)生じもせず滅しもせず常住であること。すなわち真如実相の存在、涅槃(ねはん)の境界をいう」, Kojien); *Fushō* 不生: he who has attained the eternal enlightenment and thus does not suffer birth in the world of illusion (e.g., this world) (「(梵語 arhat「阿羅漢(あらかん)」の訳)仏語。①阿羅漢について、応供(おうぐ)殺賊(せつぞく)・不生の三つの意味があるとするその1つ。永久に悟りにはいって迷いの世界に生を受けないこと。また、如来の異称。②生滅など相対的にとらえられた世界を超えた、永遠に変わらない絶対の真如そのもの。また、そのあらわれとしての現実のすがたをいう」), Nikkoku. *Fumetsu* 不滅: eternally un-perishable (「永久になくならないこと。滅亡することのないこと。また、そのさま」, Nikkoku).

[530] *Fuhō* 不法: without law (「㊀仏法にそむき、道にはずれた行ないをすること。また、そのさま。㊁①法にはずれること。法に違反していること。また、そのさま。②道理にそむくこと。理屈に合わないこと。乱暴なこと。また、そのさま。無法。理不尽」, Nikkoku;「法に従わない。道理に合わない。でたらめ」, Kōkanwa)

Origin[531], and also Original-Detachment[532]. They are called [further] One's-True-Nature[533], and also called Buddha-of-Limitless-Life[534], and also called Life-Without-Limit[535], and also called Attribute-of-Buddha, {and also called Attribute-of-the-Law}[536] and seems to have been called also the Middle Way. Therefore it states that Hollowness[537] is the Attribute-of-Buddha and Attribute-of-Buddha is Buddhahood and Hollowness and Attribute-of-Buddha are no more than other names to to the Middle Way. The practice of observation of emotions[538] by means of emptiness is called the Great Wheel[539]. With Contemplation of Void[540] and {without}[541] discernment[542] it is

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[531] *Furai* 不来: Without-Origin ("Furai. Qitarazu. *Não vir. Vt*, Furai fuco. *Não vir, nem tornarse*.", Vocabvlario, fl. 110;).

[532] *Honrai mu-ichimotsu* 本来無一物: Original-Detachment, e.g. being originally void and without any attachment (「(仏)本来空(くう)であるから一物として執着すべきものはなく、一切のものから自由自在になった心境」, Kojien).

[533] *Honrai no menmoku* 本来面目: Natural-Heart-of-Sentient-Beings, Attribute of a Buddha (「(仏)天然のままにして、少しも人為を加えない衆生の心の本性をいう。仏性」, Kojien).

[534] *Amida* 阿弥陀: the Buddha that superintends or presides the World of Pleasure — *gokuraku* — located to the West (「 (梵語 Amitāyus は無量寿、Amitābha は無量光と漢訳) ①(仏)西方にある極楽世界を主宰するという仏。法蔵菩薩として修行していた過去久遠の昔、衆生救済のため八十四願を発し、成就して阿弥陀仏となったという。その第十八願は、念仏を修する衆生は極楽浄土に往来できると説く浄土宗・浄土真宗などの本尊。阿弥仏。阿弥陀如来」, Kojien).

[535] *Muryōju* 無量寿: Life-Without-Limit ("Muriõ. Facari naxi. *Sem medida, ou immẽso*." Vocabvlario, fl. 171;「(仏)(梵語 Amitāyus「無限の寿命を持つもの」の意)阿弥陀の漢訳名の一. 無量寿仏」, Kojien).

[536] According to the editor of *Bunmei Genryu Sosho* this expression appears in the manuscript (i).

[537] *Kūkyo* 空虚: hollowness (「内容のないこと。物事の内容や心の内部がからっぽで、むなしいこと」, Kojien).

[538] *Shinpō* 心法: emotions (「(仏)心に属する存在。心のはたらきの総称」, Kojien; antonym: *shikihō* 色法: the material existence「(仏)物質的存在」, Kojien).

[539] *Daijō* 大乗: Great Wheel, Mahāyāna Buddhism.

[540] *Kūkan* 空観: observation of void, the observation that behind phenomena there isn't any fixed reality(「(仏)現象の背後に固定的な実在はないと観察すること。三観の一」, Kojien).

[541] Manuscript (i) in *Bunmei Genryu Sosho* has the word *without*.

[542] *Shikiryō* 識量: discernment (「識見と度量」, Kojien; *shikiken* 識見:「物事を正しく判断・評価する力。見識).

also called Inscrutable[543]. It is also called the Transcendentalism[544] of the Three Ages, and seems to have been called Attainment-of-Invisible-Heart. Because there are times when the four elements and the bodies [they make-up] are combined and separated, gathered and scattered[545], it was also called Appearance[546]. The study and practice[547] of the Body Apparent is called Small Wheel[548]. The neglect of the Small Wheel leads to the attainment of the Large Wheel. Besides, the theory of the Body Apparent is nor detailed nor right. Although there are the Four States of Sumeru[549], the Thirty-Three Heavens, the Three Worlds[550], the Ten Worlds, and the theory of the Three Thousand Worlds, all of them, by means of the Observation of Emotion, express Heaven and Earth and the myriad things. The theory of the Body Apparent, vague[551] like an illusion is not clear, and is not right nor can it be made right. The theory of Paradise and Hell is [also] a lie[552]. Buddhism and the learning and arts of India are not detailed on the

[543] *Fukashigi* 不可思議: inscrutable (「思いはかることができない。考えてもわからない。不思議。また、そのこと。転じて、怪しいこと」, Kōkanwa).

[544] *Fukatoku* 不可得: transcendentalism, meaning that the fundament of existence is emptiness and thus it transcends human cognition (「(仏)一切存在の本性は空(くう)であるから、人間の認識を超越しており、とらえることができないということ」, Kojien).

[545] *Shūsan* 聚散: gathered and scattered (「集まることと散らすこと」, Kojien).

[546] *Kasō* 仮相: appearance, a temporary or fictitious appearance or form (「仮のすがた。仮象」, Kojien).

[547] *Shugyō* 修行: study and practice ("Xuguiõ. Xuxi guiõzuru. Exercicio de qualquer cousa que hum aprende ora seja de letras, & virtudes, ora de outras artes, & officios.", Vocabvlario, *fl.* 314; 「悟りを求めて仏の教えを実践すること。」, Kojien; "trining; ascetic practices; study", Shinwaei).

[548] *Shōjō* 小乗: Hīnayāna Buddhism (「(仏)衆生済度を忘れて自己の解脱だけを求める声聞や縁覚の立場を、大乗の立場から批判的名づけたもの」, Kojien).

[549] *Shumi* 須弥: Mount Sumeru (「(仏)須弥山(しゅみせん)の略」, Kojien; "Xumi. *Vt,* Xumixen. *Hum monte a o redor do qual fingem os Iapões andar o sol alumiando quarto mundos, no meyo dos quaes dizem estar este fabuloso monte. Bup*" Vocabvlario, fl. 397v.; *Shumisen* 須弥山: 「(梵語 Sumeru の音写。蘇迷盧とも。妙高山・妙光山と訳す)仏教の世界説で、世界の中心にそびえ立つという高山。海中にあり、高さは八万由旬(ゆじゅん)。頂上は帝釈天(たいしゃくてん)が住む忉利天(とうりてん)で、中腹には四王が住む。周囲は9山8海に囲まれ、その海中に閻浮提(南贍部洲)などの4洲がある。日月星辰は須弥山の周囲を回転している。」, Kojien).

[550] *Kai* 界: World ("Cai. Sacai. i. Xecai. *Mundo*." Vocabvlario, fl. 32v.).

[551] *Bōbō* 茫茫: vague (「①ひろくはるかなさま。②とりとめのないさま。はっきりしないさま、③草・毛髪などの生い乱れているさま」, Kojien).

[552] *Fuku* 吹く・噴く: lie (「②息をする。うそぶ く」, Kojien).

learning of Heaven and Earth and of the myriad things, being dark in what concerns the *principle* and *vigour* theory, the *telluric* and *solar* theory and the *five phases* theory.

In China [there] is the teaching of the saints, the learning of Confucianists. This teaching discoursing about Heaven and Earth and the myriad things is detailed in the *principle* and *vigour* theory, in the *telluric* and *solar* theory and in the *five phases* theory. Discoursing [its] learning, to reach the uttermost of principle, besides the *principle* and *vigour* [theory], the *telluric* and *solar* [theory] and the *five phases* [theory] there is neither Heaven or Earth, Sun or Moon, neither humanity or the myriad things. Besides the *principle* and *vigour* [theory], the *telluric* and *solar* [theory] and the *five phases* [theory] there is no morality. Besides the harmony and the interdependence between the *principle* and *vigour* [theory], the *telluric* and *solar* [theory] and the *five phases* [theory] there is no endowed characteristic. Besides the *principle* and *vigour* [theory], the *telluric* and *solar* [theory] and the *five phases* [theory] there is no past and there is no future [and the knowledge of this] is discernment and enlightenment. Hence [these theories] exhaust the *principle* of Heaven and Earth and of the myriad things, of departed spirits[553] and of the Present and the Other World[554], of life and death, souls and spirits, of a Thousand Changes and Ten Thousand Transformations, to its limits, this is without any doubt. Moreover, to value the Way of Heaven, to revere the spirits[555] of the gods of Heaven and Earth and the souls of men, to conduct oneself well according to these examples, to learn to reach the uttermost of Principle, [for all of this] the noble man esteems and loves the way of the saints, that teaching which looks to the Way of the Gods[556] as it example. The learning of the Medical School is similar to this, and the other theories spring from this.

The learning of Japan is the Way of the Gods. That learning, although it reaches the uttermost of *principle* through the exposition of the *principle* and *vigour* [theory],

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[553] *Kishin*, *kijin* or *onigami* 鬼神: departed spirits ("terrible god, fierce god; departed spirit; demon, ghost, monster, goblin", Nelson;「①死者の霊魂と天地の神霊。人の耳目では接しえない、超人的な能力を有する存在。おにがみ。きしん。②荒々しく恐ろしい鬼。ばけもの。へんげ」, Kojien.

[554] *Yūmei* 幽明: ("this world and the next", Shinwaei).

[555] *Shinmyō* 神明: the spirits of the gods in Heaven and Earth and the souls of men (「(仏)天地の神霊や人間の霊魂」, Kojien).

[556] *Shintō* 神道: the Way of Gods ("Xintŏ. Camino michi. *Camis, & cousas pertencentes aos Camis.*", Vocabvlario, fl. 304).

the *telluric* and *solar* [theory] and the *five phases* [theory], it can be said that in it there are queer and shameful things all being bewitching celebrations[557] by licentious sorcerers of shrines of evil deities[558]. There are also the *Ryōbu [Shintō]*[559] theories, and although it can be said that there are many of these scholars, the throwing away of the *principle* and *vigour* [theory], the *telluric* and *solar* [theory] and the *five phases* [theory] and the seeking other learning is something that is not present in real learning and [is made by] those who ignore the right path. Confucians who do not observe the Way of the Gods become formalist and fall into fame seeking and money making[560]. On the other hand, if they haven't detailed [knowledge of] Confucian learning, the disciples of the Way of the Gods also will enter into heresy and witchcraft. If the reason and justice[561] of Heaven and Earth are not made clear, [one] is lead astray by illusory theories and becomes dark in what concerns the principle of the *three ages*. As for this [book] it was taken from the explanation concerning Heaven and Earth and the myriad things compiled by the Southern Barbarian scholar Chūan to explain its errors and make clear what is wicked and what is right[562]. Although those explanations[563] and admonishments resemble [mere] unfounded opinions, in what concerns me that is not so. All have an origin and the wise of a later age will repeatedly and with discernment[564] give [them] the right consideration, and will make the path right.

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[557] *Yōshuku* 妖祝: bewitching celebrations (*yō* 妖: "attractive, bewitching; calamity", Nelson; *shuku* 祝: "celebration, congratulations", Nelson).

[558] *Inshi* 婬祠: shrine of an evil deity (cf. Nelson).

[559] *Ryōbu* 両部: *Ryōbu Shintō* ("Rióbŏ. l, Riófŏ. Futatçuno cata. *Ambas as partes*.", Vocabvlario, fl.210v.; 「①二つの部。両部の部分。②（仏）密教の二つの部門。金剛界と胎蔵界。金剛両部。両界。③両部神道の略。」, Kojien). It designates the syncretist attempt to make Shintoism and Buddhism compatible.

[560] *Kōri* 功利: fame seeking and money making (「① 功名と利得。功労と利益。② 他の目的の実現に役立つもの。効用」, Kojien).

[561] *Rigi* 理義: reason and justice (「道理と正義」, Kojien).

[562] *Jashō* 邪正: (「よこしまなことと正しいこと。邪と正。じゃせい」, Kojien; "Iaxŏ. Yocoximanaru coto, masaxij coto. i, Ienacu. *Virtude, & maldade, ou desordẽ, & justiça*. ¶ Iaxŏuo vacatçu. *Fazer differença da virtude, & maldade pera via de julgar, ou apremiar, &c*.", Vocabvlario, fl. 139 v.).

[563] *Benyū* 辨諭: explanations.

[564] *Meiben* 明辨: discernment (「あきらかにわきまえること。はっきりと善悪を見わけて区別すること」, Kojien).

序

書を編して以て其理を明にせんと欲すれども、才疎質鈍なる二たつを以て、遂に表章する事能はず、退て其私を顧るに、又以て已む事を得ざるに似たり、是をさし、管を以て天を窺ふとは、此れ之を謂歟、曰く、天地の形體、天の循環、辰宿之性、徳、烏兎の蝕、悉く載せずと云事なく、世界の廣狭四大の大小、皆挙げずと云事なし、而して歳月の源を知り、乃日夜の長短、晝夜の差別を辨ふ、總て醫術仙士の事に至るまで、未二必無一少補一云、

于時慶安三年月日　　忠庵序

Preface

Wishing to make clear[565] with the compilation[566] of this book those principles [of Southern Barbarian natural philosophy], given [my] two [characteristics] of stupidity and lack of sagacity, lacking ability to expose, looking back on myself, it seemed that I had no alternative but to give up, sticking [the cane into the soil], contemplating the skies with a tube, and saying this and that.[567] Here I expatiate about the shapes and substances of Heavens and Earth, about heavenly cycles[568] and the nature of stars and constellations, about virtues, about the occultation of the raven and the hare.[569] There isn't any subject about which I do not write, about the dimensions of the World and the extent of the elements, there being nothing about which I do not mention. Moreover, knowing the origins of time, that is to say, the duration of days and nights, I discourse

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[565] *Akiraka* 明: clear; distinct, evident, obvious; truthful ("Aqiracana. *Cousa clara, & que tem luz.* ¶ Aqiracanaru chiye. *Entendimento, ou saber claro*. Aqiracani. Aqiracasa." Vocabvlaio, fl. 10v.;「❶曇り、かげりなく、はっきりと明るいさま。❷物事がはっきりしているさま。①他と紛れないような、明白なさま。②物柄が明白で、疑いをはさむ余地がないさま。③道理に明るいさま。❸正直。」, Kojien). *Akiraka* is used with meaning *evident* in *Salvator Mvndi*, a Japanese confessional printed in 1598:「一ツづつにいく度おちたるといふ事までも申べき也もし其数を慥におぼえざるにをひてはをよそいくたび程と申べし愉へば他の物をぬすみたる事十度あらば我盗みをしたる事十度ありと明かに申べしさりながら然々其数をしらずをよそ十度にもをよぶべきやいなやと思はば、我れ盗みをせし事七八度多くは十度にも及ばんかと申べし」, fl. 5v-6.

[566] Hen 編: compilation ("Fen. Amu. *Capitulo, parte, ou paragrapho dalgũa escritura, liuro, &c.*" Vocabvlario, fl. 85v.;「❶ あむ。簡(文字を書いたふだ)を順序だてて並べ。糸でつづる。書きものの中に組みこむ。転じて、書物・戸積などを書いてととのえること。❸ 簡・書物をつづる糸。❹ 書物のこと」, Kanjigen).

[567] In the Kengiroku Chūan had said about himself: "I was born in the distant region of South Barbary. I wandered in delusion along a perverse path; for I knew not the True Way I was quite like the man who walks bearing a plank on one shoulder, like one who does not know his right from his left. I resembled one watching a tree stump thinking to catch a rabbit." Translation in Elison, *op. cit.*, p. 295.

[568] *Junkan* 循環: the repeated process of going round and coming back to the original place, circle, cycle, circulate, rotate ("Iunquan. Xitagai meguru. *Rodear. Vt*, Tenno junquan. *Reuoluçāo dos ceos*. ¶ Item, *O correr o sangue liuremente pellas veas do corpo*", Vocabvlario, p. 146v;「めぐりめぐって、またもとの所へと還ること。」, Nikkoku). This word is used in, for example, *Taiheiki*「其罪五。天運循環雖。無レ不二往而還一、成敗歸二一統一、大化傳二、萬葉一、偏出二于兵部卿親王智謀一。」"Taiheiki"「太平記二」, Vol. 2, edited and annoted by Gotō Tanji 後藤丹治 and Kamada Kisaburō 釜田喜三郎, *Nihon Koten Bungaku* 『日本古典文學体系』, vol. 35, Tokyo, Iwanami Shoten 岩波書店, 1961, pp. 46.

[569] This is a reference to lunar eclipses, a variant of the Buddhsit theory cited from Frois in Chapter III.

about the distinction of days and nights, and about everything, even about medicine and Taoism.

Third year of Keian[570] Preface by Chūan

[570] This year to the period between 1650.2.1 and 1651.2.19.

乾坤辯説元卷

卷初　天地之事

一、　夫天地と云は、天は其體地水風火の四大と異なり、故に寒熱濕燥の四氣を帶せず、地は地水風火の四つを一つにつゞめて云也、然るに天は常に循環するを以て、日月星の三光世界に照し、萬物を温養し、性徳を下して萬の物を生成す、日光の運行を以て晝夜を差別し、日夜の長短を定め、四節を分ちて、春夏秋冬の氣を生ずる者也、地は日月星の光耀の氣を受て、萬物を生じ養育するもの也、此氣を不レ受して一物も生ずる事なし、然と云へども、彼氣天に附して常に旋るが故に、其性の淺深に随て、時により處によりて、出來する物異別ある物也、運氣是也、然るに今運氣根元なる天の循環を論ずべけれども、四大を始め、四大合なる物、彼の氣を受て以て有物なれば、先以て地水風火の四大を始めとし、下學して而も上達すべし、

辯説、右南蠻學家之説如レ是、其曰、天其體地水風火の四大と異なりと、如レ是論ぜば、實に又地は水風火天の四大に異也、水も又地風火天の四大に異也、風も又地水火天の四大に異也、火も又地水風天の四大に異なる物也、地水風火天の五大、各々其の性體一類に非ざる事目前の境界也、其曰、天は寒熱濕燥の四氣を帶せず、地水風火の四大には、實に寒熱濕燥の四氣あり、然れども一大にして、此四氣を具るに非ず、又各々一氣一性を具するもの也、天の此四氣を帶せずとて、萬物の元本に非ずと不レ可レ云、如レ是論は皆蠻學の形器の末に就て工夫をなし、論辨する故に、形象色相無、工夫不レ及して異説を立る事、南蠻學之法也、窮理の學に非ざる故なり、若天體も寒熱濕燥の性外に非る事を知らば、共に天地萬物の理を知るに幾かるべし、夫桃の花の紅色は、桃仁の白色の中にあり、深淵の碧色は、勺水の淡色の積りになる事を不レ知ば、變化漸成の義を不レ可レ知、變化漸成の義を不レ知して、天地萬物天理人心の徳を論ずること、皆邪見偏僻に非ずと云事なし、其曰、運氣即是也と、其論は同きに以て、實は五運六氣の正論に非ず、夫れ運氣は陰陽五行の化を論

ず、南蠻學士は陰陽を不レ知、五行の理に昧し、本より五運六氣の正説を不レ知、忠菴久しく日本に在し、日本學家に運氣の説ある事を聞て、其名を知り、妄意に運氣の名を假れり、萬物の生成は運氣の化によると云へども、運氣の論は南蠻學の論ずる見解の限りに非ず、學者此書を見て、蠻學の偏見不正なる事を知るべし、

Commented Explanations Concerning the Heavens and the Earth: First Volume

Introduction. About The Heavens and the Earth

Concerning the Heaven and Earth, the substance of Heaven is different from that of the four elements earth, water, air and fire, and for this reason it is not endowed[571] with the four *vigours* of coldness, hotness, dampness and dryness. The Earth is said to be the aggregation of the four [elements] earth, water, air and fire into one. It should be noticed that by the continuous revolution[572] of the Heavens, the Three Lights[573] of Sun, Moon and stars[574] shine on the World and warm and sustain the myriad things[575], while bestowing character, giving life and making grow the myriad things. The revolution of the solar light makes the distinction between day and night, determines the duration of brightness and darkness, divides the four seasons[576], and is the agent that gives origin[577]

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[571] *Tai suru* or *obiru* 帯: endowed, take the caracter of (*cf.* Nelson). (*Tai*:「①身につける。おびる。」, Nikkoku;「❷{動}おびる(オブ)。ひもで身につく。転じて、物を身につける」, Kanjigen; *Obiru*: "Vobire, vobitaru. *Verbo defect. Ter em si. Vt*, Tçuyuuo vobitaru fana. *Flor, ou roas que tem, ou está com orualho. P*." Vocabvlario, fl. 275;「①身につける。着用する。携帯する。」, Nikkoku).

[572] *Junkan* 循環: revolve ("Iunquan. Xitagai meguru. *Rodear. Vt*, Tenno junquan. *Reuolução dos ceos*. ¶ *Item, O correr o sangue liuremente pellas veas do corpo*.", Vocabvlario, fl. 146v).

[573] *Sankō* 三光: three lights, meaning Sun, Moon and Stars ("Sanquõ. Mitçuno ficari. *Tres claridades ou lumieiras. S. Sol, lũa, estralas. Vt*, litguet, xeino sanquõ", Vocabvlario, fl.218v., or "Sanquõ. サンクワウ Mitçuno ficari. (三つの光) 三つの光、または、三つの発光体。すなわち,太陽,月,星. 例, litguet, xeino sanquõ (日月,星の三光)", Nippō-Doi, p. 56l;「①日・月・星の称。」, Kojien).

[574] *Hoshi* 星: stars. The usual definition of this Japanese term is that of all points of light in the sky during a clear night, excluding the earth, the sun and the moon, and including all fixed stars, planets, comets and meteors. ("Foxi. *Estrela*.", Vocabvlario, fl. 104;「晴れた夜空に、点々と光って見える天体。広義では、すべての天体。普通には太陽・地球・月などを除いた恒星・惑星・彗星・流星などをいう。「青雲の星離(さかり)行き月を離りて」万葉集(2)」, Kōjien).

[575] *Banbutsu* 萬物: myriad things; all existing things ("Banbut. l, Banmot. Yorozzuno mono. *Todas as cousas, ou todas as creaturas*.", Vocabvlario, fl. 19).

[576] *Shisetsu* 四節: the four seasons. ("Xixet. Yotçuno toqi. *i*, Faru, Natçu, Aqui, Fuyu. *Quatro tempos do anno*", Vocabvlario, fl. 308v.「一年の四季」, Nippō-Doi, p. 85l).

to the *vigour* of spring, summer, autumn, and winter. The Earth receives the *vigour* of the light of the Sun, Moon and the stars, gives life[578], and makes grow the myriad things. For this reason it can be argued that without receiving this *vigour* not one thing would have originated. However, since this *vigour* is attached to the Heavens and always circling, depending on the shallowness or deepness of its nature, it results[579] that the things originated differ according to time and place. This is [how] the *circulation of vigours*[580] [works]. Thus, it is appropriate to discuss on this occasion the rotations of the Heavens that are the origin[581] of the *circulation of vigours*, because the four elements, as well as the things composed by them, cannot exist without receiving the *vigour*, let us begin with the four elements, earth, water, air and fire, gaining proficiency in the learning exposed below.

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[577] *Shōzuru* 生ずる: grow, spring up, sprout, come out, originate; be born, give birth; give origin; give being, come into being; produce, yield, generate, cause, bring about, engender (「①はえる。また、はやす。②うまれる。また、うむ。③起る。おこす。発生する。」, Kojien).

[578] *Shōji* 生じ: to give life, to produce ("Xŏji, zuru, ita. Nascer, ou produzir, ou gerar.", Vocabvlario, fl. 311).

[579] *Shuttai* 出來: result in, happen, occur ("Xutrai. Ide qitaru. *O vir, ou acontecer, ou fazerse algua cousa*", Vocabvlario, fl. 315; 「(「しゅつらい(出来)」の変化した語)①出て来ること。あらわれ出てくること。②事件が起こること。また、事をひきおこすこと。③物事ができあがること。完成すること。成就。完成。」, Nikkoku). Also:「出来 シュツライ ①出てくること。② シュツタイ おこる。発生する。また、できあがる。」, Kokanwa; *Shutsurai* 出来:「①外に現れていなかったものが出て来ること。しゅったい。②物事が起こること。事件が起こること。しゅったい。③でき上がること。完成すること。成就。完成。」, Nikkoku). One usage example of this word is:「元亨元年ノ夏、(…)訴訟ノ人出來ノ時、若下清上ニ達セザル事モヤアラントテ、記録所へ出御成テ、直ニ訴ヲ聞召明メ、理非ヲ決斷セラレシカバ、虞芮ノ訴忽ニ停テ、刑鞭モ朽ハテ、諫鼓モ撃人無リケリ。」, "Taiheiki"「太平記一」, Vol. 1, edited and annoted by Gotō Tanji 後藤丹治 and Kamada Kisaburō 釜田喜三郎, *Nihon Koten Bungaku*『日本古典文學体系』, Vol. 34, Tokyo, Iwanami Shoten 岩波書店, 1960, p. 38.

[580] *Unki* 運氣: *circulation of vigours*, natural fortune or fate, men's fortune as revealed by natural phenomena ("Vnqi. *Mouimẽto, & influencia dos ceos, de q depende a vida, & sentidos humanos*. ¶ Vnqiuo fanuru. i, Cubiuo qiru. *Cortar a cabeça, ou tirar a vida a alguem*", Vocabvlario, fl. 274v.;「Vnqi (運気)人間の生命や感官が体存している天の運行や作用. ¶Vnqiuo fanuru. (運気を刎ぬる) すなわち, Cubiuo qiru. (首を斬る) 首をは刎ぬる,すなわち,人の命を取る.」Nippo;「自然のめぐりあわせ。運命。天地・人体を貫いて存在するとされた五運六気で、漢方医は、これが人間の脈にあらわれるとして重視した」, Kōjien; ,「自然界の現象に現われるという人間の運勢。これは人間の脈にも現われるとして漢方医家(易医)に重視された。」, Nikkoku; "fate, fortune", Nelson). *Unki* here means the *circulation of vigours* "that gives life and makes everything grow," and also the Chinese theory that explains change through the *circulation of vigours*.

[581] *Kongen* 根元: origin, root (「①物事のおおもと。こんぽん。中心。②起り。③本家。」, Kojien).

Commentary. The above explanations by the Southern Barbarian scholar are as exposed. What he says is that the substance of Heaven is different from that of the four elements earth, water, air and fire. If argued this way, then also the earth surely is different from the four elements water, air, fire and Heaven. Also water is different from the four elements earth, air, fire and Heaven, and again air is different from the four elements earth, water, fire and Heaven, and again fire different from the four elements earth, water, air and Heaven. It is something extremely evident that the five elements earth, water, air, fire and Heaven, each has its own nature and substance, none of which are of the same category. He says that the Heaven is not endowed with the four *vigours* of coldness, hotness, dampness and dryness [but] the four elements earth, water, air and fire, these are endowed in truth with the four *vigours* of coldness, hotness, dampness and dryness. However, each element does not possess these four *vigours*, and each one is provided[582] with one *vigour* and one nature. Even if it can be said that Heaven does not possess these four *vigours*, it cannot be said that it is not the origin[583] of the myriad things. To argue such as above is because the Barbarian learning only contrives about trifles on mere appearances, its exposition[584] being without shape or form. Where its contrivances do not reach, the Southern Barbarian learning sets up unorthodox theories, because its learning has not the uttermost of principle. In this way, if it did know that the heavenly bodies are not outside the nature of coldness, hotness, dampness and dryness, it should have known to some extent the principles of both Heaven and Earth and the myriad

[582] *Gu suru* 具する: provided with, endowed, placed (though *gu suru* does not appear in the Vocabvlario, its synonyms *sonawari* and *sonaye*, written with the same character, appear with the following definitions: "Sonauari, ru, atta. *Cõterse, ou ser posto, aleuãtado, &c Vt*, Gueinô mini sonauaru. *Ter ẽsi artes, & habilidades*. ¶ Curaini sonauaru. *Ser posto em dignidade*." Vocabvlario, fl. 225; "Sonaye, uru, eta. *Offerecer, ou por algũa cousa diãte de pessoa nobre, Fotoques, &c. Vt*, Xôranni sonayuru. *Mostrar, ou propor algũa cousa aos Camis, & Fotoques*. ¶ Gocŭuo sonayuru. *Por, ou offerecer algum comer diãte do Cami*. ¶ Miqiuo sonayuru. *Por vinho diante do Cami*. ¶ De' tẽni tçuqi, fi, foxiuo sonaye tamo. *De' pos nos ceos a lŭa, sol, & estrelas por ordẽ, &c*. ¶ Fitouo curaini sonayuru. *Por a alguẽ em dignidade*." Vocabvlario, fl. 225;「㊀①そろう。そなわる。②従う。連れだつ。③(夫また妻として)つれそう。㊁①そろえる。そなえる。②つれ行く。随える。③添える。取りつける。④携える。」, Kojien).

[583] *Genpon* 元本: origin, source, basis, or root. (「もと。根元となるもの。原本」, Nikkoku).

[584] *Ronben* 論辨: exposition (「議論して理非を明らかにすること。意見を述べ説くこと。」, Nikkoku;「意見を述べ説くこと。議論して理非を明らかにすること」, Kojien). *The Book of the Rites*『礼記』uses this word in a passage of Book 5, "On realty"「王制」:「○凡官二民材一、必先論レ之。論辨然後使レ之、任レ事然後爵レ之、位定然後祿レ之。」, Takeuchi Teruo 竹内照夫 (ed.), "Reiki"「礼記」, vol. 1, *Shin Yaku Kanbun Taikei*『新訳漢文大系』, vol. 28, Tokyo, Meiji Shoin 明治書院, 1971, p. 191.

things. If it does not know about the crimson of the peach flower being inside the white seed[585] of the peach, about the color of jasper in the abysses, or about the accumulation[586] of plain colors[587] in a bit of water, it should not know about the meaning of change, of advancement and of becoming. Not knowing about the meaning of change, of advancement and of becoming, when he argues about the law of nature in Heaven and Earth and in the myriad things and about the virtues of the human heart, all his views cannot be said not to be wicked[588] and peverse[589]. And what he says is that the *circulation of vigours* is like this, and likewise brings this argument, and truly does not posses the orthodoxy of the five movements of fortune[590] and the six *vigours*[591]. This *circulation of vigours* does not argue about

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[585] *Tōjin* 桃仁: peach flower. Jin 仁: the seed of soft fruits (「❹{名}柔らかい果物のたね」, Kanjigen).

[586] *Tsumori* 積り: accumulation ("Tçumori, u, otta. *Acrescentarse, ou acumularse*. ¶ Mizzu tçumotte fuchito [unreadable] gacu tçumotte xeitonaru. Xix. *Assi como a agoa crecendo se faz hum pego fundo, assi com o estudo se faz hum grande letrado.* ¶ Toxi, tçuqi, figa tçumoru. *Acrecentar ense os annos, meses, & dias*. ¶ Ficazugatçumoru. *Passarense muitos dias.* ¶ Toga, I, tçumiga tçumoru. *Ajuntarense, ou acumularense peccados*. ¶ Zaifôga tçumoru. *Crecerem as riquezas.* ¶ Chiri tçumotte yamato naru. De pequenas cousas acumuladas se fazem grandes.", Vocabvulario, fl. 248; 「①つもること。かさなり。かさなった結果」, Kojien; *tsumoru*: accumulate, heap up, pile up: 「㊀同質のものが、その上その上と重なり加わる意。①かさなって量が多くなる。集まる。②年月などの数が重なって多くなる。時間が経過する。」, Kojien).

[587] *Tanshoku* 淡色: plain colors (「あっさりした薄い色」, Kōjien).

[588] *Jaken* 邪見: a. wicked, perverse; b. the neglect or disregard of the Buddhist "principle of cause and effect" (「①(仏)因果の道理を無視する妄見。五見・十惑の一。②よこしまな見方。誤った考え。」, Kōjien).

[589] *Henpeki* 偏僻: perverse (「①心がかたよりひがむこと。ねじけること。」, Kōjien).

[590] *Goun* 五運: five movements of fortune, i.e., the changes or movements of the Five Phases acording to the order of conquest (soil-wood-metal-fire -water) or of generation (wood-fire-soil-metal-water). (「五行の運行。その順序には。相勝(土木金水火)と相生(木火土金水)がある。中国では、はじめ王朝文替の原理として提唱され、歴代の王朝は相勝あるいは相生の順に五行いずれかの徳をうけて帝位にあるものとされた。のち暦法にも適用され、歳日にこれをあてはめ吉凶や命運を説くようになった。」, Nikkoku).

[591] *Rikki* 六氣: the six types of influences that exist in the Universe, between Heaven and Earth: the telluric, the solar, the aerial, the pluvial, the noctural and the diurnal. *Rikki* is also used to designate coldness, hotness, dryness, dampness, aeriality, and fieriness, and by extent, Nature. (「①天地間にある六種の気。陰・陽・風・雨・晦・明の総称。また、寒・暑・燥・湿・風・火の総称。転じて、自然をいう。ろっき。②人のもつ六種の感情。好・悪・喜・怒・哀・楽の総称。ろっき。」, Nikkoku. *Rokki* 六氣: 「「①りっき(六気)①」に同じ。②「りっき(六気)②」に同じ。」 Nikkoku). A well known poem by Sugawara no Michizane ends with this word: 「知分明又闇、年定短能脩、内外先雙遣、逍遙便一遊、堯臣猶歴夏、曹后不知秋、勁節冥靈老、浮生日及休、共慙相企尚、多恐暫拘留、有待何稱善、無爲我道周、榮公干祿笑、列子

natural changes[592] in the *telluric* and *Solar* [*vigours*] or in the *five phases*. The Southern Barbarian scholar does not know about the *telluric* and *solar* [*vigours*], is in the dark concerning the principle of the *five phases*, [and] does not know the core of the orthodox doctrine of the *five fortunes and six vigours*. Chūan has lived for a long time in Japan, heard from Japanese scholars the theory of the *circulation of vigours*, and knowing its name, for [his] reckless views he borrowed the name of *circulation of vigours*. Though he says that the production of the myriad things is due to the changes in the *circulation of vigours*, the argument for natural fortune has not the limitations of the view argued by the Southern Barbarian learning. Scholars seeing this writing should come to know the bias and the foulness of Barbarian learning.

御風憂、好是無名客、茫々六氣幽。」, "Kanke Bunsō, Kanke Goshū"「菅家文草 菅家後集」, Kawaguchi Hisao 川口久雄, *Nihon Koten Bungaku Daikei*『日本古典文學大系』, Vol. 72, Iwanami Shoten 岩波書店, 1966, p. 367.

[592] *Ka* or *ke* 化: natural change; nature's action of creation and nurturing the myriad things, and its effect (「㊀②自然が万物を生育するはたらき。造化。施化。」, Nikkoku;「❷天地自然の変化。」, Kanjigen;「③万物を造成すること。」, Kojien). Other meanings of *ka* are: to lead the improvement of the people through (personal) virtue (「㊀①徳によって人民を善良に導くこと。感化。」, Nikkoku); the changing of shape, quality or condition of something ("Qe. *Vt*, Qe suru. *Transfigurarse, ou aparecer noutra forma, ou figura, como o Demonio no corpo humano, &c*. ¶ Fotoqe fitoto qe xitamõ. *O Fotoque apareceo em figura humana*", Vocabvlario, fl. 188v;「㊀③形、性質、状態などがうつり変わること。変遷。進歩。」, Nikkoku;「❶かわる。姿をかえてもとと違った形になる。」, Kanjigen;「①形や性質がかわること。」, Kojien); change of form or appearance (「㊀④他のものに姿をかえること。ばけること。」, Nikkoku); at the end of a word, to change into that thing, qualiy or situation (「㊁。名詞の下に付けて、そういう物、事、状態に変える、または、変わるという意を表わす。」, Nikkoku). *Ke* 化:「仏語①教え導いて良い方に転化させること。また、転化すること。②仮に別の姿を現わすこと。また、別の姿を現わしたもの。」, Nikkoku,「仏教語。変化して仮に別の姿をあらわしたもの。」, Kokugo Muromachi. Colin A. Ronan, *The Shorter Science & Civilisation in China*, vol. 1, Cambridge, Cambridge University Press, 1978, p. 130, defines it as "change, especially sudden change, and change of substance."

第一　四大の性の事

一、　夫四大と云は地水風火の事也、此四を和合して、世界に生化する萬物の本となる物也、然れば今地水風火の性を見るに、寒熱濕燥の四性あり、此四つ互いに相尅相生する物也、相尅する事は二品あり、一には寒と熱と、二には濕と濕と是也、相生することは四品あり、曰熱燥、濕温、寒濕、燥寒是也、此二性各四品の相生は、即地水風火の性也、火大の性は熱にして燥也、風大の性は濕にして温也、水大の性は寒にして濕也、地大の性は燥にして寒也、然れども四大共に、各々二性を具すと云へども、二性に強弱あり、曰火大は熱燥の性たりと云へども、其熱性は至強也、其燥性は厓弱也、風大は濕温の性たりと云へども、其温性は至強也、其濕性は厓弱也、水大は寒濕の性た（イな）りと云へども、其寒性は至強也、其濕性は厓弱也、地大は燥寒の性なりと雖も、其燥性は至強也、其寒性は厓弱也、圓を以て顯す、

辯説、右南蠻學家の説如レ此、其云、四大とは地水風火の事也、此四つ和合して、世界に生化する萬物の本となる者也と云り、此説五行の理に暗く、只四大を以って萬物の本とせんとする故なり、天の一體を外に論じ、萬物生成の本とせざることは、天地の理に暗くして、強て辯ずる故なり、其學偏に形體の上に付て、凡俗鄙劣の工夫をなす故也、實に夷學の偏見如レ此、或人倫曰、今試に論ずるに、人の骨肉は土の類也、血水は水の類也、氣息運動は風の類也、身體温煖なるは火の類也、此の四つの外に人の身體に有物なし、人身を極て鳥獸草木の理を知べし、天體循環し、三光照臨して其性徳を下し、地は天の性徳を受て、萬物を生ずと雖ども、天は萬物の本となる事なし、萬物の體に於て、地水風火の四つは有れども、天と云べき物なし、是天は萬物の本體元質にてなきこと明也、辨じて曰、天體循環し三光照臨し、其性徳を下して萬物を生じ養育する物也、此氣を不レ受しては、一物も生ずる事なしと、右發端巻頭の説に見へたり、又下巻天の部巻頭に云、世界に生化する萬物は、四大和合して生ずと雖ども、天の性氣を不レ受しては、一物も生ずる事なしと云り、南蠻學士如レ是論じて、環て天は萬物の本元にて無しと云事、矛盾の論と云べし、夫天

は性徳を下して地に施し、地は是を受て姙レ之生レ之、性徳を下すは父の道也、父は質に子の根元也、是天は萬物の本元に非ずして何ぞや、受て生ずるは母の道也、母は實に子の生成の處也、是地は萬物の生成の處に非ずや、天の下す性徳は種子也、地の受て生成する四大は田地也、田地を指して其根元と云て、種子を指てその根元に非ずと云は、苟も本を不レ知ものなり、蠻學の徒の、天を以て萬物の根元に非ずと云て、四大ばかりを萬物の根元とすることは、母を知て父を不レ知ものなり、母をしつて父を不レ知は禽獣なり、如レ是の説も、陰陽を不レ知、五行の説に暗き故より云る事也、彼萬物の根元だも能知事なし、況や天地陰陽の根元、いかんとしてか可レ知、故に南蠻學士は天地開闢の理を不レ知して、邪説異論をなすもの也、

論じて曰、潤濕の有所の土はかはくと云事なく、水も熱湯と成事あり、然れば水の性は寒也、土の性は燥也と云は非也と、總じて寒熱濕燥の氣を帶するものは、互に尅するに、負たる方は攻撃せられて、勝方の氣を受と云へども、其氣受る方の為には本性に非ず、故に勝方法るときは其氣も漸々に除き、負たる方の本性の氣自ら生ずるもの也、譬ば水の性は寒也といへども、水の寒氣も火の熱性に攻撃せられて、水は熱湯となると云へども、熱湯の性は熱に非ずして寒也、故に火を去るときは煖氣漸々にさめて、水の寒氣は自ら生ずるもの也、是熱湯は原來水なれば、其性熱に非ずして寒なれば也、土は燥く性也と云へども、處により土の燥氣も水の濕氣に攻撃せられて、土に水の潤濕の氣を受けしめると雖も、濕は土の性に非ず、水の性也、故に水干てなくなれば、濕氣自ら去て土乾く也、是土の性は濕に非ずして燥く性なれば也、金の性は寒也と雖も、火氣に攻撃せられて熱鐵と成也、雖レ熱火を去る時は自ら火氣はさめて、金の寒氣は生ずる物也、是金は熱鐵にても其性寒なる故也、譬へば重き物を上へ高く抱つゝ投る、性の續く間は上ると雖ども、性盡てなくなれば自ら下る如し、是重き物の性は、升る性に非ずして下る性なるか故也、

辯説、右南蠻學士之説如レ是、燥土濕土の辯論詳なりと云へども、實は大に誤れり先づ其論ずる所を以て云べし、其曰、火大の性は熱燥、風大の性は濕温、水大の性は寒濕、地大の性は燥寒也と、又曰、火大は熱性は

至剛にして、燥性は厓弱也、風大は濕性は至剛にして、温性は厓弱也、水大は寒性は至剛にして、濕性は厓弱なり、地大は燥性は至剛にして、寒性は厓弱也と云々、是を以て見れば、土の燥性は水の濕性よりも強し、強を以て弱に勝は世界の常の道理也、然ば世界の河流海水は涸盡て、悉く燥土と成べし、此書第七四大大小の篇に曰、水大は地大のの上に有と雖ども、地大よりは遙に小也と云々、地大は水大よりも遙に大也と云々、地大の燥性は至剛也と云、彼の小にして厓弱なる水大の濕性は、至剛の燥に攻撃せられて、水濕皆虧盡べき事疑なし、況や又火大に燥性ありて、其熱性は至剛也、風大に至剛の濕性ありて、水大の濕と相生すると雖、風大の所在は火大に近くして、火氣を受る事ふかく、風大又温性あり、温と熱と其氣を同ふして風大に迫り、燥性をすゝめば、風大の濕至剛也と云ども、纔に己が本濕を保ち得たる計にて、水大の濕を補助するに暇なかるべし、如レ此時は地大至剛の燥性は、水大厓弱の濕性に勝て、世界皆燥土なるべし、萬物何を以てか生ぜんや、是又土の濕性たることを不レ知、五行の性徳にくらき故の論也、或人間曰、水土和合したるは、燥濕の性明め難し、水土分れてて其性顯はる、譬ば人家の四壁は、其初水土合調して泥の如し、是を壁に塗て後に、數日を經て水去土獨殘り、留りたるは燥たる土也、是一分の性なれば土の性たること明けし、答曰、壁土、竈土は皆死たる土也、故に物を生ずることなし、夫れ物の性を論ずるには、生活して其作用あるを以て論ずるもの也、土は萬物を生ずる性徳はあるもの也、見るに壁土、竈土の涸たる土は、物を生ずること不レ能、却て是を以て土の本性が燥也と云ふべきや、壁土、竈土の涸燥して、其作用なきを以て死土と云べし、或人又曰、物を生ずるは土の一性徳にあらず、四大和合して生ずるもの也、土の一性を論ずるときは壁土、籠土は水濕去て、土の獨體なる故に其本性顯はる、是を以て土の本性は燥なること明けし、答曰、物を生ずるは土の一性ばかりに非ず、四大和合して生ずる物也と云こと勿論也と雖ども、四大共に其生活なきときは、物を生ずること不レ能也、假令草木生ぜざる地を不毛と云、不毛山は皆赤土にして一草生ぜず、三光照臨し、天の雨露の惠澤、寒熱濕燥の四性、日夜不レ通と云事なし、然れども草木の生ぜざることは何ぞや、彼の不毛の山の赤土は、皆乾燥に

して土の本性の濕化なき故也、不毛の山燥土は尤死土たること無レ疑、是以て見るに、土の本性濕なること何の疑かあらん夫世界の土は廣厚難レ測、其所在は天性自然の所に安住せり、其本性を論ずべきの在所也、壁土、竈土の類は、天性の本所取放ちて、人の私を以て修制したるもの也、天性を隔れて性徳あらはれざること必定也、是壁竈は死土にあらずして何ぞや、假令死土に非ずとも、纔かの壁土、竈土を以て、世界廣厚大實の土の、天性の處に安住し、能く萬物を生ずる土の本性は不レ可レ論、南蠻學術の淺見附會なる事是也、故に其見解皆邪説偏僻也、

[Paragraph] 1—About the Nature of the Four Elements

What is referred to as four elements is earth, water, air and fire.[593] The combination of these four is what constitutes the root of the myriad things that live[594] in the World. However if we consider now the nature[595] of earth, water, air and fire, there are the four natures of coldness, hotness, dampness and dryness. These four come together either in conquest[596] or in generation[597]. There are two possibilities[598] for conquest to occur, the first between coldness and hotness, the second between dampness and dryness. There are four possibilities for generation to occur, namely between hotness and dryness, dampness and warmness, coldness and dampness, and dryness and coldness. These generation [relationships] between two natures in each of the four cases are nothing but[599] the natures of earth, water, air and fire. The nature of element fire[600]

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[593] Manuscript [A3] puts fire before air.

[594] *Seika* 生化: to live, to be born and grow, to come into existence and change (「生まれ成長すること。また、生成し変化すること」, Nikkoku).

[595] *Shō* or *sei* 性: nature. See discussion above, in Chapter VIII of this thesis.

[596] *Sōkoku* 相尅: conquest. According to the "Theory of the Cycle of Prevalence of the Five Phases" *gogyō sōkoku setsu* 五行相剋説 there is a cycle where each phase prevails over, or *conquers,* the previous one: wood over soil, soil over water, water over fire, fire over metal, metal over wood; *sōkoku* designates the relationship between two phases, like water and fire or fire and metal where one prevails over the other; it is also used to designate conflict between two opposites. Other translators have used terms like "conflict", "prevalence", "overcoming" and "subdue" to express this relationship. It should be noticed that the terminology proper to the *theory of the five phases* is being here appropriated by the Western scholar to express *combinatio impossibilis*. See discussion in Chapter VIII of this thesis.

[597] *Sōjō* 相生: generation: according to the "Theory of the Cycle of Generation of the Five Phases" *gogyō sōjō setsu* 五行相生説 fire is generated from wood, soil from fire, metal from soil, water from metal and wood from water; *sōjō* expresses this generational relationship; some authors translate it as cooperation. It is being used here by Chūan to express *combination possibilis*: see discussion in Chapter VIII of this thesis.

[598] *Shina* 品: possibilities (「①㋑区別できる種類」, Kojien; 「❷物の種類を数えることば」, Kanjigen).

[599] *Sunawachi* 即: nothing but, exactly, precisely, just, namely ("Sunauachi. *Adu. Logo, realmente; &c.*", Vocabvlario, fl. 231.「❷すなわち。間をおかずすぐ続いてする意をあらわすことば。すぐさま。❸ Aはつまり B だと直接することを強調することば」, Kanjigen).

[600] *Kadai* 火大: element fire ("Quadai. *Elemento do fogo*.", Vocabvlario, fl. 202).

is hot dryness. The nature of element air[601] is damp warmness. The nature of element water[602] is cold dampness. The nature of element earth is dry coldness. However, the four elements alike are said to possess two natures each. In the two natures there is strong and weak, namely, although the element fire is said to possess the natures of hotness and dryness, its hot nature is the strongest, [and] its dry nature is the weakest[603]. Though the element air is said to possess the natures of dampness and warmness, its warm nature is the strongest, [and] its damp nature is the weakest. Though the element water is said to possess the natures of coldness and dampness, its cold nature is the strongest, [and] its damp nature is the weakest. Though the element earth is said to possess the natures of dryness and coldness, its dry nature is the strongest, [and] its cold nature is the weakest. This is shown using a figure.

Commentary. The above theories of the Southern Barbarian scholar are like this. The four elements are earth, water, air and fire. The combination of these four elements is what it is said to constitute the root of the myriad things that live in the World. This theory is dark about the principle of the *five phases*, and the reason is that it makes the four elements the root of the myriad things. About the one substance of Heaven it argues in another place. To not admit it as the root of the production of the myriad things, it is to be dark about the *principle* of Heaven and Earth, and this is the reason it argues so vehemently. Its learning is biased and attached to the outward shape [of things], and this is the reason it uses vulgar and inferior contrivances. In truth the bias of an underdeveloped learning is like this. Otherwise, what it says about human kind[604], if we try to argue about it, is that the bones and flesh of a person are in the category of earth, [his] blood is in the category of water, [his] respiratory[605] movements[606] are in the category of air, [his] bodily

[601] *Fūdai* 風大: element air ("Fŭdai. *Elemento do ar*. Vt. Fŭdaini jŏchŭgueno sanbu ari. *No ar há três regiões. S. Suprema, media, infima*.", Vocabvlario, fl. 106).

[602] *Suidai* 水大: element water ("Suidai. *Elemento da agoa*", Vocabvlario, fl., 230).

[603] *Ōjaku* 厪弱: weak ("Vŏjacu. Youai youai. *Cousa muito fraca, ou muito pouca*." Vocabvlario, fl. 279; 「よわい。虚弱。」, Kokanwa).

[604] *Jinrin* 人倫: human kind ("Jinrin. i, Fito. *Homẽs, ou gente*. ¶ Jinrin fanareta tocoro. *Deserto, ou despouoado de gente*.", Vocabvlario, fl. 143;「②人。人間。人々。人類」, Kōjien).

[605] *Kisoku* 気息: respiration (「いき。息づかい。呼吸」, Kojien).

heat is in the category of fire, and beside these four there isn't any other thing in the human body.[607] Through [the study of] physiology[608] one should [come to] know the principle of birds and animals, grasses and trees. The heavenly bodies rotate, the three lights shine looking down[609] and bestowing character, [and] the Earth receives the character from Heaven giving birth to the myriad things, even though Heaven is not the root of the myriad things. Concerning the substance of the myriad things, they have the four [elements] earth, water, air and fire, but nothing that can be said about Heaven. It is clear that Heaven is not in the form or in the substance of the myriad things. I argue saying that the heavenly bodies rotate and the three lights shine looking down, and their character is bestowed on the myriad things giving them life and making them grow. As it can be seen above in the theory [presented] at the very beginning of this book, and again as it is said in the second book at the beginning of the part dealing with the Heaven, not one thing has been originated without receiving this *vigour*. Although it is said that the myriad things living in the World are originated by the combination of the four elements and that without

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[606] *Undō* 運動: movement (「⑤生物体の能動的な動き。個体内の局所的運動と個体の移動運動、また成長運動・筋運動・細胞運動などのように分類する。植物にも膨圧運動がある。」Kōjien).

[607] Chūan, though he earrned reputation as a physician after he apostatised and is reputed to have founded a lineage of doctors and a tradition of western style medicine in Japan, did not actualy make the application of the four element theory to the human body in this treatise. Therefore Genshō, himself a physician, must have gathered this theory from somewhere else, either from Chūan himself, or from other scholars in the Southern Barbarian tradition, either Japanese or foreigners. Medicine, in the western tradition, was kept separated from natural philoshophy. However some Hippocratic treatises very early began emphasizing the use of combination of experience and theory, and where afected by the thought of natural philoshophers. This was not a pacific matter among the practioners, as the author of the Hippocratic monograph *On Ancient Medicine* testifies: "All who, on attempting to speak or write on medicine, have assumed for themselves a postulate (hypothesis) as a basis for their discussion — heat, cold, moisture, dryness, or anything else they may fancy — who narrow down the causal principle of diseases and death among men, and make it the in all cases, postulating one thing or two, all these obviously blunder in many points even of their statements, but they are most open to censure because they blunder in what is an art, and one which all men use on the most important occasions, and give the greatest honors to the good craftsmen and practioners in it." Translation in George Sarton, *A History of Science: Ancient Science through the Golden Age of Greece*, Cambridge, Harvard University Press, 1952, p. 366.

[608] *Ninjin* or *jinshin* 人身: physiology, the human body ("Ninjin. Fitono mi. *Corpo humano*.", Vocabvlario, fl., 283v;「①人間のからだ。人の身体。②個人の身分。」, Kojien); *jinshin kyūri* 人身窮理: physiology (「江戸時代における生理学の称。」, Kojien).

[609] *Shōrin* 照臨: shine down, look down (「①日月が下方をてらすこと。神仏などが下界にのぞむこと。」, Kojien).

receiving the *vigour* of the nature of Heaven, not one thing is originated, the Southern Barbarian scholar arguing like this then says that the circling Heaven is not the first cause of the myriad things, a contradictory theory, it should be said. Heaven charitably bestows character on Earth [and] the Earth receives this and conceives[610] and this becomes alive. It is the way of a father to bestow character. A father is the source of the quality of a son. What is this that Heaven is not the well-spring of all things? It is the way of a mother to receive and to beget. A mother is really the place where a child is produced. What is this that the Earth is not the place where the myriad things are produced?[611] The character bestowed by Heaven is the seed [that] the Earth receives and produces. Pointing to the field saying that it is the root, [and then] pointing to the seed and saying that it is not at the root [of something] is not knowing the origin [of that thing]. The disciples of Barbarian Learning, by referring to Heaven saying that it is not the source of the myriad things, and making only the four elements the source of the myriad things, are like those that know the mother but do not know the father. To know the mother but not the father is to be a wild beast, and likewise is this theory, because it does not know the *telluric* and *solar* [theory], and it is dark concerning the theory of the *five phases*. It knows not the root of the myriad things, and what is more[612], it knows not the root of Heaven and Earth or of the *telluric* and *solar* [*vigour*]. Because of this the Southern Barbarian scholar does not know the *principle* of the genesis[613] of Heaven and Earth and thus makes an evil theory and [holds] a heretic[614] opinion.

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[610] *Haramu* 妊: conceive ("Farami, u, oda. *Emprenhar*. ¶ Couo haramu. *Estar prenhe, ou com o filho na barriga*. ¶ Mugui, l, inega faramu. *Estar o trigo, ou arroz pera espigar*." Vocabvlario, fl. 80v;「子どもを腹の中にだきかかえてふくれる。みごもる」, Kojien).

[611] Lu Jia, in the second century B.C. had writen: "Tradition has it that Heaven gives birth to the myriad things to be nurtured by Earth and brought to completion by sages." See Chapter VII "On the Learning of the Four Countries" for more on the relationship between Heaven and Earth.

[612] *Iwan-ya* 況: what is more (「❸前の節の意味内容に比べて、より大きい事がらを持ち出してましてこれは言うまでもない、の意をあらわすことば」, Kanjigen).

[613] *Kaibyaku* 開闢: genesis, the Opening of the World (「世界の開け初め。天地創造のとき。また、ひらく。闢き、ひらく」, Kokanwa;「①天地の開き始め。世界や国などの始まり。創世。②(-する)信仰の場としての山や寺を開くこと。また、その人。開白(かいびゃく)。②(-する)荒れ地などが切り開かれること」, Nikkoku;「①天地の開けはじめ。世界のはじめ。また一般に、物事のはじまり。②開山」, Kojien; "Caifiacu. Firaqi, u. *Principio do mundo, ou quando se principiou o mundo. Posto que ordinariamente dizem* Tenchi caifiacu yori. *i, Despois de começado o mundo*", Vocabvlario, fl. 33. Also *Tenchi kaibyaku*

It is argued against this that, in the places where it has plenty of dampness the earth does not dry and that it also happens that water becomes hot. Therefore it is negated that the nature of water is cold and that the nature of soil is dry. Those things that have the *vigour* of cold, hot, damp or dry, mutually conquest [each other][615]. Though the one that loses is attacked and receives the *vigour* of the victorious one, that received *vigour* is not in the real nature of the one who receives it. For this reason, the *vigour* of one that wins gradually[616] retreats during the space it rules, [while] the *vigour* of the original nature of the one that lost comes back to life by itself. For example even though the nature of water is coldness, when the cold *vigour* of water is attacked by the hot nature of fire, water becomes hot warm-water[617] in spite the nature of hot warm-water being not hotness but coldness. The reason is that when fire is taken away the warm *vigour* gradually cools down, and the cold *vigour* of water appears by itself. If this hot warm-water is originally[618] water, its nature is not hotness but is rather coolness. Although it is said that the nature of soil is dryness, depending on the place, the *vigour* of dryness of soil is attacked by the *vigour* of dampness of water. Though soil receives the *vigour* of dampness in abundance, dampness is not in the nature of soil, but is in the nature of water. The reason is that if water dries and disappears, the *vigour* of dampness leaves by itself and soil dries. Thus the nature of soil is not dampness but it

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天地開闢:「(天地はもと混沌として一つであったのが分離したものとする中国古代の思想から)世界の初め。」, Kojien).

[614] *Iron* 異論: a thought opposing the true teaching that is Buddhism, an heresy ("Iron. *Outra opinião differente no disputar. Vt*, Iron machimachi nari. *Os pareceres da disputa são diversos*", Vocabvlario, fl. 134;「①他と異なる意見、議論。対立した考え。また、それを表明すること。②仏語。正しい教えである仏法に反する考え」, Nikkoku).

[615] *Koku suru* 剋する: to conquest, to oppose ("Cocuxi, suru, ita. *Contrariarem entre si duas cousas naturalmente, como quẽte, & frio. Vt*. Cannet cocusuru. *Aquentura, & frialdade são contrarios, ou repugnão*", Vocabvlario, fl.54;「①五行の運行で相剋(そこく)する。②転じて、勝つ。負かす。おかす。」, Kojien).

[616] *Zenzen* 漸々: gradually (「①次第次第に進むさま。徐々, Kojien」.

[617] The Japanese regard water that is not warm as being qualitatively different from water that is warm or hot, and use different words and have different characters to represent these two different elements: *mizu* or *sui* 水 for cold water, *yu* 湯 for warm- or hot-water. To preserve in this translation the conceptual difference we will use *water* and *warm-water* to designate these two different concepts.

[618] *Genrai* 原来: originally, from the beginning (「もともと。もとより。始から。元来(がんらい)」, Nikkoku). The Nikkoku illustrates the use of this word with this passage of the *Kenkon Bensetsu*:「是熱湯は原來水なれば、其性熱に非ずして寒なれば也」.

is the nature of what is dry. Though the nature of metal is cold, if it is attacked by the *vigour* of fire it becomes hot metal.[619] However when the hot flame leaves the *vigour* of fire leaves by itself, and the cold *vigour* of metal appears. This is because the nature of metal, even of hot-metal, is coldness. For example, if a heavy thing is thrown high with both hands[620], even though it rises as long as [that rising] nature continues,[621] when [that] nature is exhausted and disappears it falls by itself. This nature of heavy things, because it lacks the nature to go up it is the nature to go down.

Commentary. The above theories of the Southern Barbarian scholar are like this. Though the argument about dry soil and damp soil is detailed, truly it is completely mistaken. To start with[622], what is argued about should be made explicit. He says that the nature of element fire is hot and dry, the nature of element air is damp and warm, the nature of element water is cold and damp, and the nature of element earth is dry and cold. He also says that the hot nature of element fire is the strongest[623], and its dry nature is the weakest. The damp nature of element air is the strongest, and its warm nature is the weakest. The cold nature of element air is the strongest, and its damp nature is the weakest. The dry nature of element earth is the strongest, and its cold nature is the weakest. As can be seen from this, the dryness of earth is stronger than the dampness of water. It is the universal truth[624] of the World that the strong wins over the weak. Consequently [if it was as he says] the streams of

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[619] Metal is not one of the four elements and is being used here instead of water. Chūan is introducing here one *element* of the the theory of the *five phases*. This is one of the passages of *Kenkon Bensetsu* that supports the view that whatever was the European book that served as basis to this work, the author was someone who had, like Chūan, great familiarity with Japanese and Chinese thought. It should also be noticed that two different words are used here for metal: gold, *kin* 金, and iron, *tetsu* 鐵.

[620] *Idaku* 抱: hold with both hands ("Idaqi, u, aita. *Abraçar*.", Vocabvlario, fl. 129v.;「❶いだく。だきかかえる。両手で包むようにだく」, Kanjien).

[621] In manuscript [A4] it is written「…高クナゲ打ニナグル性・・・」, what can be translated as "For example, if an heavy thing is punch-thrown high though it rises as long as throwing nature continues".

[622] *Mazu* 先ず: to start with, first of all ("Mazzu. *Adu. Primeiramente, ou por agora*.", Vocabvlario, fl., 154;「①最初に。まっさきに。②何はともあれ。ともかく。③おおよそ。だいたい。多分」, Kojien).

[623] *Shigō* 至剛: the strogest state (「[孟子(公孫丑上)]この上もなく剛健で正しいこと。」, Kojien).

[624] *Dōri* 道理: reason, rightousness, truth ("Dŏri. *Rezão.* ¶ Dŏriuo iy sodatçuru. *Defender, ou sostentar sua rezão*. ¶ Dŏrini fazzururu, l, moruru. *Discrepar da rezão*. ¶ Dŏrini xemeraruru, l, tçumeraruru. *Conuecerse com a rezão*." Vocabvlario, fl., 73v.;「①物事のそうあるべきすじみち。ことあり。②人の行うべき正しい道。道義。」, Kojien).

the rivers and the water of the seas of the World would dry and be exhausted, and soil would become completely dry. As it is said in [paragraph] seven of this book, "On the Dimensions of the Strata Occupied by the Four Elements", though element water is above element earth, it is asserted to be much smaller than the element earth. Element earth is said to be much larger than element water and element earth is said to have dry nature in the extreme. The weakest damp nature of the smaller element water is attacked by the strongest of dryness, and [thus,] there is no doubt that the dampness of water should disappear[625] completely. What is more, the element fire has dry nature, and its hot nature is the strongest. As element air has damp nature in the strongest [degree], and though it generates with the dampness of element water, as element air is in a place[626] near element fire, it receives deeply the *vigour* of fire. Again, the element air has warm nature, and the *vigour* of warmness and hotness in the same way closes in on the element air. If the dry nature advances, though the dampness of element air is the strongest, to manage to keep a modicum[627] of its own original dampness, it has no possibility to help[628] the dampness of element water. At such a time, the strongest dry nature of the element earth, wins over the weakest damp nature of element water, and the whole World should become dry soil. How can the myriad things then live? This, again [shows that it] ignores the dampness there is in the soil. This is an argument dark in what concerns the character of the *five phases*. It is said among some people that it is difficult to make clear whether the combination of water and soil has the nature of dryness or dampness, [but] if water and soil are separated their nature becomes clear [to perceive]. For example, the four walls of a man's house have their beginning in the adjusted mixture of water and soil to [make] something like mud, which after being plastered in the walls, [and] with the passage of several days, with water leaving and only soil remaining, what stays is just dried soil. If this [wall] has any nature it is clear that it is the nature of soil. To this I answer by saying that a wall [made] of soil

[625] *Ki* 虧: to disappear, to become less and less, lack (「❶かける。かく。すくなくなる。へらす。また、月などがかけおちる。こわれる。くぼんで穴があく。こわす。❷かけめ。欠損」, Kanjigen).

[626] *Shozai* 所在: place (「①存在する所。ありか。すみか。」, Kojien).

[627] *San* 纔: a bit, a modicum (「㊀わずかに。やっとのことで。また、はじめて」, Kanjigen).

[628] *Hojo* 補助: help, support (「おぎない助けること。また、その助けになるもの」, Kojien; "support; help; assistance; aid", Shinwaei).

or a container [made] of soil are all dead soil, because things do not originate [from it]. To argue about the nature of these things, one should argue through the experience of daily life with those effects. Soil has the attribute of originating the myriad things. Observing the parched walls [made] of soil or the containers [made] of soil, [these] do not have the ability to originate things. Therefore, should from this [fact] it be said that the real nature of soil is dryness? From [the fact] that their effects are non existent, the parched dry walls [made] of soil and of containers [made] of soil should be said to be dead soil. Some people also say that what gives origin to things is not the one attribute of soil, but it is the combination of the four elements that originates [things]. Discussing about the one nature of soil [which is] in the walls [made] of soil and [also] in everything[629] else [made] of soil, water and moisture have departed [from those walls and from everything else made of soil]. Because there is only the substance of soil its real nature is evident, and given this, it is clear that the real nature of soil is dry. [Against this] I reply that things are not originated due to just the one nature of soil. Though it is evident that it can be said that things are originated from the combination of the four elements, it is impossible for things to be originated without the presence of all the four elements. For example[630], if a [piece of] land does not produce grass and trees it is called barren[631]. All barren mountains are of red soil[632] and not one grass is produced [in them in spite of] the three lights shining down, the innumerable blessings of rain and dewdrops from Heaven, the four natures of coldness, hotness, dampness and dryness, the non interruption of [the sequence of] days and nights. But why is it that grass and trees are not produced [there]? It is because the red soil of these barren mountains is all dry and droughty, the real nature of soil being the lack of

[629] *Rō* 籠: include, collect together several things under one common cathegory, comprehensive (「❸こめる。いろいろなものをまとめて一つにする。包括する」, Kanjigen).

[630] *Keryō* 仮令: for example, accidentally (「①たとえば。たとえてみれば。②よしんば。かりに。③およそ。一体。大体。④たまたま。偶然」, Kojien).

[631] *Fumō* 不毛: barren (「①土地がやせていて穀物その他の作物ができないこと。②転じて、一般に、成果の実らないこと」, Kojien).

[632] *Sekido* 赤土: red earth, red soil (「①赤地に同じ。②酸化鉄を多く含む赤色の土壌。あかつち」, Kojien; *Sekichi* 赤地:「作物の収穫のない土地。不毛の地。赤土, Kojien).

dampness.[633] Without doubt the droughty soil of a barren mountain is desolated[634] dead soil. Bringing this into sight, is there any doubt that in the real nature of soil is damp? The soil of the World is so broad and thick that it is difficult to measure it. The place where it is[635], is an innate and natural place where [it] dwells in safety[636], and is the place where its real nature should be argued. The walls [made] of soil and cooking stoves [made] of soil and such category [of things] have the nature[637] of their natural place[638] taken away and are transformed through persons like me. It is certainly the case that the nature set apart its character cannot be shown. What is it that these walls and cooking stoves are not dead soil? Assuming that it is no dead soil, if a modicum of wall's soil, or cooking stove's soil, is placed in the World's vast and natural place where real soil peacefully lives it should not be argued that it has the real nature of soil that so skilfully originates the myriad things. The Southern

[633] Genshō seems to accept in this passage that the real nature of soil is lack of humidity.

[634] *Mottomo* 尤: desolated (「❶とが。災い。また、失敗。❷とがめる。失敗を責める。❸もっとも。目だっていちばんに。とりわけ。❹目だってすぐれている。めずらしい」, Kanjigen). According to the third and fourth definitions in this dictionary entry *mottomo* could also be translated as "strikingly". Thus this passage would become "The droughty soil of a barren mountain is without doubt strikingly dead soil".

[635] *Shozai* 所在: the place something is (「①存在する所。ありか。すみか。②ここかしこ。到る所。③すること。しわざ。④仕事。身分」, Kojien).

[636] *Anjū* 安住: dwell in safety (「①安んじてとどまること。おちついて住むこと。②向上心なく、その状態に満足すること」, Kojien).

[637] *Tensei* 天性: nature ("Tenxei. i, Tẽné. *Naturalmente, ou natureza*." Vocabvlario, fl. 255v.; 「天から授かった性質。生まれつき。また、天然自然のなりゆき。生徳。天資。」, Nikkoku).

[638] *Honsho* 本所: natural place (「①本居。本邸」, Kojien). All manuscripts have this reading. However it is is possible that the intentended word was *honsho* 本性: real nature ("Fonxŏ. *Verdadeiro juizo*. ¶ Fonxŏuo vxinŏ. *Perder o juizo, ou esmorecer*. ¶ Fonxŏninaru. *Tornar em si*. ¶ *Item, Substacia como espiritu de que se fala no Buppô*." Vocabvlario, fl. 102;「①本来の性質。天性②もとの正体。本心。正気。」, Nikkoku). In this case this sentence would read: "The walls [made] of soil and cooking stoves [made] of soil and such category [of things] have their inate real nature taken away and are transformed through persons like me."

Barbarian learning and arts are foolish views[639] and strained arguments[640] like these, and therefore their opinions are all evil theories [from] twisted hearts[641].

[639] *Senken* 浅見: unfounded opinion, shallow thought, foolish view (「あさはかな見識。あさはかな考え。また、自分の意見を謙遜していう語。愚見」, Kojien).

[640] *Fukai* 附会・付会: farfetched, forced interpretation, strained argument (「無理につなぎ合せること。こじつけること, Kojien」.

[641] *Hen-heki* 偏僻: twisted heart (「①心がかたよりひがむこと。ねじけること」, Kojien).

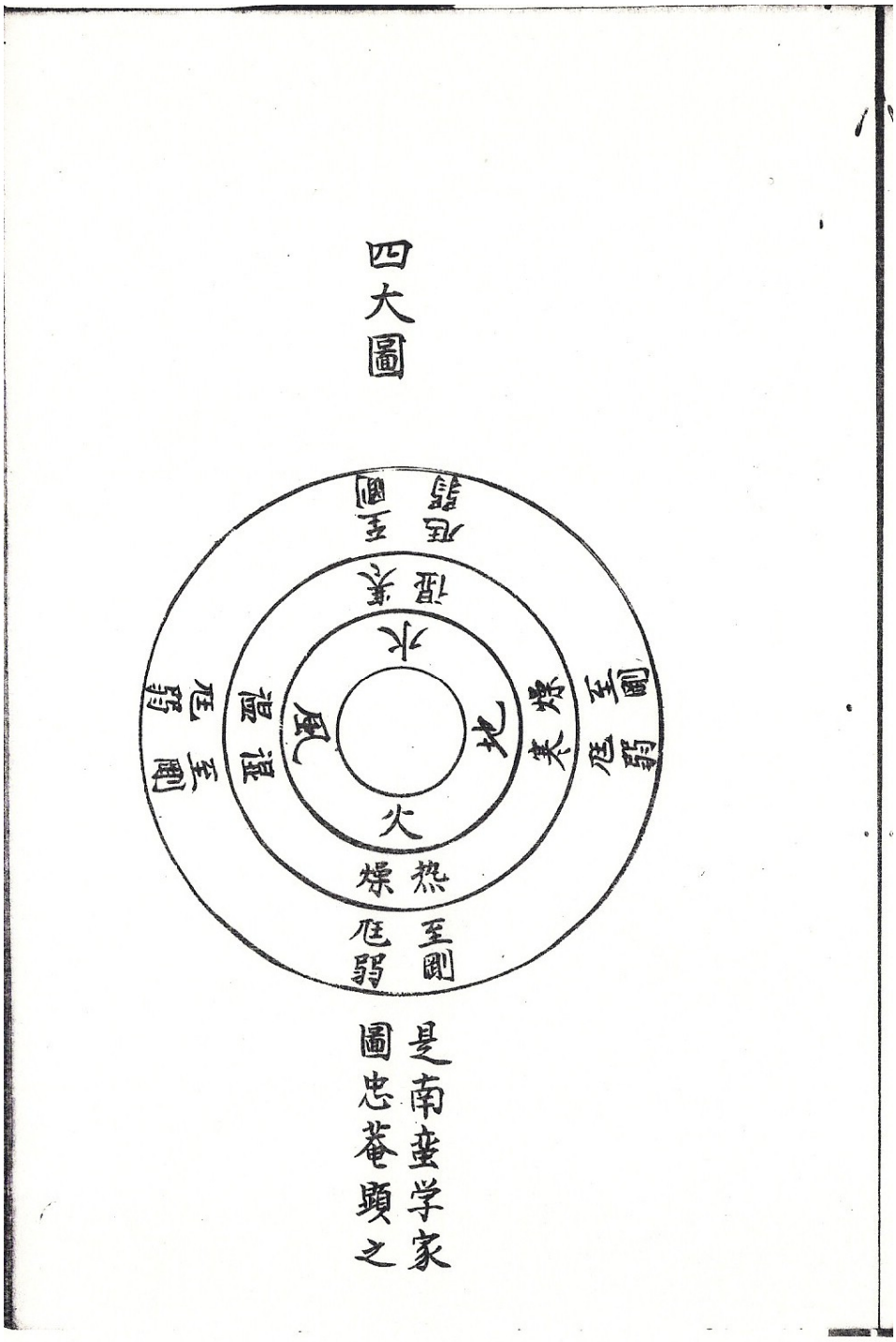

Figure 1— The Diagram of the Four Elements

The inner circle is void; the next has earth (to the right), water (above), air (to the left), and fire (below). The third circle, in the same order has cold and dry, damp and cold, warm and damp, dry and hot. The fourth circle has for the four positions the words strongest and weakest.

第二　地水風火互連次第并相尅相生のこと

一、　水風火の四大、互に連なる次第を見るに、地大は至下にあり、地大の上に水大あり、水大の上に風大あり、風大の上に火大あるもの也、是目前に見つべし、此次第を見るに、四大共に其體以て連なる、二大二大は相尅、相生するもの也、互に尅するに其體以て連り難しと雖も、又相生する故に敢て攻撃することなし、譬へば火大と風大とは、燥濕の異氣ありて尅すと雖も、火大の熱と風大の温と同氣たるが故に、強て攻撃することなし、風大と水大とは、温寒の異氣あつて尅すと雖も、風大の濕と水大の濕と同氣なるが故に、重科することなし、水大と地大とは、燥濕の異氣あつて尅すと雖ども、水大の寒と地大の寒と、又同氣なるが故に攻撃することなし、地水風火の順逆は、此相尅相生の事也、順には木生火、火生土、土生水、水生木、木生火とは、風大の温と火大の熱とは同氣なる故に相生す、火生土とは、火大の燥と地大の燥とは同氣なる故に相生す、土生木とは土大の寒と水大の寒と同氣なる故に相生す、水生木とは、水大の濕と風大の濕と同氣なる故に相生するもの也、逆には土尅水、水尅木、木尅火、火尅土、土尅水とは、土大の燥と水大の濕と異氣なる故に尅す、木尅火とは、風大の濕と火大の燥と異氣なる故に尅す、火尅土とは、火大の熱と地大の寒と異氣なる故に尅するもの也、五行の順逆同前也、されば四大右の如く連る子細を見るに、若し互に相生ぜずして尅する二大二大、其體以て連るに於ては、其勝劣甚だ深かるべし、譬へば火大と水大とは、熱燥と寒濕との異性なるが故に、互に相生せずして尅する者也、故に其體以て連なるに於ては、一大は甚重科せずと云ことあるべからず、是又世界のため萬物のためには大戮なるべし、故に相尅、相生する二大二大連るもの也、尅するときには少し勝劣ありと雖ども、相生するを以て攻撃することなし、

辨説、右南蠻學家の説如レ是、今論辨解惑するに、地大は至下にありと云こと、大きなる僞りにて惑説也、正理正論に非ず、牽強附會の邪説也、今眼前に見る處を以て論ずるに、水土は雜合して地の體成れり、常に土の上に水を置くときは、水は漏て土下に下る、水の上に土を置は、又沈んて水下に下る、土上は水の本所に非ず、水下（◎上）又土の本所と云べから

ず、是水土相雑和合して、地體を成して一所にあるもの也、故に水も土に置くこと不レ能、土も水上に居ること不レ能、水土同所すること目前の境也、猶風火二大も同所すの解は、第六四大所在の篇に辨ず、南蠻學士のいへるは、風大は儒醫兩家の云る五行の風土を云に非ず、天地の兩間に瀰滿したる空氣を指して云也云々、此説誠に此氣を知らず、又苟に風火義を不レ知の説也、夫天地兩間の氣は四大の氣に非ず、五行の氣天地の兩間に瀰滿したるもの也、此氣を氤氳（いんうん）と云、此氤氳の氣は五行和合の氣也、故に此氣中に寒熱温冷燥濕の化あり、又陰陽升降の性あり、天の氣降、地の氣升、五行の氣相和交密して萬物を生ず　眼前の境界也、然るに南蠻學家の説に、此氤氳（いんうん）の氣を指て風大と云て、四大の一に當ること、又四大の義も能く不レ知者也、相生相尅と云ことは、本より南蠻學士の知ざる道也、故に此書に同氣の相應ずるを相生と云、異氣の不和を相尅と云事、彼學徒日本に來りて、相生、相尅の名字を聞傳て、其名目を假て、四大の同氣異氣の應不應を論ぜんとす、相生、相尅の義は、蠻學の徒の能及の義に非ず、夫五行の相生相尅は、生成變化の徳にて、萬物生化の道也、蠻學士の理氣陰陽を不レ知して、四大形器の工夫計を宗本とするものヽ及ぶ義にあらず、右本説に云、土大の寒と水大の寒と相生と云は相生にあらず、同氣の相應ずと云者也、又風大の濕と相生する云、風大の濕と火大の熱と相生と云は、皆相生にあらず、同氣の相應ずと云もの也、又土大の燥と火大の濕と相尅すと云、風大の濕と火大の燥と相尅すと云は、皆相尅にあらず、皆異氣の不應と云ものなり、南蠻學士同氣の相應を相生と云、異氣不レ應を相尅といへる事、相生、相尅の義を不レ知故也、

[Paragraph] 2—About the Order[642] and Relations of Conquest and Generation Amongst Earth, Water, Air and Fire

Considering the way the four elements earth, water, air and fire are in relation to each other, the element earth is [in the] lowest [place]; above the element earth is the element water; above the element water is the element air; and above the element air is the element fire. This should be seen as something evident. Seeing it according to this order, with their substances the four elements enter in relation amongst themselves. Between each two elements there is conquest [or] generation. Though it is difficult to have relationships between the substances that conquest each other, because they also generate they do not dare to attack [each other]. For example, though the element fire and the element air, having the different *vigours* of dry and damp conquest [each other], because the hotness of element fire and the warmness of the element air is the same *vigour*, they do not attack [each other] strongly. Concerning the element air and the element water, though they have the different *vigours* of warm and cold and thus they conquest [each other], because the dampness of element air and the dampness of element water is the same *vigour*[643], there is no capital crime[644] [between them]. Concerning the element water and the element earth, though having the different *vigours* of dry and damp and thus conquering [each other], the cold of element water and the cold of element earth, again [as said before] because they are the same *vigour* they do not attack [each other]. The direct order and the inverse order[645] of the elements

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[642] Shidai 次第: order ("Xidai. *Ordem, & Concerto, ou gouerno.* ¶ *Item, Adu. Como, conforme, ou segũndo. Vt*, Sonata xidai. *Como quiserdes*. ¶ Deqixidai. *Conforme ao que se acabar*. ¶ Nozomixidai. *Conforme ao que desejais*." Vocabvlario, fl. 300).

[643] Manuscript [A5], in this sentence has「風大ノ濕ト同氣ナルカユヘニ」, what can be translated as "because the warmness of element air has similar influence". The lack of the middle words of「の濕と水大の濕」in this sentence can, without doubt, be attributed to a mistake of the copist.

[644] *Jūka* 重科: capital crime, serious offence (「①重い罪。重い犯罪。重罪。重荷。②重い刑。重い罰。厳刑。生命刑」, Nikkoku; "Giũqua. Vomoi toga. *Graue peccado*", Vocabvlario). The use of the expression "capital crime" in this context is strange. Its use is probably owed to Chūan not finding a more appropriate word and thus using a legal expression he certainly knew which had a similar meaning but is applied for human agents. Therefore this expression here means that the two elements do not attack each other to mutual destruction.

[645] *Jungyaku* 順逆: the direct order and the inverse order by which the elements are traditionally presented (see Chapter VII). This is not the dictionary meaning of *jungyaku* (「①順序が正しいことと逆であること。

earth, water, air and fire, these are conquest and generation. In the direct order, wood begets fire, fire begets soil, soil begets water, [and] water begets wood.[646] The meaning of wood begetting fire is that because the warmness of the element air and the hotness of the element fire have the same *vigour* thus they generate.[647] The meaning of fire begetting soil is that because the dryness of element fire and the dryness of element earth have the same *vigour* thus they generate. The meaning of soil generating water is that because the coldness of element soil and the coldness of element water have the same *vigour* thus they generate. The meaning of water begetting wood is that because the dampness of element water and the dampness of element air have the same *vigour* thus they generate. In the inverse order soil conquers water, water conquers wood, wood conquers fire, and fire conquers soil. The meaning of soil conquering water is that because the dryness of element soil and the dampness of element water have different *vigours* thus they conquest. The meaning of wood conquering fire is that because the dampness of element air and the dryness of element fire have different *vigours* thus they conquest. The meaning of fire conquering soil is that because the hotness of element fire and the coldness of element earth have different *vigours* thus they conquest.[648] The direct order and the inverse order of the *five phases* are as stated above[649]. Thus, to see the details[650] of [how] the four elements, as [exposed] above, enter in relation [amongst themselves], in each pair of elements, if there is no generation there is conquest. Concerning the relationship that exists between their substances their victory and inferiority should be the deepest in extreme. For example, in what concerns the element fire and the element water, because they have different natures of hot and dry and cold

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道理にかなうこととかなわないこと。恭順であることと反逆すること。②(仏)順縁と逆縁」, Kojien), but is that which is warranted by the context.

[646] We have here four elements, wood, fire, soil and water, two of which belong to the Aristotelian elements (fire and water) and another two are, or use the terminology, of the *five phases* (wood and soil). As it is evident from the following sentences, wood is used for air and soil for earth.

[647] Although in the Chinese context *generation* signifies the passage from one phase to another according to a certain order, in this sentence, and in the following, *generation* is used to mean similarity between the vigour of two elements. This will be criticized by Genshō in his commentary.

[648] The fourth *conquest* relationship, between air and water, is not mentioned.

[649] *Dōzen* 同前: as stated above (「前の物事に同じであること。同上」, Kojien).

[650] *Shisai* 子細: details, circumstances (「①詳細。委細。②事のくわしい事情。いわれ。③差支えとなる事柄。かれこれと言いたてるほどの事情。」, Kojien).

and damp they do not generate among them but conquer each other. This is because concerning the relationship between their substances it should not be said that one element does not commit a capital crime. This, again, is for the sake of the World and for the sake of the myriad things that there should be a great slaughter[651]. Because conquest and generation are relationships between two pairs of elements, though when there is conquest there is a slight superior-inferior [relation], when there is generation there is no attack.

Commentary. The above theories of the Southern Barbarian scholar are like the following. Now to break the perplexity of this exposition, concerning the element earth being [in the] lowest [place], that is a big[652] falsehood and a perplexing theory. It is without right reason and unorthodox, the twisted reasoning[653] of evil theories. Now, reasoning with what is evident, water and soil being combined, they form the substance of the Earth. When water is put over the soil the water always leaks to the underground below. If soil is placed above water, again it sinks down to under the water. The natural place for water is not above soil and it should also not be said that the natural place of soil is below (above) water. In this way, water and soil being mixed together, they make up the substance of Earth in one place. Because if it is impossible to place water above soil, it is also impossible for soil to be above water. That water and soil are in the same place is the utmost of self-evidence! Now, the interpretation that the two elements air and fire are in the same place is explained in [paragraph] Six, "Concerning the place where the four elements are". What the Southern Barbarian scholar is saying when referring to element air is not what the two schools of Confucianism and Medical Learning mean

[651] *Awaseru* 戮: to slaughter, to kill (「❶ころす。ばらばらに切ってころす。敵を残酷なやり方で死刑にする。❷死刑、また、殺害。❸恥。はずかしめ。❹あわせる。力をあわせること。」, Kanjigen).

[652] *Ōkinaru* 大きなる: large, big, *magnus*. An example of usage for *ōkinaru* is found in of *Contemptvs mundi jenbu*: "Iŏgiŭ quŏinuo yoqu vocuri tamai, Deusno voncotoni tonji tamŏ tameniua, youo fini tçuidemo aqidari tamauazu, Deusno von cotouo fucaqu quannen xitamŏ canmino vôqinaruuo motte, canyô naru xiqitaino xocubutuo mo bŏqiacu xitamŏ nari", *Contemptvs mundi jenbu. Core yovoitoi, Iesv Christono gocŏxeqiuo manabi tetematçuru michiuo voxiyuru qiŏ*, 1596, p.45 (the latin original reads: "Omnis hora ad vacandum Deo brevis videbatur et, prae magna dulcedine contemplationis, etiam oblivioni tradebatur necessitas corporalis refectionis").

[653] *Kenkyo-fukai* 牽強附会: twisted reasoning (「自分の都合のよいように無理に理屈をこじつけること」, Kojien; "(use) forced [twisted] reasoning, forced views, far-fetched (opinions)", Shinwaei).

when they refer to the element air[654] of the *five phases*[655]. It refers to the space between both Heaven and Earth that is harmoniously linked and filled with air[656]. This theory, in all truth, does not know about *vigour*, it is a theory that does not know even in the slightest degree[657] the meaning of element air[658]. This *vigour* of the space between both Heaven and Earth is not the *vigour* of the four elements. It is the *vigour* of the *five phases* that harmoniously links and fills the space between both Heaven and Earth. This *vigour* is called *exalação*[659]. This *exalação* being the *vigour* of the combination of the *five phases*, because in this *vigour* there are the natural changes of cold, hot, warm, cool, dry and damp, and again there is the nature of the *telluric* and *solar* [*vigour*] and of ascent and descent. That the *vigour* of Heaven descends, the *vigour* of Earth ascends, the *vigour* of the *five phases* blend together to originate the myriad things is exceptionally evident. However, in the theory of the Southern Barbarian scholar, element air is used to point to the *vigour* of this

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[654] Manuscript [A4] has element air, *fudai* 風大 instead of *air and soil*, *fudo* 風土, where 土 is certainly a calligraphic error. This obvious error is corrected in the translation.

[655] Stricly speaking there is no *element air* in the theory of the *five phases*.

[656] *Kūki* 空氣: air (「①地球の大気の下層部分を構成する無色、透明の気体」, Nikkoku). While Chūan uses the word *fūdai* 風大 for element air, Genshō uses *kūki* in this one instance. It is possible that this word was his own creation as I am not aware of its usage in any other book before the *Kenkon Bensetsu*.

[657] *Iyashiku(mo)* 苟も: even in the slightest degree ("any, at all, in the least, even in the slightest degree", Nelson; 「①身分不相応にも。②かりそめにも。かりにも。③まことに。④もしも。万一。⑤(「－せず」「－しない」の形で)いいかげんにしない。おろそかにしない」, Kojien).

[658] Manuscript [A4] has element air, *fudai* 風大, instead of air and fire, *fuka* 風火. This being an obvious error the translation follows manuscript [A4].

[659] *In-un* 氤氳: *exalação*, the *Original Vigour*, the abundance of the vigour that is the source of the myriad things (「万物の源泉をなす気が盛んであること」, Kojien). Instead of *in-un* いんうん manuscript [A4] has *ezarasan* エザラサン as *yomigana*. This is the Japanization of the Portuguese word "exalação", exhalation, and would not be unnatural if it was used in the exposition of Chūan. To appear in the commentaries of Genshō is no less than surprising, unless it is taken as belonging to his daily, or at least, to his scientific vocabulary what reinforces the other evidence that during his youth he became cognizant with the "Nanban school" of learning, probably as a student. The Japanese equivalent had a long usage tradition in the literature. For example in *Honchō Monzui*, book 1, 14,『視レ雲知レ隠賦』, *op. cit*., p.130, it can be read that「原夫道有二夷隆一、運有二通塞一。廊廟雖レ掄二其材一、巖穴猶毓二汝徳一。司天遥識、自契二栖遁之蹤一。望気潜通、遂致二束帛之色一。徒観夫一人慎レ日、四方観レ雲。鶴書頻飛、難レ全二霜竹之潔一。鳳詔屢聘、誰動二風桂之文一。訪而無レ遺、二華触レ石之膚鬚鬣。求而必致、五葉浸レ浪之痕氤氳。」.

exalação, which corresponds to one of the four elements what [shows] again that he does not understand well the meaning of the four elements.[660] Concerning conquest and generation, this is a way that the Southern Barbarian scholar does not know from the beginning. The reason that in this book the matching[661] of similar *vigours* is called generation, and the lack of harmony between different *vigours* is called conquest, [is because] when this scholar came to Japan he heard the names of generation and conquest, and borrowing the terminology[662] he argued about the match, or lack of match, between similar *vigours* and dissimilar *vigours* of the four elements. The meaning of generation and conquest is not the meaning that the disciples of Barbarian learning can achieve. The generation and conquest in the *five phases*, by the virtue of production and change, are the way that enlivens the myriad things. The Barbarian scholars do not know the *principle* and *vigour* [theory] or the *telluric* and *solar* [theory]. The meaning that reaches the essence [of things] is not in the contrivances about the appearances of the four elements. It is said in the main exposition above that the coldness of element soil and the coldness of element water generate but this is not generation. He is someone who says similar *vigours* match! Again [he] says, that the dampness of element air [and the dampness of element water][663] generate and that the dampness of element air and the hotness of element fire generate [when] in all [these] cases there is no generation but there is the matching of similar *vigours*. [He] also says that the dryness of element soil and the dampness of element water[664] conquest, [and] says that the dampness of element air

[660] It is curious to note that Genshō, after appropriating the term *exalação* for his argument, concludes that the Southern Barbarian scholar does not properly understand the theory of the four elements.

[661] *Sō-ō* 相應: match (①程よくつりあうこと。ふさわしいこと相当。②(仏)心と心の作用などが和合すること), Kojien; "〈適した〉be suitable《for》; fit《for》; suited《to》; 〈似合わしい〉 becoming; benefitting; 〈妥当な〉 adequate; reasonable; proper; 〈分に合った〉 deserved《reward》; just《deserts》", Shinwaei).

[662] *Meimoku* or *myōmoku* 名目: terminology; designation, appellation, technical (*meimoku*:「物の名称。物事の呼称。また、表面上の理由。口実。みょうもく。」, Nikkoku; *myōmoku*: "Miŏmoku. *Terminos de cada sciencia, ou palauras determinadas que se usão nas artes, & sciencias*", Vocabvlario, fl. 161;「①物につけた呼び名。物の呼称。多くそれぞれの専門分野での呼称をいう。法門の名称としては、天台宗の五時八教、真言宗の十住心など。めいもく。②ことわざ。③習慣による読み癖。④」, Nikkoku).

[663] Manuscript [A4] has「又風大ノ湿ト水大ノ湿ト相生ト云」. Bunmei lacks「水大ノ湿ト」. This is one point where the version in manuscript [A4] is clearly superior those collected in *Bunmei*.

[664] Bunmei has "fire" instead of "water", which appears in manuscript [A4]. We follow this later version.

and the dryness of element fire conquest, [when] there is no conquest in any of these cases, [but] there is lack of matching in all these cases amongst the dissimilar *vigours*. The Southern Barbarian scholars call generation to the matching of similar *vigours*, and call conquest to the lack of matching between dissimilar *vigours*. This is because they do not know the meaning of generation and conquest.

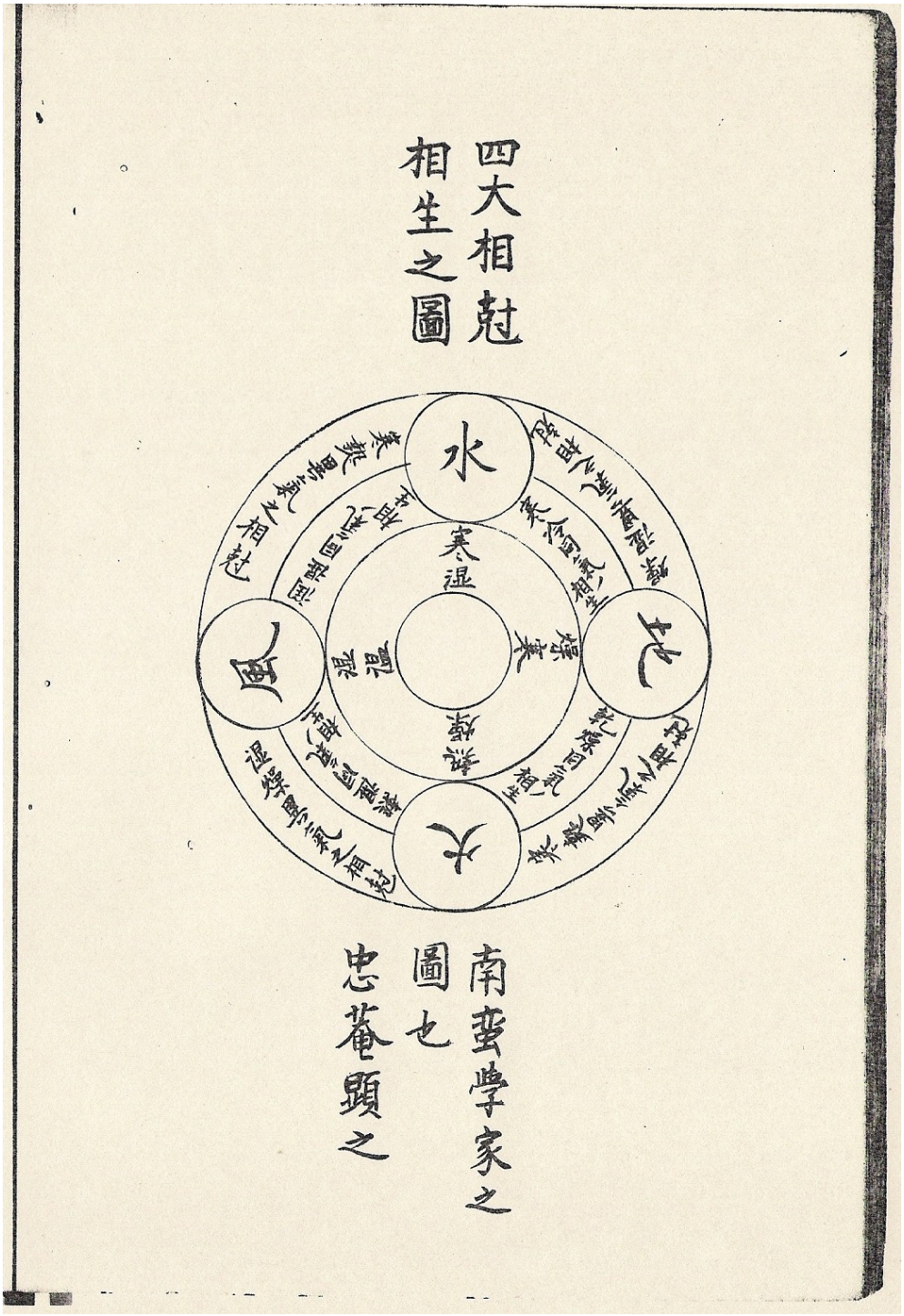

Figure 2— The Diagram of Conquest and Generation Relationships Between the Four Elements

Caption below: “The diagram of the Southern Barbarian Scholar Chūan”. The inner circle is void; the next has dry and cold (to the right) followed by a circle representing earth; cold and damp (above) followed by a circle representing water; damp and warm (to the left) followed by a circle representing air; and hot and dry (below) followed by a circle representing fire. The third circle represents the relations of *generation*: dampness and coolness between earth and water; moisture and dampness between water and air; hotness and warmness between air and fire; dryness and hotness between fire and earth. The outer circle represents the relations of *conquest*: dryness and dampness between earth and water; coldness and hotness between water and air; dampness and dryness between air and fire; and coldness and hotness between fire and earth.

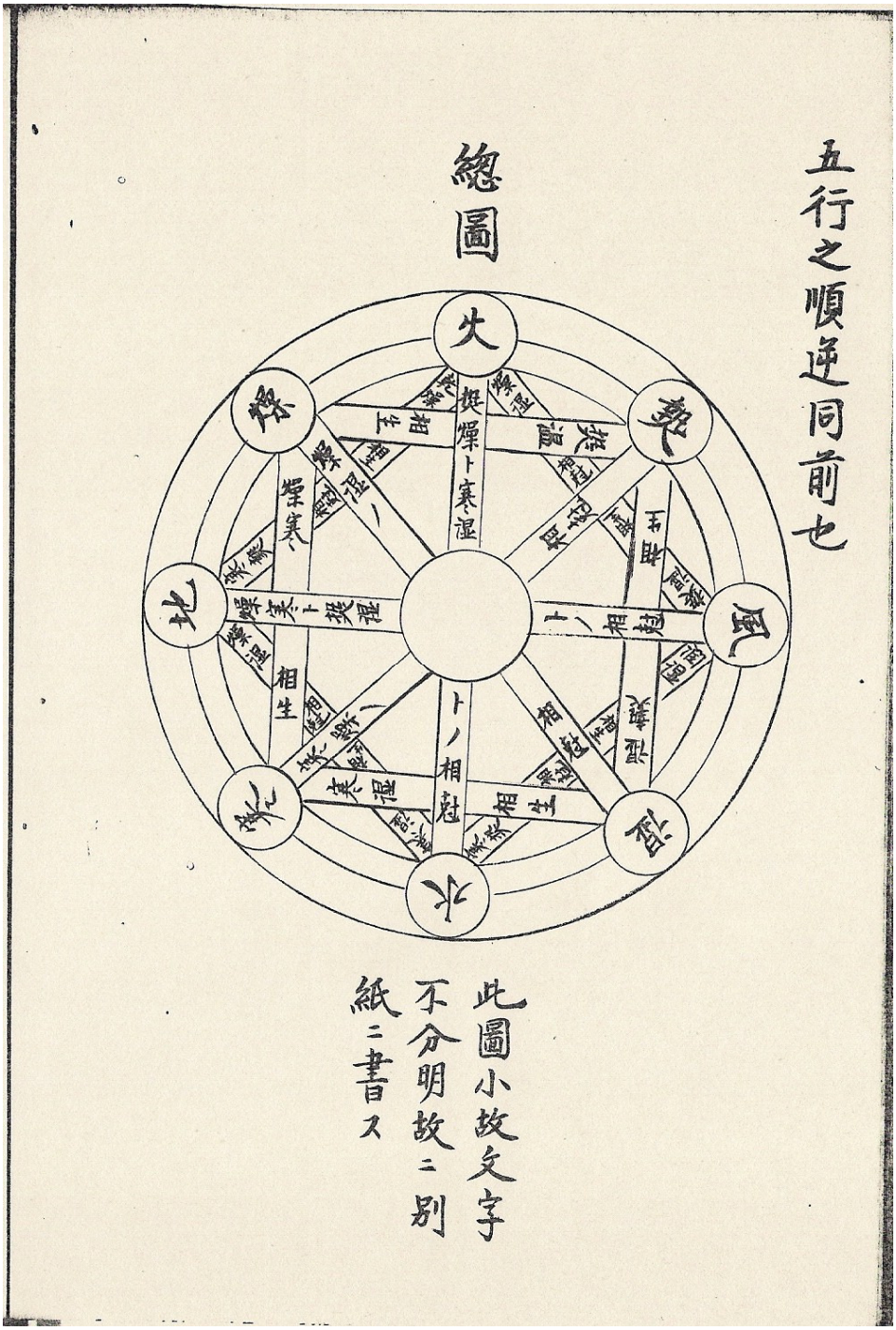

Figure 3— The Diagram of the *Direct* and *Inverse* Order of the *Five Phases*

Caption below: “As this diagram was not clear because it was too small it is drawn on separated a piece of paper”. The inner circle is void; the outer eight circles are, from counter-clockwise from the left: earth, coldness, water, dampness, air, hotness, fire and dryness; in the circle linking eight circles each element has strongest to its left and weakest to its right, so that earth has dryness as strongest and coldness as weakest. The lines between two opposite qualities indicate conquest, and those between two elements facing each other indicate that their qualities oppose mutually: between earth and air dryness and coldness do conquest with hotness and dampness. The lines between two adjacent elements indicate the conquest and generation relations between the two: between earth and water dryness and dampness do conquest and coldness and coolness do generation.

第三　萬物は四大和合之物なる事

一、　物を云に、人も鳥獣も草木蟲魚に至迄、有情非情共に皆以て是に籠る也、然るに地水風火の四大、如レ右一大々々に二性を具して、互に相生するが故に、世界に生化する萬物、四大和合して生ずるもの也、一類相續とて其一類々々相續して、人は人の類、牛馬は牛馬の類、蟲けらは蟲けらの類、鳥獣は其類々相續て生ずと雖も、地水風火相生にはづれて生ずることなし、是を本として有情非情皆以て有物也、我朝には此語は日本を云也、忠菴が日本に心服したる事、此二字にあり、五行とて、木火土金水の五つを萬物の根本とすと雖とも、異國には地水風火の四大を萬物の本と用る也、其故は萬物の生滅は、寒熱濕燥の相生、相尅に有る物也、尅するときんば物滅す、相生するときは物生ず、然るに相生することは、右に云て四品の相生は、即地水風火の性也、然るときんば地水風火の四つより外、萬物の本となる物なし、故に萬物の性を見るに、何れも四大の性に異ならず、熱燥、温濕、寒濕、燥寒四品の相生にはづれたる物なし、されば萬物の品々を云に非情は二品あり、一つには合體假相とて、風大の中に生ずる春霞、秋露、雨露、霜雪などの類也、二には土中に生ずる金石の類也、譬へば珠玉、金銀、銅鐵、鉛錫等の類也、有情又三品あり、一には諸木、諸葉也、此草木には自己の生長の性ありと云ども、眼耳鼻舌身なし、故に有情の下品とす、二には諸鳥、諸獣、諸魚蟲也、是眼耳鼻舌身ありと云へども、理非を分つ智なし、故に有情の中品也、三には人倫也、是眼耳鼻舌身は云に不レ及、理非を分つ智あり、故に有情の上品也、されば地水風火の四大、互に相生して和合するを以て、萬物右の如く生ずと雖ども、又尅するを以て、萬物は有どをしにあらずして、人も死し、草木もかれ、萬の物朽ちはて、本の四大に帰るもの也、

辨説、右南蠻學士の説如レ是、夫萬物は陰陽五行和合して生成し、又陰陽五行分離して入滅するものなり、五行の相尅、相生は、萬物造化生成の徳なれば、忠庵が云る如きの儀に非ず、儒醫の説に相生とは相續する所以也、相尅とは相制する所以也と、五行相生相續する故に、各々其元氣盡ることなし、相尅相制する故に、其氣たかぶることなし、亢る事無とき

んば、萬物を成すの功あり、盡る事無き故に、萬物を生ずる徳あらはる、人の五臓も如レ是、互に相生して五臓の元氣強く、互に相尅して獨亢る臓氣なし、故に五臓の氣和合し、陰陽升降し、氣血周流して無病長年也、若一臓も其氣衰るときは、勝方の臓の氣たかぶりて、衰へたる臓氣彌尅せらる、是即病の生ずる端也、勝ものの氣彌たかぶり、衰へたるもの彌尅せらるれば、五臓和合の氣離散して死す、五臓の氣未だ不レ衰、各々強しと云とも、其氣互に和合せざる時は、五行各々に分離して死す、五行相生相尅の儀は微義精理あり、學者の心を盡す處也、天地萬物も此化によつて生成することなれば、一句一言の能述る義にあらずと雖ども、今其萬一の末を述て、忠庵が説の南蠻學家の云る如きに非ざる事を顯す、總て生死の説は實に奥義深説也、人の惑も是より起り、異教に入り異道に迷ることも、此惑有る故也、生を貪り死を恐るヽの惑人間尤ふかし、故に邪僻の行ありて人倫治り難し、學術是が爲に立るが故に、教に邪正有て、終に生死の説を不レ得者世界に普し、有道の君子に付て、正解正得すべきこと也、是を解得せざれば、日々に異教に迷ひ入もの也、夫萬物の生ずるは、陰陽五行之和合によつて生ずるもの也、故に陰陽を以て男女雌雄の性を分つ、有情非情、皆男女雌雄の差別あり、五行を以て五類を分つ、有情には毛羽裸介鱗の五蟲あり、木竹草藤苔の五草あり、麥黍稷稻豆の五穀あり、五音、五色、五聲、五味、五氣あり、人に五臓あり、皮肉筋經骨の五體あり、眼耳鼻舌身の五形あり、手足各各五指あり、天には歳星、熒惑星、塡星、太白星、辰星の五星あり、二十八宿諸星の類に非ず、地には木火土金水の五行あり、兩間には温熱濕燥寒の五氣有り、皆陰陽五行の化に非ずと云ことなし、陰陽和合せざれば天地も成立せず、萬物も不レ可レ生、五行和合して萬物生じ、五行分離して萬物死す、南蠻學士陰陽五行を不レ知して、天地の義を論ず、故にあやまり多し、

[Paragraph] 3— On the Composition of the Myriad Things by the Combination of the Four Elements

What is meant by [the term] myriad things is man and also birds and animals, even [beings as] grass and trees, insects and fishes[665]. Everything both sentient[666] and non-sentient[667] is brought together [under this term]. Moreover, as the four elements earth, water, air and fire, each possess two natures as [referred] above, [and] because they mutually generate, everything that lives in the World originated from the combination of the four elements. Each species continues[668] and every species continues as that species, men as the species of man, bulls and horses[669] as the species of bulls and horses, insects as the species of insects, [and] birds and animals continue to appear on their own species. In the generation of earth, water, air and fire[670] nothing is wrongly[671] originated. This constitutes the foundation of everything sentient and non-sentient that has being. In our country, {this word signifies Japan, Chūan being converted from the heart[672] to Japan, this is shown by these two characters,} the *five phases*, the five being

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[665] *Chūgyo* 虫魚: insects and fishes ("Chùguio. Muxi, iuo. *Bicho, & peixe*", Vocabvlario, fl. 51 v.;「虫と魚」, Nikkoku).

[666] *Yūjō* 有情: sentient beings (「①心あること。情のあること。うじょう。②生物の感覚・感情を具えていること」, Kojien).

[667] *Hijō* 非情: non-sentient beings, beings belonging to the vegetal and mineral realms (「①喜怒哀楽の情がないこと。また、人間味や思いやりのないこと。②(仏)感情を持たないもの。木石(ぼくせき)の類」, Kojien).

[668] *Sōzoku* 相続: the continuation of a certain action; incessant repetion (「①物事を続けて行うこと。また、繰り返し絶えまなく続けること。②先代にかわって戸主となること。跡目(あとめ)を継ぐこと。また、前任者に代わって組織・技芸などを受け継ぐこと」, Nikkoku).

[669] *Gyūba* 牛馬: bulls and horses (「牛と馬」, Kojien). *Gyūba* is the name of a *Nō* piece, colected at the end of the Kamakura period by Ōkura Torahiro 大蔵虎寛 in his *Nōkyōgen*『能狂言』. See *Ōkura Torahiro bon Nōkyōgen*『大蔵虎寛本能狂言』, 3 vols., edited and annotated by Sasano Ken 笹野堅, Tokyo, Iwanami Shoten 岩波書店, vol.1, p.203-209.

[670] Manuscript [A4] has「地水風火ノ相生」, which is followed here with the inclusion of the possessive.

[671] *Hazureru*: to be wrong ("Fazzure, uru, eta. *Discrepar*. ¶ Michini fazzururu. *Errar o caminho*. ¶ Fattoni fazzururu. *Não guarder a lei*. Fitonamini fazzururu. *Ser singukar, ou não ir com a cõmunidade*.", Vocabvlario, fl. 84v.)

[672] *Shinpuku* 心服: accept from the heart (「心から心服すること。喜んでしたがうこと」, Nikkoku).

wood, fire, soil, metal and water which are said to be the source[673] of the myriad things. In foreign countries the four elements of earth, water, air and fire are used as the basis of the myriad things. The reason is that the becoming and the destruction of the myriad things, is made to be in the generation and conquest between coldness, hotness, dampness and dryness. When there is conquest things are destroyed, when there is generation things come into being. Moreover, [concerning] generation, there are four possibilities of generation, as said above, namely of the natures of earth, water, air and fire. Moreover, besides the four [elements] earth, water, air and fire, there is no other thing at the root of the myriad things, because looking at the natures of the myriad things, there isn't anything different from the natures of the four elements. Besides the four possibilities of generation, hot and dry, warm and damp, cold and damp, and dry and cold, there isn't any other. This being so, amongst the attributes of the myriad things there are two that are non-sentient. One is the combination of appearances that is originated in element air, things of the species of spring mists[674], autumn dew[675], rainy dew, frost and snow[676]. Another is originated in the soil and is of the species of metal and stone, for example pearls and gems[677], gold and silver[678], copper and iron, lead and

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[673] *Konpon* 根本: the source (「㊀②物事が成り立つ、そもそもの大本。③元祖。ほんもと。㊁もともと。本来」, Kojien; "〈基礎〉 the foundation; the base; 〈根元〉 the root; the origin; the source; 〈本質〉 the essence", Shinwaei).

[674] *Harugasumi* 春霞: spring mists (「㊁春に立つ霞(かすみ)。古来、春の景物として歌や句によみ込まれることが多い」, Nikkoku, "Farugasumi. *Nevoa da primavera*", Vocabvlario, fl. 346v.).

[675] *Shūro* 秋露: autumn dew (「秋のつゆ」, Nikkoku, "Xŭro. Aqinotçuyu. *Orualho do Outono*", Vocabvlario).

[676] *Sōsetsu* 霜雪: frost and snow (「①霜と雪。霜や雪。②転じて、白い毛髪、ひげなどのたとえ。」, Nikkoku; "Sŏxet. Ximo, yuqi. *Geada, & neue*.", Vocabvlario).

[677] *Shugyoku* 珠玉: pearls and gems ("Xuguiocu. Tama. *Pedras preciosas*", Vocabvlario, fl. 314; 「①海から産する玉と山から産する玉。真珠と玉。②美しいもの、立派なものをほめたたえていう語。特に詩や文章などについていう, Nikkoku」, "gem, jewel, jewelry", Nelson). A classical example of usage of this word is given in the *Book of Rites*: 「○進二几杖一者拂レ之。效レ馬效レ羊者右牽レ之。效レ犬者左牽レ之。執レ禽者左レ首。飾二羔鴈一者以レ繢、受二珠玉一者以レ掬、受二弓劒一者以レ挾。飲二玉爵一者弗揮。」, "Reiki" 「礼記」, vol. 1 上, *Shinshaku Kanbun Taikei* 『新釈漢文大系』, vol. 27, Tokyo, Miji Shoin 明治書院, 1971, p. 39. An exemple of usage of this word in Japanese vernacular is given in the well known *Nō* piece *Ebisu daikoku* 「えびす大こく」, collected by Ōkura Torahiro 大蔵虎寛 in his *Nōkyōgen* 『能狂言』: 「(夷、謡)汝がのぞむ金銀珠玉、いづれもいづれもほほしい物を、心のまゝに釣とるつり針を、魚ながらこそは取らせけり。」, *Ōkura Torahiro bon Nōkyōgen* 『大蔵虎寛本能狂言』, 3 vols., edited and annotated by Sasano Ken 笹野堅, Tokyo, Iwanami Shoten 岩波書店, vol.1, p.151. Another example, that includes also "gold and silver" in the same sentence is given in Book 8, 「谷堂炎上事」, of *Taiheiki*: 「十二ノ欄干

tin. There are three that are sentient, one being wooden and leafed [things]. Although it can be said that these grasses and trees have the disposition to growth, they don't have eyes, ears, noses, tongues or bodies [capable of sensation], and thus are the lowest class of sentient beings. In the second there are the various birds, various beasts, various fishes and insects. Tough it can be said that these have eyes, ears, tongues, noses and [sensible] bodies, they don't have the intelligence to distinguish between *principle* and its lack[679]. Because of this [they] belong to the middle class of sentient beings. In the third there are the humans. It cannot be said that they only have eyes, ears, tongues and [sensible] bodies; they [also] have intelligence to distinguish between *principle* and its lack. Because of this they are the highest class of sentient beings. Therefore, the four elements of earth, water, air and fire, generating and combining amongst themselves, can be said to give origin to the myriad things as [exposed] above. Also, from conquest there is no existence in the myriad things. People also die, grass and trees also wither, the myriad things decay and return to the basic four elements.

Commentary. The above explanations by the Southern Barbarian scholar are like this. The myriad things are produced by the combination of the *telluric* and

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珠玉天ニ擎ゲ、五重ノ塔婆金銀月を引ク。」, "Taiheiki Vol. 1"「太平記一」, edited and annoted by Gotō Tanji 後藤丹治 and Kamada Kisaburō 釜田喜三郎, *Nihon Koten Bungaku*『日本古典文學体系』, Vol. 34, Tokyo, Iwanami Shoten 岩波書店, 1960, p. 274. This word is also found in *Kanrin Gohō Shū*『翰林五鳳集』, a work compiled in 1623 (旹元和九年龍集癸亥初秋廿九日) by Ishin Sūden 以心崇傳 (1569-1633), the Rinzai monk that was one of Tokugawa Ieyasu's closest advisors:「虞伯生 琴叔 天高白雁度江南。獨暮堯夫稱邵庵。珠玉遺篇輝近世。翰林風月鬢參毛々。又 梅陽」, *Kanrin Gohō Shū*「翰林五鳳集」, Book 61 (巻第六十一、支那人名部); this work is printed in *Dai-Nippon Bukkyō Zensho*『大日本佛教全書』, edited by the Bussho Kankōkai 佛書刊行會編纂, Tokyo, Bussho Kankōkai 佛書刊行會, 1916; the cited passage is in vol. 145, pp. 1191-1192.

[678] *Kingin* 金銀: a. gold and silver; b. money (「①金と銀。②金貨と銀貨。かね。金銭。」, Kogien). This word is found in the *Nō* piece *Ko nusumibito* 子盗人 included in *Kyōgenki*『狂言記』(first printed in 1660) with the second meaning:「此当りに隠れもない勝負師でござる、此中いつものいたづら者共と寄合て、勝負を致したれば、さんざん仕合が悪ふて、金銀は申に及ばず、女共が衣類迄、ことごとく打こふでござる、是では何共致さふ様もないことでござる、それに付、思ひ出したことがござる、ここに、誰殿と申て、有徳な人がござる、是は金銀米銭大分持ていらるゝ程に、今夜あれへ忍び入、何成共とつて参り、も一勝負致し、仕合致さふと存る、先そろそろ参ふ」, "Kyōgenki"「狂言記」, ed. by Hashimoto Asao 橋本朝生 and Doi Yōichi 土井洋一, *Shin Nihon Koten Bungaku Taikei*『新日本古典文学大系』, vol. 58, Tokyo, Iwanami Shoten Kankō, 1996, p. 361.

[679] *Rihi* 理非: principle (reason) and lack of principle (「道理と非理。道理にかなっていることとはずれていること。是非」, Kojien).

solar [*vigours*] and the *five phases*. Also, they become nothingness[680] from the separation of the *telluric* and *solar* [*vigours*] and the *five phases*. If the conquest and generation amongst the *five phases* is the virtue of the creation and production of the myriad things, then there is no sense in what Chūan says. The explanation of the medical school is that generation is the place of mutual continuation, and conquest is the place of mutual restraint[681]. Because the *five phases* generate and mutually continue, the basic *vigour* of each one is not exhausted. Because conquest makes for mutual restraint, that *vigour* does not grow tall[682]. When[683] it does not grow tall it has the ability[684] to make the myriad things, and when it is not exhausted it has the virtue to generate the myriad things. This is similar to [what happens with] the five organs of man. [Because] they mutually generate the basic *vigour* of the five organs [the body] is strong, [and because] they mutually conquest there is no organ that grows tall alone. Because the *vigours* of the five organs combine, the *telluric* and *solar* [*vigours*] rise and fall, *vigour* and blood flow [their] circuits[685] [and the body is] without illness for long years. If the *vigour* of one organ weakens, the *vigour* of the winning organ grows tall, and increasingly conquers over the *vigour* of the weakened organ, and this is precisely the beginning of the generation of illness. The *vigour* of the one that wins grows exceedingly tall, [and] if that which is weakened is conquered exceedingly, the *vigour* of the combination of the five organs is broken resulting in death. When the *vigour* of the five organs is not yet weakened, and it can be said that each one is strong, when

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[680] *Nyūmetsu* 入滅: becoming nothing, to enter nivarna (「(物)滅度(涅槃)に入ること。釈尊の死、また広く高僧の死をいう」, Kojien).

[681] *Sōsei* 相制: mutual restrain (「制しあうこと。互いに牽制すること」, Kojien).

[682] *Takaburu* 高ぶる・昂る: to grow tall, to become proud ("Tacaburi, u, utta. *Ensoberbecerse*. *Vt*, Miuo tacaburu. *Aleuãtarse, & ensoberbecerse*", Vocabvlario, fl. 234; 「①高くなる。たかまる。亢進(こうしん)する。②ほこる。自慢する。高慢な態度をとる。」, Kojien).

[683] *Tokinba*: when, if, in case of (「(「時には」の音便。漢文訓読で用いたのにはじまる)…する時には。…する場合は。…すれば」, Kojien).

[684] *Kō* 功: effect (「❶いさお。てがら。やりばえ。❷てがらと考える。功績とみなす。❸働きの結果。成し遂げた仕事。❹ききめ。実り。❺努力。または、工夫。❼よい行い」, Kanjigen; 「てがら【手柄】①てなみ。うでまえ」, Kojien; "うでまえ【腕前】ability; skill; capacity", Shinwaei; "merits, meritorious deeds; success; credit, honor; effect", Nelson).

[685] *Shū* 周: "circuit, lap, circumference, vicinity", Nelson.

their *vigours* do not combine each one of the *five phases* breaks away resulting in death. In the meaning of generation and conquest [of the] *five phases* there is subtle meaning[686] and finely detailed truth[687], the place that exhausts the heart of scholars. If Heaven and Earth and the myriad things are also produced by these changes, it can be said that no phrase or word can adequately express its meaning. Now, referring to that unique chance, Chūan reveals that this is not what the theory of the Southern Barbarian scholars says. In general the explanation about life and death is indeed a deeply mysterious theory. The bewilderment among men occurs due to this. To enter heresy and be lost in wrong ways[688] is due to this bewilderment. The delusion to indulge in life and to fear death is a deep failure of humanity. Because of this there are wicked and vicious actions and it is difficult to act morally. Because scholarship is for the sake of the establishment of this, and teaching is to correct wickedness, in the end the people who do not profit from the explanation about life and death are all over the World. In the way of the sovereign there should be right understanding[689] and right morality[690]. If this is not properly understood[691], everyday people will enter the delusion of heresy. The origin of the myriad things is brought about by the combination of the *telluric* and *solar* [*vigours*] and the *five phases*. Because of this, from the *telluric* and *solar* [*vigours*] the natures of man and woman, female and male are divided. In all, both in sentient and non-sentient,

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[686] *Bigi* 微義: subtle meaning (「微妙な意味」, Nikkoku).

[687] *Seiri* 精理: finely detailed reason or truth (「くわしくて細微な道理。」, Nikkoku).

[688] *Idō* 異道: a wrong way, a religion other than Buddhism (「①仏語。仏教以外の教え。外道(げどう)。②まちがったやり方。」, Nikkoku).

[689] *Seikai* 正解: right understanding (「①正しく理解し解釈すること。正しく解答すること。また、その解答。」, Nikkoku).

[690] *Seitoku* 正得: no dictionary consulted lists this word, a compound of the caracters for right or correct, and for profit, advantage, or benefit,what gives “right advantage” as a possible literal meaning. However, as this meaning does not seem to fit in this sentence, most probably this caracter compound is a “missplelling” of *seitoku* 正徳, what may be translated as “right morality” (「自分の徳を正しくすること。また、その正しい徳」, Nikkoku). Another possibility would be to supose that the error is not in the second caracter of the compound but in the first. In this case *seitoku* 生得 “character” (「①生きたまま、手に入れること。いけどり。②うまれつき。性得。しょうとく。」, Nikkoku) would be the appropriate reading.

[691] *Kaitoku* 解得: rightly understand, to understand according to the right reason and absorb it into one’s own being (「ものの道理などを理解し体得すること」, Nikkoku).

there is distinction between man and woman, female and male, and from the *five phases*, five categories can be divided. In the sentient [beings] there are the five [categories of] animals[692] which are the furred, the feathered, the naked[693], the shelled and the scaled; there are the five plants which are trees, bamboos, grasses, wisterias and mosses; there are the five cereals[694] which are wheat, millet, panicum

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[692] *Gochū* 五虫: the five categories of animals first proposed in *Kōshi kego*『孔子家語』(「[孔子家語(執轡)]5 種類の動物。鱗虫(その長は蛟竜)・羽虫(その長は鳳凰),毛虫(その長は麒麟)・裸虫(その長は聖人)・甲虫(その長は神亀)の総称。」 Kojien,「羽虫、毛虫、甲虫、鱗虫、裸虫の五種類の虫」, Nikkoku). The passage of *Kōshi kego* reads as follows: "Again, there are 360 types of animals with feathers, amongst whom the phoenix is the most perfect. There are 360 types of animals with fur, amongst whom the giraffe is the most perfect. There are 360 types of animals with carapace, amongst whom the turtle is the most perfect. There are 360 types of animals with scales, amongst whom the dragon is the most perfect. There are 360 types of naked animals, amongst whom man is the most perfect. This is the beauty of Heaven and Earth, that the number of different things in the categories of things with dissimilar shapes is the number of days in one year. When the King moves it necessarily follows the right path, and when it does not move calmly it follows the path of reason, it respects the original ways of Heaven and Earth, and does not inflict harm to anything in his charge. This is the holy man with the virtue of humanity"「故曰、羽蟲三百有六十、而鳳爲之長。毛蟲三百有六十、而麟爲之長。甲蟲三百有六十、而龜爲乏長。麟蟲三百有六十、而龍爲之長。倮蟲三百有六十、而人爲之長。此乾坤之美也。殊形異類之敷。王者動必以道、静必順理、以奉天地之性而不害其所主、謂之仁聖一焉。」, Uno Sei-ichi 宇野精一, *Kōshi kego*『孔子家語』, Tokyo, Meiji Shoin 明治書院, 1996, p. 335. This expression probably entered Japanese literature or, at least, became common after its use in *Honchō Monzui*『本朝文粋』, a Heian period collection of Chinese style poetry in 14 books edited around 1058—1065 by Fujiwara Akihirasen 藤原明衡撰. The first lines of chapter 76,『散位正六位上菅原朝臣淳茂対』in volume 3 read as follows:「対。竊以、陰陽精遘、万象所二以差一レ形。清濁気分、五虫由レ其殊レ性。是故慎二枢機之発一者、謂為二人民一。」, *Honchō Monzui*『本朝文粋』, Ōsone Shōsuke 大曾根章介, Kinbara Tadashi 金原理, and Gotō Akio 後藤昭雄 (eds.), Shin Nihon Koten Bungaku Taikei 新日本古典文学大系, vol.27, Tokyo, Iwanami Shoten 岩波書店, 1992, p. 165. In contrast to this division of fives characteristic of Confucianism, Buddhism used a division of fours. In the *Sumário dos erros en que os gentios do Japão vivem e de algumas seitas gentílicas en que principalmente confiã*, Documentos I, p. 664, we can read: "E nos mesmos 3 livros [Xaqua] ensinou o género das plamtase creyaturas elamentais, scilicet, criaturas vivas, que resumem em quarto géneros: O primeiro chamão Ranxo, que hé todas as que nascem de ovo. A segumda se chama Taixo, que hé todos os que nascem de vemtres, como homens e bestas. O trezio chamão Xixoo, que são todo os que nacem com a mutação dos tempos e podridão da terra, como são sapos e bichos e moscas. O quarto chamão Quexo, que hé toda a coussa que nace de favo, como abelhas e vespas, quaffannhotos e outras semelhantes."

[693] Bunmei has the caracter formed by the radicals *mi* 身 (on the left) and *ka* 果 (on the right), corresponding to caracter number 16776 in Kōkanwa (「はだか。=裸」). In manuscript [A4] this caracter appears written as 保.

[694] *Gokoku* 五穀: five cereals, e.g. rice, wheat (or barley), millet, soybean, and Japanese millet ("Gocŏcu. *Cinco sementes, ou legumes. S*. Come, mugui, aua, qibi, fiye. *Arroz, trigo, & ceuada, painço, milho zaburro, e hum certo milho preto*", Vocabvlario, fl. 120;「①人が常食とする5種の穀物。米・麦・粟(あわ)・豆・黍(きび)または稗(ひえ)など諸説がある。いつつのたなつもの。いつくさのたなつもの。②穀類の総称。」, Kojien;「①五種の主要な穀物。㋐麻・黍きび・稷たかきび・麦・豆。〔周禮、天官、疾醫〕以二

miliaceum (millet), rice and beans; there are five sounds[695], five colours[696], five voices[697], five tastes[698], five *vigours*[699]; in man there are five organs[700], and there

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五昧・五穀・五薬＿、養＝其病＿。〔注〕五穀、麻・黍・稷・麥・豆也。㋑稲・稷・麦・豆・麻。〔楚辭、大招〕五穀六仞、設＝菰梁＿只。〔集注〕五穀、稻・稷・麥・豆・麻也。②米・麦・粟あわ・麥・豆。」, Kokanwa). An example of usage is found in a memorable passage of *Hōjōki* (1212):「又、養和ノコロトカ、久クナリテ覚ヘズ。二年ガアヒダ世中、飢渇シテ、アサマシキ事侍リキ。或ハ春・夏ヒデリ、或ハ秋大風・洪水ナド、ヨカラヌ事ドモウチ続キテ、五穀事々ク生ラズ。夏植フルイトナミアリテ、秋刈リ冬収ムルソメキハナシ。是ニヨリテ国々ノ民、或ハ地ヲ捨テテサカヒヲ出デ、或ハ家ヲ忘レテ山ニ住ム。」, in "Hōjōki, Tsuretzure kusa"「方丈記・徒然草」, edited and annotated by Satake Akihiro 佐竹明広 and Kubota Jun 久保田淳, *Shin Nihon Koten Bungaku Taikei*『新日本古典文学大系』, vol. 39, Tokyo, Iwanami Shoten 岩波書店, 1989, p. 10. This passage is translated, substituting "grains" for "five cereals", in *Anthology of Japanese Literature: From the Earliest Era to the Mid-nineteenth Century*, compiled and edited by Donald Keene, Boston, Tuttle Publishing, 1956, p. 201.

[695] *Goin* 五音: five sounds, either the five Japanese vowel sounds or the five sounds according to the sound classification of Chinese music ("Goin. Itçutçuno coye. *Cinco vozes, tons, ou soadas conforme ao uso da musica de Iapão*. ¶ *Item, as cinco vogais de Iapão*. A. I. V. YE. VO", Vocabvlario, fl. 121;「①五声に同じ。②中国音韻学の用語。発音部位による子音の分類で、唇音・舌音・牙音・歯音・喉音の総称。③五音に同じ。④音声の調子。こわね。浄、心中刃は氷の朔日。」, Kojien;「【五音・五韻】㊀①五行思想から、万物の音を分類した五種の音。すなわち、宮・商・角・徴(ち)・羽のこと。②五行思想による人間の音声の分類。③中国・日本音楽の用語。音組織を構成する宮・商・角・徴・羽の五つの音。雅楽では、五声ということが多い。また、広く音楽をさしていい、音楽に通じていることを「五音に通じている」などという。㊁①五十音図の各行の五つのかなを表わす音。②悉曇(しったん)学で、kcţtp の五つの音によって代表されるそれぞれのグループを発音部位によって呼んだ名称。このとらえ方が中国音韻学に影響を与えた。③「韻鏡」以後の中国の音韻学で、発音部位による音韻の五分類。すなわち、唇音・舌音・顎音(または牙音)・歯音(または齦音=ぎんおん)・喉音(こうおん)の五つ。㊂①音声の調子。音調。ねいろ。こわね。ごおん。②音によって占いをすること。特に、人の声音によって身の上を占うこと。五音の占(うらな)い。」, Nikkoku. Also *go-on*: 五音:「㊀「ごいん(五音)㊁①」に同じ。」, Nikkoku). This word is used in *Honchō Monzui*, Book 3, n. 81,「寿考 正四位下行式部大輔兼文章博士尾張権守菅原朝臣文時問」in the following sentence:「五音四声之相配、猶迷＿久視於宮商之問＿。」, op. cit., p.168.

[696] *Goshiki*, *goshoku* 五色: the five colours, e.g., blue, yellow, red, white and black (*goshiki* "Goxiqi. Itçutçuno iro. *Cinco cores*. S. Xŏ, uŏ, xacu, biacu, cocu. *Azul, Amarelo, vermelho, branco, preto*. ¶ Goxiqino ito. *Retros de cores*.", Vocabvlario, fl. 122;「(「き」は「色」の五音)①中国古代の五行説では青、黄、赤、白、黒の五種の色。仏教ではこれを五正色とも称し、信、精進、念、定、慧の五根や、五智、五仏などに配する。また、一般に五種の色多種の色をもいう。五彩。いついろ。ごしょく。②多くの種類。多種。多様。③植物「うり(瓜)」の異名。」, Nikkoku. *goshoku*:「「ごしき(五色)①」に同じ。」, Nikkoku).

[697] *Gosei* 五声: the five voices. The five voices can be understood to mean either: the five sounds or, the fifth, or last, hour of the night (「①「ごいん(五音)③」に同じ。②「ごこう(五更)②に同じ。」, Nikkoku. *Gokō* 五更: "Gocŏ. *Tempo, ou hora de madrugada, ou antemanhãa*. ¶ Gocŏno ten. *Idem*", Vocabvlario, fl. 120;「①一夜を五分した時刻の名称。初更(甲夜)、二更(乙夜)、三更(丙夜)、四更(丁夜)、五更(戊夜)の五つに分ける。季節によって相違する。午後五時すぎないし七時半から順次おおよそ二時間ずつに区切った時刻に相当する。②一夜を五分した最後の時刻。現在の時刻で、春は午前三時頃から五時頃まで、夏は午前二時頃から、四時頃まで、秋は午前二時半すぎから五時頃まで、冬は午前三時二0分すぎから六時ごろまで。寅の刻。戌夜(ぼや)。五声。」, Nikkoku」.

are five constituents of the body[701] which are the skin, flesh, muscles, nerves and bones; there are five sense organs which are the eyes, ears, nose, tongue and body.

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[698] *Gomi* 五味: five tastes, e.g. sweet, sour, salty, bitter, peppery ("Gomi. Itçutçuno agiuai. i, suxi, nigaxi, amaxi, caraxi, xiuafayuxi. *Cinco gostos, ou sabores. S. Azedo, amargo, doce, que requeima, salobre, ou salgado naturalmente*", Vocabvlario, fl. 121;「①5 種類の味、すなわち甘・酸・鹹・苦・辛いの総称。②仏教で、牛乳を精製する過程における 5 段階の味。乳味・酸味・生酥(しようそ)味・熱酥味・醍醐味。また、仏の教えが衆生の能力に応じて順次深くなっていくことにたとえる。涅槃経に説く。」, Kojien;「①食物の、甘(あまい)・酸(すっぱい)・辛(からい)・苦(にがい)・鹹(しおからい)の五種の味の総称。②仏語。大般涅槃経で、牛乳を精製する過程で順次に生じる五段階の味、すなわち乳味・酪(らく)味・生酥(しょうそ)味・熱酥味・醍醐(だいご)味の五つの総称。・醍醐味を涅槃経に比する。また、天台宗では、五時経に配して、釈迦一代の聖説がと説かれた次第順序とする。③香道で、香木の香りを①の五味になぞらえていう。」, Nikkoku). In *Meigoki*『名語記』(dated 1275) *gomi* is used as follows:「ゴミ 問 水ノ底にツヽヰタル コミ如何 答 コミハクホミチノ反 窪満也 泥ヲハコヒチトヨメリ ヒチ反リテ ヒ也 コミ合テコヒトナルヲモミトイヘルナルヘシ 次 法門ニコミ 如何 五味也 反音ノ要ニハ非ス」, *Meigoki*『名語記』, modern printing edited by Kitano Tayuru 北野克 and revised by Tayama Hōnan 田山方南, Tokyo, Benseisha 勉誠社, 1983, p. 622. One century later it was also employed in *Taiheiki* (1370):「異國ノ諸侯ハ遊宴ヲナス時、食膳方丈トテ、座ノ圍四方一丈ニ珍物ヲ備フナレバ、其ニ不レ可レ劣トテ、面五尺ノ折る敷二十番ノ齋羹・點心百種・五味ノ魚鳥・甘酸辛の菓子共、色々様々居雙ベタリ。飯後ニ旨酒三献過テ、茶ノ懸物二百物、百ノ外二又前引ノ置物ヲシケルニ、初度ノ頭人ハ、奥染物各百充六十三人ガ前二積ム。」, "Taiheiki"「太平記一」, Vol. 3, edited and annoted by Gotō Tanji 後藤丹治 and Kamada Kisaburō 釜田喜三郎, *Nihon Koten Bungaku*『日本古典文學体系』, Vol. 36, Tokyo, Iwanami Shoten 岩波書店, 1962, p. 252.

[699] *Goki* 五氣: the five *vigours*, the *vigours* of the *five phases*, e.g., the *vigours* of wood, fire, soil, metal and water; the five directions, e.g. centre, east, west, south and north; the five phenomena of Heaven and Earth, e.g., rain, Sun rise, warmness, coldness and wind, or according to other versions coldness, hotness, dryness, dampness and wind, etc; the five types of vigour from the five organs, e.g., the vigours of the heart, the liver, the spleen, the lungs and the kidneys; the five emotions, e.g., joy, anger, desire, fear and sorrow (「①木火土金水の五行の気。また、中央および東西南北の五つの方角。転じて、中国および四方の異民族をいう。五方。②天地の五種類の現象。雨、暘(よう)、燠(おう)、寒、風の称。一説に、寒、暑、燥、湿、風とも、また温、涼、寒、燥、湿などの称ともいう。③五臓から出るという五種類の気。心気、肝気、脾気、肺気、腎気の称。④五種類の感情。喜、怒、欲、懼、憂の称。」, Nikkoku).

[700] *Gozō* 五臓: the five organs, e.g., heart, liver, lungs, kidneys, spleen ("Gozŏ. *Cinco partes que ha nas entranhas. u. g*. Can, l, cannozŏ. *Baço*. Xin, l, xinnozŏ. *Coração*. Fi, l finozŏ. *Figado, & não estamago como por erro sepos na letra F*. Fai, l fainozŏ. *Bofes*. Iin, l, jinnozŏ. *Rins*", Vocabvlario, fl. 122v.;「【五臓・五蔵】①漢方で体内にある五つの内臓をいう。心臓・肝臓・肺臓・腎臓・脾臓の称。五内(ごだい・ごない)②からだの内部にあって人間の感情を支配するもの。こころ。③からだ。全身。五体。」, Nikkoku).

[701] *Gotai* 五體: the five constituents of the body, and by extension, the whole body ("Gotai. *Sentidos com todo o corpo*", "Gotai roccon. *Todo o corpo com sentidos, & potencias*", "Gotai xinbun. *Todo o corpo, & membros, & junturas em particular*", Vocabvlario, fl. 122;「①身体を構成する五つの部分、すなわち筋・脈・肉・骨・毛皮、または頭・両手・両足、あるいは頭・頸・胸・手・足の称。転じて全身。」, Kojien; "the (whole) body; the whole frame; the limbs", Kenkyusha;「【五体(體)】①五種の体裁。五種のかたち。②五つの書体。③(仏)身体の五つの部分。筋・脈・肉・骨・皮膚。また、右膝みぎひざ・左膝・右手・左手・頭首の総称。転じて、全身。」, Kokanwa). There are different definitions of the five constituents of the

There are five fingers in each hand and foot. In the Heaven there are Jupiter, Mars, Saturn, Venus and Mercury, or the five stars. There are no categories [applicable to] the stars in the twenty eight heavenly inns, [but] in the earth there is wood, fire, soil, metal and water, or *five phases*. In between there are the five *vigours* of warmness, hotness, dampness, dryness and coldness. In all [these cases] it cannot be said that there isn't the natural change of the *telluric* and *solar* [*vigour*] and the *five phases*. If the *telluric* and *solar* [*vigours*] did not combine, Heaven and Earth would not have been formed, nor could the myriad things exist. The combination of the *five phases* generates the myriad things, [and] the separation of the *five phases* results in the death of the myriad things. Because the Southern Barbarian scholars do not have knowledge about the *telluric* and *solar* [*vigours*] nor about the *five phases*, when they reason about the meaning of Heaven and Earth their errors are many.

body. Besides that given by Genshō three other are commonly listed: 1) muscles, blood vessels, flesh, bones and skin and hair; 2) head, both arms and both legs; 3) head, neck, chest, arms and legs.

第四　萬物性之事

一、　されば萬物は右の如く、四大和合の物なれば、四大に異ならず、何れも二性を具して、熱燥、温濕、寒濕、燥寒の四品の相生にはづれたる物一物もなし、藥種を初め人身の血痰黄水の性、春夏秋冬の氣、皆以て右四品の性也、然と雖ども四大は、四大共に各々二性を具し、一性は至剛にして一性は厄弱也、四大和合の具は、四大の如く何れも二性を具すと雖ども、物毎に一性は至剛にして一性は厄弱成に非ず、彊弱に段々あり、譬へば氷片、白檀、眞珠の類は、何も寒燥の性たりと雖ども、氷片は二性共に至剛也、白檀は二性共に中也、眞球は二性共に厄弱也、又一類々々は何も二性を具すと雖も、類に依て二性共に強弱の異なくして同位也、類に依ては二性に強弱あり、譬ば白檀は寒燥の二性を具すと雖ども、二性に強弱の異なく、二性共に同じ位也、乳香は熱燥の二性を具すと雖ども、其熱性は強く其燥性は弱也、他准レ之、

辨説、右南蠻學家の説如レ是、今辨ずるに足ずと云へども、又略して辨レ之其云、萬物四大和合の物なれば、其性は（イも）四大に異ならずと云て、氷片、白檀、眞球、乳香の四種を以て、其性を表證す、此四種は其性能具りて、證明しやすきものにや、今詳に辨ずれば、此四種も四大和合より生れたるもの也、然らば四大の性を具て、寒熱濕燥ともに具すべし、然るに氷片、白檀、眞球の三種は、寒燥の性也と云時は、只土大の性計を受て、餘の三大の性は受ざるか、或は寒性は水大に受て、燥性は火大に受たるか、何ぞ余の二大の性を受ざるや、又乳香の熱燥二性は、火大の性計を受たるか、或は熱性は火大に受て、燥性は地大に受たるか、若如レ右ならば、四大和合の物と不レ可レ云、五行を不レ知學家の説皆此類也、それ草木金土は五行の列なれば、地中より生ずと云へども、深理、深義あり、有道の君子は付て師説を可レ受、獨見獨解は惑に入ることあるべし、

[Paragraph] 4 — About the Nature of the Myriad Things

Thus, if the myriad things are, as [said] above, things [made] by the combination of the four elements, [they are] not unlike the four elements, all possessing two natures. Besides the four possibilities of generation, hot and dry, warm and damp, cold and damp, and dry and cold, there isn't any other. Beginning with the constituent elements of medicines, the natures of the bloody phlegm[702] and of the bile[703] of the human body, the *vigour* of spring, summer, autumn and winter, all of them have the natures of the above [mentioned] four possibilities. But it can be said that the four elements, all and each one of the four elements, possess two natures, one nature being very strong and the other nature very weak. It can be said that what is possessed by the combination of the four elements, similarly to what happens with the four elements [themselves, is that] all of them have two natures. It is not the case that each thing has one nature that is very strong and another that is very weak, as there are degrees in strength and weakness. For example [if we consider] a piece of ice, [a piece of] sandalwood[704], and all species of pearls, though all can be said to have the natures of cold and dry, both of the two natures of a piece of ice are very strong, both of the two natures of sandalwood are intermediate, [and] both of the two natures of pearls are very weak. Again, though it can be said that each and all of them possess two natures, depending on the kind [of the thing] there is no difference of strength or weakness between the two natures but equality of rank, [and also] depending on the kind there is strength and weakness in the two natures. For instance, though it can be said that sandalwood possesses the two natures of cold and dry, there is no difference on the strength and weakness of the two natures, [but] both the two natures are of the same

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[702] *Kettan* 血痰: bloody phlegm (cf. Nelson).

[703] *Kimizu* (also *ōzui*) 黄水: bile, gall (「胃から吐きもどす。黄緑色の胆汁。おうすい」, Nikkoku; cf. Nelson).

[704] *Byakudan* 白檀: sandalwood ("Biacudan. *Pao de sandalo*.", Vocabvlario, fl. 22;「(sandalwood)ビャクダン科の半寄生常緑高木。インドネシア原産で近縁種ともに香料植物として栽培。高さ 6 メートル余。葉は対生し黄緑色。雌雄異株。花は初め淡黄色、のち赤色。芯材は帯黄白色で香気が強い。古くから日本へも渡来、薫物(たきもの)とし、また、仏像・器具などを作る。皮も香料・薬料に洪する。「栴檀(せんだん)は双葉より芳し」の栴檀は、この白檀のこと」, Kojien, "sandalwood, almug wood", Nelson).

rank. Though it can be said that frankincense[705] possesses the two natures of hot and dry, its hotness is strong, and its dryness is weak. It is the same with the rest.

Commentary. The above explanations by the Southern Barbarian scholar are like this. Though what [I will] explain now is not enough, I will summarize the explanation. He says that if the myriad things are things [made] by the combination of the four elements their natures {also} should not differ from [that of] the four elements. Bringing up the four kinds of [things like] pieces of ice, sandalwood, pearls, and frankincense, [he] demonstrates their natures. Is it to demonstrate that these four kinds fully possess those natures? If [this] is now discussed in detail, these four kinds are also produced from the combination of the four elements. Therefore they possess the natures of the four elements, and should possess coldness, hotness, dampness and dryness. Hence when [he] says that three kinds of [things like a] pieces of ice, sandalwood and pearls have the natures of cold and dry, [the question arises:] Are they only receiving an amount of the natures of the element soil, and not receiving the natures of the remaining[706] three elements? Or, is the cold nature received from the element water, and dry nature received from the element fire? What is this that [they] do not receive the natures of the remaining two elements? Again, [as for] the two natures of hot and dry of frankincense, do they receive an amount of natures from element fire? Or, is the hot nature received from the element fire, and the dry nature received from the element earth? Otherwise, if it is as [said] above, it cannot be said that things are the combination of the four elements. The theories of scholars who do not know about the *five phases* are all of this category. That grass and trees, metal and soil can be examples of the *five phases*, that it can be said that [they] are originated from inside the earth, it is a deep *principle* with deep meaning. The sovereign who follows the right path receives the opinion of his

[705] *Nyūkō* 乳香: frankincense (「①(frankincense イギリス・lubān アラビア) 古くから西方地域で利用された香(こう)。聖書によれば没薬(もつやく)と共に東方三博士がイエスの誕生に捧げている。神性の象徴。カンラン科の植物の樹脂で、白色または黄色透明。②①をとる植物カンラン科の落葉高木。葉は羽状復葉。中近東・東北アフリカに分布。乳香樹」, Kojien; "frankincense", Shinwaei).

[706] *Amari* 餘: remaining ("Amari. *Sobejo*. ¶ *Item, Adu. Muito sobejamente. Vsase no principio da oração, & no fim conforme a diuersas significações. Vt*, Amari samuy. *Faz muito frio*. ¶ Amari ficui. *He muito baixo destatura*. ¶ *Item, Passante, ou mais. Vt*, Sannen amari. *Passante de tres annos, ou mais de tres annos*. ¶ Yorocobino amarini. *Polla muita alegria, ou contentamento, &c*. ¶ Mini amari catajiqenai. *Agradeço muito em estremo*", Vocabvlario, fl. 8). Similar usage in Salvator Mvndi (1598):「十六、公事役をさせ物を出さする時主人の下知よりも猶多くさせ其余をばわたくしの徳となしたりや」, fl. 14v-15.

teacher[707], the one who thinks alone[708] and interprets alone should enter [the way of] perplexity.

[707] *Shisetsu* 師説: the opinion or views of the teacher (「師の意見。師の学説」, Kojien).

[708] *Dokken* 独見: personal view or opinion (「自分一人の見解。自分独特の見識」, Kojien, 「自分一人の見解。自分独自の見識」, Nikkoku). This word can be found in *Honchō Monzui* 『本朝文粋』, book 2, 67 『意見十二箇条』, *op. cit.*, p. 153: 「括二五刑之軽重一。決二之独見の讞書一。」. It can also be found in *Taiheiki*, Book 22, 巻第二十二 義助被レ参二芳野一事并隆資卿物語事, "Should not have a personal view different from the multitude" 「勿下以二獨見一而違上レ衆」, in "Taiheiki" 「太平記二」, Vol. 2, edited and annoted by Gotō Tanji 後藤丹治 and Kamada Kisaburō 釜田喜三郎, *Nihon Koten Bungaku* 『日本古典文學体系』, vol. 35, Tokyo, Iwanami Shoten 岩波書店, 1961, p. 374.

第五　春夏秋冬氣之事

一、　夫春夏秋冬の根元を、下に至て論ずべけれども、四季共に寒熱濕燥の相生なれば、地水風火の性に似たり、故に爰に今其理を云に、春の氣は風大の性に似たり、是日輪春分より北方に移て、陽性清爽なる故に、北方の爲に春の氣を生ず、春の氣は風大の如く温濕の氣也、故に千草萬木此氣を受て萌出る也、生類の爲には血氣さかんなる節也、血は温濕の氣を含めば也、夏の氣は甚しき故に、火大の如く熱燥の氣也、故に菓實熟せしめ、生類の爲には黄水さかんなる節也、是熱燥の氣を含むもの也、秋の氣は地大の如く燥寒の氣也、是大過なる温氣を以て燥の氣を殘し、日輪秋分より南へ移りて遠く成を以て、北方の寒氣を始むる故に、草木に濕なくして紅葉し、終に落葉して果實をもち、人身に凝血生る節也、凝血の性は燥寒にして氣を生ずるもの也、冬の氣は水大の如く寒濕の氣也、（イ是日輪之陽氣清爽ならざる故に寒温之氣也アリ）故に草木こゞへて枝葉を生ぜず、痰盛成節也、是痰は寒濕の性なればなり、春夏秋冬の四氣は如レ是なりと雖ども、各三ヶ月の間は其氣一様にあらず、何れも初中後の淺深の異別あり、此理を云に、日輪西より東に逆旋せしむるに、南北に（イへ）よりのくに隨て陽氣微甚あり、其故は日輪のく時は、運行かたむく故に陽氣斜也、故によわし、日輪よるときは運行かたむかざる故に陽氣不レ斜、故につよし、陽氣斜なる程よわし、不レ斜程つよし、其故に陽氣不レ斜ときは、物にあたりて圜當す故に煖氣重りてつよし、夏の日の熱性朝暮はよわくして、日中に甚きは、此れの謂也、是は朝暮は日輪の陽氣斜なる故に圜當せず、故に煖氣よわし、日中は陽氣不レ斜、土大に當て圜當する故に煖氣甚し、又曰、日輪に近き高山は冷やかにして、日輪に遠き溪谷はあたゝかなるが如し、然るに春の氣は温濕の氣也と雖ども、春三ヶ月の初月は、温氣よわくして濕氣はつよし、其故は其節日輪の運行猶南方に傾く故に、陽氣斜にして性燥かならず、故に温氣よわし、過たる冬の濕氣は猶殘る故に、春の初月の濕氣はつよし、後の一ヶ月は、濕氣はよわくして温氣はつよし、其故は其節日輪北方に移りて、陽氣不レ斜して性燥也、故に温氣つよし、來る夏の燥氣初る故に、春の末の濕氣はよわし、中の一ヶ月は温濕二氣何れも其加減よし、夏の氣は熱燥也と雖

ども、夏三ヶ月の初月は、燥氣よわくして温氣はつよし、其故は過たる春の濕氣既に殘るが故に、夏の初月の燥氣よわし、日輪の運行傾かざる故に深甚也、故に温氣つよし、後の一ヶ月は温氣よわくして燥はつよし、其故は其節日輪の運行、北方より南方に向て少し傾く故に、陽氣少減ずる故に温氣よわし、燥氣は來る秋の燥氣と同氣なる故につよし、秋の氣は燥寒の氣也と雖ども、秋三ヶ月初月は寒よわくして燥氣つよし、其故は過たる夏の温氣相殘る故に、秋の寒氣よわく、燥氣は前月の燥氣と同氣なる故につよし、後の一ヶ月は、寒氣つよくして燥氣は弱し、其故は其節日輪南へ向て運行傾く故に、陽氣斜にして厓弱也、故に寒氣つよし、冬の氣は寒濕の氣也と雖ども、冬三ヶ月の初月は濕氣弱わし、其節日輪の運行あながちに傾く故に、太陽斜にして微弱也、故に寒強し、後の一ヶ月は、寒氣弱くして濕氣つよし、其故は其節は日輪北方へ向て逆旋する故に、陽強ちに不レ斜して、次第に性燥也、故に寒よわし、濕は來春の濕氣と同氣なる故に強きもの也、

辨説、右南蠻學士の説如レ是、其辨論は詳也と云へども、五行の節にくらき故に、四大を以て四時に配す、夫四時之分配は、風木は春を主とり、熱火は夏を主り、燥金は秋を主り、寒水は冬を主り、濕土は土用を主るもの也、蠻學の徒は此義を不レ知、四大を以て四時に配す、故に秋をば土の主ると云り、金行を不レ知、土用を不レ知故也、又十干十二支を不レ知故に、八専の節なし、五行を四時土用に配し、六十甲子の内に八専の有る事は、天地陰陽自然の道成故に、其節氣々々の日頃には、必ず天地の間雨風の変あり、病人の痛痒氣惱も增劇し、水底の魚鱗も潛伏す、南蠻學士も此理を不レ知、土用八専の節には、天地の間の変に驚く、是他に非ず、陰陽五行の理を不レ知故也、但四時の分配は大きなる誤に非ず、三同一異也、學者猶詳にすべし、

[Paragraph] 5 — About the *Vigour* of the Four Seasons

The root of spring, summer, autumn and winter is thoroughly argued about below. If the four seasons arise from the generation of cold, hot, damp and dry, then [they] have natures similar to earth, water, air and fire. Let us now state the reasons for that here[709]. The *vigour* of spring is similar to the natures of element air. This [is because] from the spring equinox on the Sun moves northward, and therefore the solar nature[710] becomes crisp[711]. As result of [the Sun] being towards the north the *vigour* of spring is originated. The *vigour* of spring, like the *vigour* of element air, is warm and damp. Consequently one thousand grasses and ten thousand trees receive this *vigour* and [their] sprouts come out. In what concerns animals[712], this is the season when the *vigour* of blood is lively. In blood is included the *vigour* of warmness and dampness. Because the *vigour* of summer is extreme, it is like [that] of element fire. Therefore fruits[713] ripen and, in what concerns animals, this is the season when gall is most abundant. This includes the *vigour* of hotness and dryness. The *vigour* of autumn, like the element earth, is the *vigour* of dryness and coldness. This, with the enormous[714]

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[709] *Koko* 爰: here ("here", Nelson).

[710] *Yōsei* 陽性: solar nature, positive, *yáng* (「①物事の本質、現象を陰陽に分けた時に、陽に属するもの。また、その特性、働き。天候上では、万物の生き生きとする陽春の気をいう。②性質が明るいこと。陽気で活発な性質。また、うちにこもらないで開放的なさま。」, Nikkoku; 「①積極的な性質。陽気な性質。②検査などに対して反応を示すこと」, Kojien).

[711] *Seisō* 清爽: crisp, fresh (「清くさわやかなこと。さっぱりしていること。また、そのさま」, Nikkoku; 「きょくさわやかなこと。さっぱりしていること」, Kojien).

[712] *Shōrui* 生類: animals (sometimes excluding Men), living beings, living things, sentient beings ("Xŏrui. Iqeru taguy. *Viuentes que sentem como animaes*", Vocabvlario, fl. 312; 「①生命のあるもの。いきもの。生物。せいるい。②連俳の分類用語。人倫に対して動物(うごきもの)をいう」, Nikkoku; 「生あるもの。いきもの。動物」, Kojien).

[713] *Kajitsu* 果実: fruits (「①種子植物の花が受精し、その子房および付随した部分の発育・成熟したもの。中に種子を含む。乾果・液果の 2 種に大別。②特に、液果の中の食用となるものの称。くだもの。水菓子。」, Kojien; with the same pronunciation there is also the word *kajitsu* 花実 for which the Vocabvlario, fl. 204, gives the following definition: "Quajit. Fana, mi. Flor, & fruito. ¶*Item, Sômente fruita daruore*").

[714] *Taika* 大過: enormous, exceedingly large ("Taiqua. Vóqini suguru. *Excesso, ou sobejo. Vt*, Taiqua suguirù. *Dous extremos de excesso, & falta ou mingua*", Vocabvlario; 「(「太過」とも)程度がはなはだしいこと。大き過ぎたり多過ぎたりすること。またそのさま。②ひどい間違い。大きな誤り。大変な過失。③易の六十四卦の一つ。䷛上卦は兌(沢)、下卦は巽(風)。沢風大過ともいう。四陽が中に集まり、二陰が

vigour of warmness, leaves the *vigour* of dryness, because from the equinox of autumn the Sun moves to the south and becomes distant. Consequently, in the northern [regions] the *vigour* of cold begins, and without dampness grasses and trees have their leaves turned red, and in the end, leaves fall and fruits ripen. Concerning the human body this is the season when blood clots[715] appear. The natures of blood clots originate in the *vigour* of dryness and coldness. The *vigour* of winter, like the element water, is the *vigour* of coldness and dampness[716]. Therefore grass and trees benumbed with cold[717] do not grow branches or leaves. This is the season of abundant phlegm[718]. This phlegm has the nature of coldness and dampness. Though the four [types of] *vigour* of spring, summer, autumn and winter are like this, during each period of three months that *vigour* does not remain constant. There is difference in shallowness and deepness of all [season's] beginning, middle and end. To state the principle of this, as the Sun makes an inverse rotation from west to east, according to whether it moves[719] more to the south or

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外にあるので、陽が盛大に過ぎるさま。」, Nikkoku;「①大きな過失。大変なあやまち。②すぐれて大きいこと。度をこえて大きいこと」, Kojien; "a serious [flagrant, glaring] error; a gross [serious] mistake; a grave [grievous] fault; a blunder", Kenkyusha). This word was used by the japanese translators of *Guía de pecadores*, a work of Frei Luis de Granada (1504-1588) first published at Lisbon in 1556-7, in the paraphrase of Luke 21, 34 that appears in Vol. 2, Ch. 12:「人として妄りに飲食を貪る事、科也。此悪を退けん為に、御主我等に教へ給ひて宣く、見よ、飲食と世界の営みの太過をもて、汝が心を重くせざれと。如此、拙き貪食、汝が心を引にをひては、左に顕はすべき事をもて防げ。」, *Gvia do pecador* きやとへかとる, In Collegio Iaponico Societatis Iesv, Cum falcultate Ordinarij, & Superiorum, Anno 1599, fl.49.

[715] *Gyōketsu* 凝血: blood clots (「体外に出た血液が空気に触れてかたまること。また、その血」, Nikkoku;「血液が凝固すること。また、その凝固した血液」, Kojien; "blood clot", Nelson).

[716] Manuscript (i), or [A5], has at this point the following sentence: "Because the *solar vigour* of the Sun does not become crisp, it becomes the *vigour* of coldness and warmness". The clause "the *vigour* of coldness and hotness" is probably a slip of the brush of the editor of *Bunmei* as manuscript [A5] it is written 寒濕. Also, both manuscripts [A2] and [A4] include this sentence and instead of *coldness and warmness* 寒温 they have *coldness and dampness* 寒濕, and thus read as follows "Because the *solar vigour* of the Sun does not become crisp, it becomes the *vigour* of coldness and dampness".

[717] *Kogoeru* 凍える: be numb with cold, be chilled ("Cogoye, uru, eta. *Enregelarse com frio. Vt.* Axi, te cogoyeta. *Estarem os pès, & mãos enregeladas com frio*." Vocabvlario, fl. 55v;「寒さのために身体の感覚を失う。」, Kojien).

[718] *Tan* 痰: phlegm ("Tan. *Freima*. ¶ Tanga zzuru. *Sairem freimas polla boca*." Vocabvlario, fl. 239;「気管から吐き出される粘液性物質」, Kojien; "sputum, phlegm", Nelson).

[719] *Noku*: move, step (「㊀【仰く】上を向くようにする。あおむけにする。㊁上を向く。あおむけになる。」, Kojien; "step aside; get out of the way; make way (for); leave; quit", Shinwaei; "退く 1[わきによける] move off; step aside; get out of the way. 2[立ち去る] leave; go away; quit (a place)", Kenkyusha).

to the north, the *solar vigour* is slight or extreme. The reason for this is that when the Sun moves, because the [*solar*] revolution is inclined the *solar vigour* becomes aslant, and therefore is weak. When the Sun approaches, because its revolution does not have inclination the *solar vigour* is not slanted, and therefore is strong. To the degree that the *solar vigour* is aslant it is weak, and to the degree it is not aslant it is strong. The reason is that when the *solar vigour* is not slanted, it fully shines on the things and therefore the warm *vigour* builds up and becomes strong. It is for this reason that the hot nature of the Sun in a summer day is weak [both] in the morning and at the end of the day. [On the other hand] it is extreme at the middle of the day[720]. In the morning and in the evening, because the *solar vigour* becomes slanted it does not fully shine on, and therefore the warm *vigour* is weak. In the middle of the day the *solar vigour* is not slanted, and because it fully shines on the element soil, the hot *vigour* is extreme. That is the reason why the high mountains being near the Sun yet are cold, and why the valleys[721] being far from the Sun yet are warm. However, though it can be said that the *vigour* of spring is warm and damp, in the first month of the three months of spring, the warm *vigour* is weak and the damp *vigour* is strong. The reason is that during that season the revolution of the Sun is still inclined to the south, and the *solar vigour* being slanted it does not become dry. Therefore as the warm *vigour* is weak and because the damp *vigour* of the past winter still remains, the damp *vigour* of the first month of spring is strong. [During] the last month, the damp *vigour* becomes weak and the warm *vigour* becomes strong. The reason is that during that season the Sun moves to the north, and thus the *solar vigour* being not slanted it does becomes dry. Because the warm *vigour* becomes strong, the dry *vigour* of the incoming summer begins, and at the end of spring the damp *vigour* weakens. In the middle month the two *vigours* of warmness and dampness respectively increase and decrease. Though it can be said that the *vigour* of summer is hot and dry, in the first month of the three months of summer, the dry *vigour* is weak and the warm *vigour* is strong, the reason being that because the damp *vigour* of the passing spring still remains, in the first month of summer the dry *vigour* is weak. Because the revolution of the Sun is not inclined [its *vigour*] is deep in extreme, and therefore the

[720] *Nichū* 日中: middle of the day, high noon (「①日のある間。ひるま。白昼。②六時の一。真昼。正午」, Kojien). From *nichū* derives *nichū no suji* 日中の筋, meaning "the line of mid-day" or "meridian."

[721] *Keikoku* 渓谷: valeys ("Queicocu. Tani, tani. *Valles*. S.", Vocabvlario, fl. 189v.; "valley, ravine, caynon", Nelson).

vigour of warmness is strong. In the last one month [of summer] the *vigour* of warmness is weak and [that of] dryness is strong. The reason is that the revolution of the Sun in that season, because it turns from northwards to southwards it becomes somewhat inclined. Because the *solar vigour* is somewhat diminished the warm *vigour* is weak and the dry *vigour* is the same as the dry *vigour* of the incoming autumn and therefore is strong. Though it can be said that the *vigour* of autumn is the *vigour* of dry and cold, in the first month of autumn's three months, coldness is weak and the *vigour* of dryness is strong. The reason is that because the warm *vigour* of the past summer still remains[722], the cold *vigour* of autumn is weak. The dry *vigour* is the same as the dry *vigour* of the preceding month and therefore is strong. In the last month [of autumn] the *vigour* of coldness is strong and [that of] dryness is weak. The reason is that in that season the revolution of the Sun turns southwards and therefore becomes inclined. The *solar vigour* with its slant is exceedingly weak, and therefore the *vigour* of coldness is strong. Though it can be said that the *vigour* of winter is the *vigour* of coldness and dampness, in the first month of winter's three months the *vigour* of dampness is weak. Because in that season the revolution of the Sun is forcibly[723] inclined, the Sun with its slant is very weak, and therefore coldness is strong. In the last month [of winter], the *vigour* of coldness is weak and the *vigour* of dampness is strong. The reason is that because in that season the inverse rotation of the Sun turns north, the *solar* [*vigour*] forcibly becomes not slanted, gradually its nature becomes dry, and therefore coldness weakens. As for dampness, it is the same as the damp *vigour* of the coming spring and therefore it is a strong thing.

Commentary. The above explanations by the Southern Barbarian scholar are like this. Though it can be said that that exposition is detailed, because it is dark in

[722] *Ainokoru* 相残: remain after something has reached some point. ("Ainocori, u, otta. *Vide* Nocori, u", Vocabvlario, fl. 6; "Nocori, u, otta. *Ficar, ou sobejar, &c*. ¶ Naga nocoru. *Ficar o nome, ou fama*", Vocabvlario, fl. 185). This word is used in a similar sense in *Salvator Mundi* (1598):「第五相残る七ケ条のまだめんとの事」, fl. 12v.

[723] *Anagachi* 強ち: by force ("Anagachi, l, anagachini. i. Xiqirini. Por força, ou em todo caso, ou importunamente. ¶ *Intensamente*. ¶ Anagachini sono cotouo itasõto zonjenedomo. *Posto que não quero por força, ou intensamente fazer isso*.", Vocabvlario, fl. 9;「①あまりに強引であるさま。身勝手であるさま。②しいて。必用以上に。異常なまでに。③(下に打消の語を伴って)必ずしも。一概に。まんざら。」, Kojien).

the point[724] that concerns the *five phases*, it allots the four elements amongst the four seasons[725]. The distribution of the four seasons is that air and wood lord over[726] spring, hotness and fire lord over summer, dryness and metal lord over autumn, coldness and water lord over winter as their master, and dampness and soil lord over midsummer[727]. The disciples of barbarian learning not knowing the meaning of this allot the four elements amongst the four seasons. Therefore, not knowing the phase of metal, and not knowing about [the season called] Midsummer they say that autumn has soil for master. Again, because they do not know about either the decahedral or the duodenary cycles, neither do they [know] about their eight confluence[728] days. The *five phases* are distributed between the four seasons

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[724] *Setsu* 節: point (「④物事のくぎり目。また、くぎられた部分。㋐歌曲のふし。㋑詩歌・文章・楽曲などの一くぎり。㋒文法で、一組の主語と述語から成るまとまり。」, Kojien, "point (in a talk)", Nelson).

[725] *Shiji* 四時: four seasons (「①春・夏・秋・冬、すなわち 1 年中の四つの時。四季。しいじ。②晦・朔・弦・望、すなわち一ヵ月中の四つの時。③(仏)旦(朝)・昼・暮・夜、すなわち 1 日中の四つの時」, Kojien). It is also used to indicate the the four divisions of a lunar month: *misoka* 晦, *tsuitachi* 朔, *tsuru* 弦, and *mochizuki* 望; see Paragraph 26 of Book Four.

[726] *Tsukasadoru* 主る: lord over, rule, govern; administer, manage ("Tçucasadori, ru, otta. *Dominar, ou senhorear, ou gouernar. Vt*, Cuniuo tçucasadoru. *Ser senhor dalgum reino, ou gouernalo.* ¶ *Item, permet. Ser principal, ou preualecer como nos humores que causão doença no corpo, ou nas mezinhas, &c.*", Vocabvlario, fl. 245). Also, *Shū* 主: master ("Xǔ. Aruji. *Senhor. Vt*, Fitouo xǔto tanomu. *Fazerse criado dalguem.*", Vocabvlario, fl. 313; "lord, master, employer; aim; main thing", Nelson).

[727] *Doyō* 土用: Midsummer; originally the eighteen days before the two equinoxes and the two solstices in the traditional japanese calendar, but usually used to refer the eighteen day period before the autumn equinox; the "fifth" season in the Japanese calendar. ("Doyô. *Certa conjunção de tempo que ha na despedida dos quarto tempos do anno em Iapão.*", Vocabvlario, fl. 74;「暦法で、立夏の前 18 日を春の土用、立秋の前 18 日を夏の土用、立冬の前 18 日を秋の土用、立春の前 18 日を冬の土用といい、その初めの日を土用といい、その初めの日を土用の入りという。普通には夏の土用を指していう。」, Kojien; "dog days, midsummer", Nelson).

[728] *Hassen* 八専: the eight confluence days between the decathedral and duodenary cycles: in each hexadecimal cycle, composed by six decathedral rounds together with five duodenary rounds, and given four exceptions (癸丑, 丙辰, 戊午, 壬戌), there are eight periods (days) when the *phase* (wood, fire, soil, metal, water) associated with the decathedral period is the same as the *phase* associated with the duodenary period ("Faxxen. *Vt*, Doyǒ faxxen. *Certas conjunções, ou constellações de tempos q concorre[m] por vezes no anno, as quais os Iapões obseruão pera fazer algu[m]a cousa, ou deixar de a fazer*", Vocabvlario, fl. 84;「暦で、干支(えと)の十干と十二支の五行が合う日。壬子(みずのえね)の日から癸亥(みずのとい)の日までの 12 日間の内、丑・辰・午・戌を間日(まひ)と称して除いた残りの 8 日をいい、1 年 6 回ある。降雨が多いという。法事、婚礼などの厄日。」, Kojien;「壬子(みずのえね)の日から癸亥(みずのとい)の日までの一二日間のうち丑(うし)・辰(たつ)・午(うま)・戌(いぬ)の四日を間日(まび)として除いた残りの八日をいう。この八日は壬子(水水)・甲寅(木木)・乙卯(木木・丁巳(火火)・己未(土土)・庚申(金金)・辛酉(金金)・癸亥(水水)で、上の十干と下の十二支の五行が合う。一年に

and Midsummer. There being eight confluence days in the sixty days of the hexadecimal cycle[729] is because Heaven and Earth, and the *telluric* and *solar* [*vigours*] are the way of nature. Ceaselessly[730] with each fortnight[731] there is a change in rain and wind in the space between Heaven and Earth, there are dramatic increases in pain and itching[732], in *vigour* and anguish in sick people. As fishes[733] in deep waters lay dormant, so Southern Barbarian scholars do not know this principle, that in the day of confluence between the decahedral and duodenary cycles in Midsummer the disturbance in the space between Heaven and Earth is astonishing. And besides this there are no other [reasons]. Thus they do not know about the *principle* of the *telluric* and *solar* [theory and] of the *five phases*. However, as in the distribution of the four seasons [presented] there is no great mistake, being three similarities and one difference. Scholars should know this in detail.

六回あり、この期間は雨が多いといわれる。また、嫁取り、造作、売買などを忌む。八専日。専日。), Nikkoku」. Awarness of the eight confluence days in medieval Japan is mirrowed in in the diaries of the period. *Hassen* is used, for example, in *Denreki* in its entry for Tennin 天仁 1.1.10 (February 23, 1108),「十日、辛酉、天陰、牛剋許雨甚降、余参院、數剋後退出、余攝政之後今日始参御堂、精進、八専也、尤可憚也、雖然大殿攝政始、雖八専令参給、仍付彼例所参也、」, "Denreki"「殿暦」, vol. 2 二 自長治元年七月至天仁元年十二月, ed. by Tokyo Daigaku Hensansho 東京大學史料編纂所, *Dai-Nippon Kokiroku*『大日本古記録』, Tokyo, Iwanami Shoten 岩波書店, 1963.

[729] *Kinoene* 甲子: the first period (day, year) in the hexadecimal cycle (「干支(えと)の第 1 番目で、十干の「きのえ」と十二支の「ね」とに当る年、または日。かっし。」, Kojien). "Sixty *kinoene*": the sixty days of one hexadecimal cycle.

[730] *Higoro* 日頃: ceaseless (「①かなりに日数。幾日も。②今日まで何日もの間。③平生。ふだん。いつも。」, Kojien; ,"usually; always; for a long time", Shinwaei).

[731] *Sekki* 節気: fortnight ("Xecqi. Toxino suye. *Fim do anno*.", Vocabvlario, fl. 293,「二十四節気に同じ。」, Kojien; *Nijūki sekki* 二十四節気:「太陽年を太陽の黄経に従って 24 等分して、季節を示すのに用いる語。中国伝来の語で、その等分点を立春・雨水などと名づける。二十四節。二十四気。節気。」, Kojien).

[732] *Tsūyō* 痛痒: pain and itching (「いたみとかゆみ」, Kojien; "interest, concern; pain and tickling", Nelson).

[733] *Gyorin* 魚鱗: fish (「①魚のうろこ。②うお。さかな。」, Kojien).

第六 四大所在之事

一、　右に地水風火の性同く、互に連る次第を論ぜし也、今四大のいわれを云ひ（イに）、總て萬物は其輕重に隨て、自ら輕きは上に、重きは下に至りて有物也、故に己々の所在に離れたる時は、其所在に至らんとて己と動ずる物也、譬へば金石の類は、風中へ投ても重き故に、自己の所在へ至らんとて、自ら下を望んで下るもの也、爰を以て地水風火の自己の所在を見るに、地大は至下に在り、地大の上に水大あり、水大の上に風大あり、風大の上に火大有もの也、其故は火大は其體長少にして、地水風の三大よりも輕浮なるが故に、世界の最上、風大の上に有もの也、もゆる火を見るに、其焔細く成て、風中の上を望で升ること此謂也、論曰、火大の所在を風大の上とせば、此地より見ゆべきに、不レ見事は何ぞや、火大の内には餘の三大少もまじらざる故に、火大の體長少にして至て清發也、故に此地より其光明を見ることなし、地大は物を假て其體顯ずもの也、是其氣濁れば也、難じて曰、風中より雷火の隕することあり、然れば火大の自己の所在は、風大の上に不レ可レ有、日輪の陽性と星の牛羊（イ吸揚）とを以て、地水の二大より上騰する清濕氣あり、此清濕氣は熱燥にして浮輕成る故に、中部の風大迄上騰す、中部の風大に嚴寒凜冽なるが故、中部の寒氣と清濕の煖氣と尅して、彼煖氣寒氣に逼迫せられて、彌極熱して己に炎上せられて、性熱の化を現す、雷火即ち是也、然るに彼雷火輕浮飛揚の體なるが故に、風大の上に上騰せんと欲すれども、彼熱燥の氣中部の寒氣に抑抱せられて、地上直下するもの也、故に雷火自ら下へ下るに非ず、寒氣に抑抱せらるゝ故也、風大は火大よりも重くして、地水の二大よりも輕浮なる故に、火大の下、地水の二大より上を所在とする者也、是目前に見へたりと雖ども、猶證據を云に、土大の穴より風大吹沖して、地大に伏藏することあり、然れども風大の所在は、地大の上なるが故に、風氣土中を出んとす、此時土中より可レ出道なき時は、強て上騰せんと欲するに、其出來する勢力にて、地大震動するもの也、地震即是地、風大如レ是地大を動す事、己が所在を上升せんが爲也、又曰、水中に或は土石を投入し、或は管を以て吹入て見るに、水面に沫泡の乍ちに生ず、是土石水中にして、すき間より風大是と共に入が故也、然と

雖も風大の所在は、水大の上なるが故に、風大水中を通りて、自己の所在に上らんとす、其時水に風を含み、沫泡水面に生ずと雖ども、終に沫泡やぶれて、風大は地水の上に上るもの也、難じて曰、地水の二大よりも風大は輕浮にして、地水の上を所在とせば、いかなる子細有て、土大の穴々より風大吹沖して、土中へ下ることありや、虗なる所と云は、四大を始として、其外一物も無所を云也、譬ば井を掘り土を取退け、跡に風大にてもあれ何にてもあれ、一物も無れば虗成處と云べし、如レ是虗成處は、天地の間に生得有ことなし、故に四大の内何れも、或はわれ或は所を去る時には、其所をふさぎ虗ならしめまじきとて、近きものは所在を離れ、われとより輕き物は上より下へ下り、重き物は下より上へ上ること常の例也、凡そ此時よる物は風大也、是風大は遊（イ融）通無碍の體なれば也、然るにより風大の所在、地水の上也と雖、土中の洞水（イ木）のわれめを虗ならせまじきとて、上の所在をはなし(イれ)、土大の空々より吹沖して、土中へ下るもの也、水中へ土石と共に風大も水中へ入事此云也、是を本として、輕き物は下へ下り、重き物は上へ上る様に、工出したるからくり多し、唐船の船底より、上へあかのあがるからくりの本は是也、水大は風大よりも重く、土大よりは輕し、故に風大の下、地大の上に在るもの也、水氣雨となり風中より降下すること、風大よりも水大は重き故也、土は水の上に不レ浮、土の上に水の浮は、土大よりも水大は軽き故なり、地大は水風火の三大よりも、其體固密にして重が故に、世界の至下に止るもの也、水中へ土石入るゝに、己が所在へ至んとて、水中を通りて下るものなり、

辨説、右南蠻學士の説如レ此、其云、四大所在の説は牽強附會の工夫也、儒家の説には、五行は質を地に具て、氣は天に行と云々、故に地に木火土金水の五形あり、空中に温熱濕燥寒の五氣あり、五行相交合て地の體となり、五氣相交合て氤氳となる、水土の上へ天の下た、天地の兩間に有氣を氤氳の氣と云也、五行の精は氤氳の上にあり、其體は即天也、故に空中にも物生じ、水中にも物生じ、土中にも物生ず、今試に論レ之に、蠻學士水は土の上にあり、土は水の下にありと雖ども、土を水の上に浮べ見れば、實に水底に沈んで、水上に浮ぶこと不レ能、土の所在は水下也と云べきに似たり、又水を土の上に置てみれば、土をくゞりて土下に入り、地下之水と一所になりて動ず、是目前の境界也、是を以て見れば、土も水の

上にあること不レ能、水も土の上に在ること不レ能、水土は同居成事分明なり、或人難じて曰、高山の峯に池在て、池水たゝへり、是水は土上に有こと不レ能や、曰、水土本より相離れず、相交合て同居す、故に萬仞の高山と雖ども、土ある處は水も有、高山の土中に水有る故に、其水を便に池水たゝへたり、池水は土中の水の陷凹の所に顯れたるもの也、巧を以てする時は、水はかけ樋にて山の上にもあぐべし、土は船に載て海上に浮ぶ、皆眼前の境界也、又火大とは、人間日用の凡火を云に非ず、凡火は火大の化を受て、薪炭に付て用るもの也、火大とは萬物生成する性徳の有る根本の火と云也、儒醫兩家には是を相火と云、水土に和合して同居するもの也、故に冬は水土の中煖かにして、寒流の水に烟たち、硫黄の山に火出る、水中の魚鼈熱性有り、水中の龍火、石中隱火、眼前の境也、火も又水土同居の儀[734]、何の疑かあらんや、蠻學者の云るは、冬水土の中の煖氣は、夏に日輪の陽氣と火大の熱氣と下りて地上を熱せしめ、冬になれば、寒氣來る故に、地上の熱氣皆地中に入る故に、冬は水土の中煖也と云り、若如レ此ならば、開闢以來萬々歳、毎度地上の熱氣地下に入て、水土皆に゙わくべし、蠻學は苟も理氣陰陽を不レ知、故に凡鄙の工夫をなす、五行四大の所在も不レ知もの也、金水二行も水土火同居のもの也、生成の能作有るものなれば、其理至て深し、詳説に暇なし、智者の自工夫に及ぶべし、愚者は可レ難レ及、暫略レ之、

[734] Manuscript [A4] has 義.

[Paragraph] 6— Concerning the Place of the Four Elements

It was argued above that the natures of earth, water, air and fire are similarly related to each other. Now to expose the reasons[735] concerning [where] the four elements [are, it can be said that], in general, according to their lightness or heaviness, the myriad things move themselves up when they are light, or down when they are heavy. Therefore when any of them gets away from its own place, it moves itself until it reaches that place [again]. For example, things like metal and stones, because of their heavyness, even when thrown up into the air, aspiring by themselves to be lower, they [still] fall until they reach their proper place. With this it can be seen that concerning the proper place of earth, water, air, and fire, the element earth is lowest, above element earth is element water, above element water is element air, above element air is element fire. The reason for this is that the substance of element fire is slight. Because it is lighter than the three elements of earth, water and air it is in the highest place of the World, above element air. As can be seen from burning fire, its flame[736] is thin. Therefore, because it aspires to higher places in the middle [region] of air, [the flame] raises. It is argued that if the place of element fire is above element air, this should be seen from the Earth. So why is it, that it cannot be seen? Because in element fire there isn't the slightest mixure of the remaining three elements, the substance of element fire is slight to the point of being diaphanous. Therefore its light is not seen from this Earth. Element earth taking the appearance of [other] things does not show its substance.[737] This happens when its *vigour* is impure[738]. Against such, it is argued that in some instances the fire of thunder[739] falls[740] from the middle [region] of air, and therefore the

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[735] *Iware* 謂れ: reason, grounds, explanation ("Iuare. Razão, ou arrezoamento, ou causa.", Vocabvlario, fl. 136v.; 「(由来として)いわれていること。来歴。理由。」, Kojien; "〈理由〉a reason; a cause; 〈由緒〉a history; an origin", Shinwaei).

[736] *Honō* 焔: flame ("Fonouo. *Labareda de fogo*. ¶ Fonouoga tobichiru. *Saltar, & espalharse a labareda*. ¶ Fonouo moyeizzuru. *Sair ou acenderse algũa labareda*.", Vocabvlario, fl. 101v.; 「めらめらともえる火。ともしびの先端の特に明るい部分。」, Kanjigen).

[737] It would seem from context as well as from content that this sentence would better refer to *fire*. However, all manuscripts use *earth*.

[738] *Nigore* 濁れ: dirty, impure ("Nigori. *O estar a agoa turua, ou enlodada*.", Vocabvlario, fl. 182v.).

[739] *Raika* 雷火: (「①落雷のために起った火事。②いなびかり。」, Kojien).

proper place of element fire is not above element air. With the *solar* nature of the Sun and the *exalação*[741] by the stars, the *vigour* of pure dampness rises from the two elements earth and water. Because this *vigour* of pure dampness is warmed and dried it becomes light and fluctuates, rising to the middle region of element air. Because the middle region of element air is extremely cold and frigid[742], the cold *vigour* of the middle region and the hot *vigour* of the pure dampness do conquest. These warm *vigour* and cold *vigour* become strained[743] and finally the extreme hot inflamates itself. A change in the nature of heat is made manifest and the fire of thunder is precisely this. Nevertheless, because the substance of this fire of thunder is light it floats and rises[744]. Though it craves to rise above element air, the *vigour* of its heat and dryness being constrained[745] by the cold *vigour* of the middle region, it falls directly on the surface of

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[740] *In* 隕: fall from a high place (「高所からおちること」, Kojien; "fall", Nelson).

[741] *Gyūyō* 牛羊 or *kyūyō* 吸揚: *exalação* or exalation. The word in manuscript (i) is *kyūyō* 吸揚, which is not listed in any consulted dictionary. This word, is a compound of the caracters 吸 *kyū*, *su(u)*, meaning "inhale; imbibe, sip; suck" (Nelson) and 揚 *yō*, *a(geru)*, meaning "to raise" (「❶あげる。あがる。高く上にあげる。高く上にあがる。❷あげる。あがる。高く持ちあげて、明らかにする。堂々と世にあらわす」, Kanjigen), the literal meaning being thus "to raise by sucking up", or more simply "suction", the word we choose to employ here, as it seems the most appropriate to this passage from among the other possibilities. Manuscript [A4] uses the word *gyūyō* 牛羊 that can mean only "cows and sheep" (「牛と羊」, Nikkoku; "Guiũyõ. Vxi, fitçuji. *Boy, & ouelha*", Vocabvlario, fl. 119v.;「Guiũyõ ギュウヤウ (牛羊) Vxi, fitçuji (牛, 羊) 牛と羊と。」, Nippo), and is most probably a phonetic corruption of *kyūyō*. It furigana at its side, giving the phonetic reading of the word is エイザラサン, or *exalação*. Another possibility is that the caracters to form this word stand for the *suiageru* 吸上げる meaning "to suck" (「①水などを吸って、上方へあげる。下のものを吸い取って上にする。②他人の金銭・利益などを横取りする。搾取する」, Nikkoku; "Suiague, uru, eta. *Chupando, ou soruendo, aleuantar*. Vt, Cumoua mizzuuo suiaguete ameco nasu. *As nuues soruendo a agoa fazem na em chuua*.", Vocabvlario; fl. 239v., "1〈液体などを〉suck [pump, draw] up", Shinwaei).

[742] *Rinretsu* 凜冽: frigid (「寒気のきびしいさま」, Kojien).

[743] *Hippaku* 逼迫: strained ("Fippacu. Xeman, u i, Nangui. *Perigo, exaspero*. ¶ Fippacuni voyobu. *Encontrar com trabalhos, & apertos*.", Vocabvlario, fl. 92).

[744] *Hiyō* 飛揚: rise (「①とんで高く空中にあがること。飛翔。②高い地位にのぼること。」, Kojien).

[745] *Yokuhō* 抑抱: restrain and embrace, thus to constrain. No dictionary lists this word. As the meanings of its component characters are "restrain" (「❶おさえる。上から下へとおしつけて止める。また、あばれたり起きたりするものをおさえつける。❷そもそも。話をいったんおさえて、反対の見方を出して選ばせる感じをあらわすことば。それとも。❸そもそも。話をおさえて、別の見方を示して尋ねるときのことば。それでは。さて、ところで。」, Kanjigen; "stop, check, restrain, pin down; suppress, subdue, control; catch, arrest; govern; stop (the ears); withhold; attach, seize", Nelson) and "embrace" (「❶いだく。だきかかえる。両手で包むようにだく。❷いだく。心の中に考え・気持ちを持つ。❸ひとかかえにできるくらいの量。❹親の鶏

the earth. Consequently the fire of thunder does not go down by itself but because it is constrained by the cold *vigour*. Because element air is heavier than element fire, but lighter and floating than both elements earth and water, it is below element fire, but it has its place above the two elements earth and water. Though [all of] this is evident, let us present some proofs. When element air blows[746] from a crevice in element soil and rises high in the sky[747], it is because there are instances when it hides[748] in element earth. However, because the place of element air is above element earth the *vigour* of air tries to leave from inside the soil. At this time, when there is no way to get out from the inside of soil, it has the urge to rise strongly. When that power to leave arrives, element earth vibrates, earthquakes being precisely this. In this way element air moves element earth, due to [the fact that] it seeks to rise to its own place. It can be added that, if someone[749] throws soil or stone into water, or if someone blows through a pipe into [water], immediately[750] bubbles appear in the surface of water. This is because when soil or stone enter into the water, element air also enters with them through [their] spaces[751]. However it can be said that, as the place of element air is above element water, element air passes through the middle of water, and rises to its own place. At that time water contains air, and bubbles appear in the surface of the water. In the end the

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が卵をだく。❺だいじにして守る。」, Kanjigen; "hug, embrace, hold in the arms", Nelson) the translation *constrain* was choosen.

[746] *Fuku* 吹く: blow (「❶ふく。息をふく。また、楽器をふき鳴らす。❷ふく。風がふく。❸ふき鳴らす楽器。」, Kanjigen).

[747] *Chū suru* 冲する: rise high in the sky (「高くのぼる」, Kojien; "rise high in the sky", Nelson). *Chū* 冲: empty, void; futile, vain; flexible; run into, rise high; come to the end (「❶むなしくする。むなしい。心をむなしくする。また、中がむなしい。❷性格や態度がおだやかである。かたよらない。❸いとけない。からだがまだ柔らかい。幼い。❹すっとまっすぐに高くあがる。つきあたる。」, Kanjigen). *Chū suru* 冲する: rise high in the sky (「高くのぼる」, Kojien; "rise high in the sky", Nelson).

[748] *Fukuzō* 伏藏: hide, hidden (「①(ーする)ふし隠れること。表に現われないで潜み隠れる。②(「ぶくぞう」とも)仏語。地中にひめ隠された財宝の蔵」, Nikkoku).

[749] *Aruiwa* 或は: someone ("Aruiua. *Ou*.", Vocabvlario, fl. 12v; 「㊀ある人は、ある場合は」, Kojien).

[750] *Tachimachi* 乍ち: at once, immediately ("Tachimachi. *Aduer*. l, Socujini. *Logo, ou em continente, sem duuida*.", Vocabvlario, fl. 235; ❶たちまち。急に。さっと。」, Kanjigen; "【忽ち】1〈一瞬のうちに〉 in a moment [an instant, a flash]; instantly; 〈すぐに〉(all at once; immediately; on the spot; in short order; 2 〈急に〉suddenly; all of a sudden", Shinwaei).

[751] *Sukima* すき間: space ("Suqi. l, Suqima. *Greta ou fenda*." Vocabvlario, fl. 231v)

bubbles burst, and the element air ascends above earth and water. It is argued against this that, if element air is lighter and more floating than the two elements earth and water; and if its place is above earth and water, whatever the particulars[752] there might be; as element air blows from crevices in element soil and rises high in the sky, then there are instances when it goes down inside the soil, or isn't that so? What is refered to as a place consisting of void[753], is a place where, beginning with the four elements, there isn't anything. For example, as soil is taken away when digging a well, if afterwards nothing occupies that place, whether element air or any other thing, then this should be called a place consisting[754] of void. A place consisting of void like this does not exist inherently[755] in the space between Heaven and Earth. This is because when one of the four elements or when one of us leaves our place, as that place cannot[756] be closed[757] in order to consist of void, things nearby leave their place, things lighter than we descend from up to down, and heavy things ascend from down to up, this being something that happens always. This element air is as if of a substance of free flow. This being so, though the place of element air is above earth and water, if a crevice with a vein of water (wood) inside soil cannot be made void, [element air] leaves the places

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[752] *Shisai* 子細: particulars (「①詳細。委細。②事のくわしい事情。いわれ。③差支えとなる事柄かれこれと言いたてるほどの事情。」, Kojien; "1〈事情〉circumstances;〈詳細〉details; particulars;〈理由〉reasons; circumstances", Shinwaei).

[753] *Kyo* 虚: void ("Qio. *Falsidade, ou mentira. Vt*, Qiouo yǔ. *Dizer mentiras*. ¶ *Item, Estar como sem vigor, ou sustancia*.", Vocabvlario, fl. 197v.;「①むなしいこと。中身のないこと。うつろ。から。②備えのないこと。油断。すき。③邪念や私欲のないこと。④事実でないこと。そらごと。うそ。⑤二十八宿の一。とみてぼし。虚宿。」, Kojien). Aristotle in his *Physics*, Book 4, Chapter 7, discusses the possibility of void occurring in nature and concludes negatively. His conclusion set the view of natural philosophers for the following centuries until the work of Evangelista Torricelli (1608.10.15—1649.10.25). There were, of course, some philosophers such as Lucretius (*ca*. 95 B.C.—*ca*. 55) and al-Rāzī (*ca*. 854—*ca*. 925/935) who assumed that the universe was composed of atoms in an infinite void space. However these philosophers were largely ignored in medieval Europe and Islam. See Marshall Clagett, *Greek Science in Antiquity*, London, Abelard-Schuman Ltd., 1957, pp. 101-104; and Shlomo Pines, *Studies in Islamic Atomism, Jerusalem*, The Magnes Press, 1997, p. 48. Chūan will also state that void "does not exist inherently".

[754] *Naru* 成: consist ("4〈構成する〉consist of; be composed of; be made of", Shinwaei).

[755] *Shōtoku* 生得: inherent, innate, natural ("Xŏtocu. Vmaretçuqi. *Naturalmente*.", Vocabvlario, fl. 312v.;「うまれつき持っていること。うまれつき。天性。せいとく。」, Kojien).

[756] *Majiki* まじき (間敷 in manuscript [A4]): cannot, should not (「…べきでない。…はずがない」, Kogo).

[757] *Fusagi* 塞ぎ: closed (「①ふさぐこと。ふさぐのに用いるもの」, Kojien).

above and blows into[758] the empty [places] in element soil, and moves down inside soil. This is how element air enters into the water with soil or stone. On the basis of this, light things descend downwards, and heavy things ascend upwards. There are many ingenious[759] mechanisms, like the mechanism that bails water up from the bottom of Chinese ships, whose basis is this.[760] Element water is heavier than element air, lighter than element soil, therefore is below element air and above element earth. The *vigour* of water becomes rain and falls down from the middle of air, because element water is heavier than element air. Soil does not float above water, but water floats above soil because element water is lighter than element soil. Because its substance is hard and dense[761], element earth is more heavy than the three elements water, air and fire. Therefore it lies still in the lowest place of the World. When soil or stone enter inside water, until they reach their own place, they descend passing through water.

Commentary. The above explanations by the Southern Barbarian scholar are like this. What is said, the theory [concerning] the place of the four elements is a skillful drag of twisted meanings. The Confucian theory is that, in the *five phases* matter takes the form of Earth, and *vigour* originates in Heaven. Therefore in Earth there are the five shapes of wood, fire, soil, metal and water, and in the middle of Heaven[762] there are the five *vigours* of warmness, hotness, dampness, dryness and

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[758] *Yoru* 寄る: approach ("Yori, u, otta. *Chegarse*.", Vocabvlario, fl. 324;「❶①その方向ばかりに接近する。近づく。」).

[759] *Takumi* 工出 (*yomigana* in manuscript [A4]: タクミ): ingenious ("Tacumi. *Inuenção*." Vocabvlario, fl. 235v).

[760] This is the first instance of an East Asian example found in the exposition of Western natural philosophy of the *Kenkon Bensetsu*. This, and other examples that will follow, show that the *Kenkon Bensetsu* was no simple translation of a Western treatise, rather it was composed in Japan taking account of the knowledge and experience of its readers. This is not incompatible with its composition being based in one or more treatises of European provenance, most probably the one Rubino is said to have *presented* to Inoue.

[761] *Komitsu* 固密: hard and dense (「かたく密であること。しっかりしていること。また、そのさま。」, Kojien).

[762] *Kūchū* 空中: middle of Heaven. Heaven (*sora* 空) is the space that stretches from the Earth to the stars. The space between Earth and the stars, including the Moon, corresponding to air and fire in the European classical and medieval cosmology, was designated *kūchū,* middle Heaven, in Japanese. *Kūchū*:「大空の中。そら。なかぞら。」, Kojien. *Daiku* 大空:「(仏)大乗の究極的な空。涅槃のこと。また、十八空の一であり、種々の解釈がある。」, Kojien. *Sora* 空:「①地上に広がる空間。②空模様。③落ち着く所のない、不安定な状況。」, Kojien. *Nakazora* 中空:「①空の中ほど。中天。」, Kojien. *Chūten* 中天:「①天の中心。天心。なかぞら。中空。」, Kojien. *Tenshin* 天心:「①天のまんなか。中天。」, Kojien. *Nehan*:「梵語

coldness. The interaction of the *five phases* among themselves results in the substance of Earth. The association of the five *vigours* among themselves becomes *exalação*. Above water and soil and below Heaven, the *vigour* existing in the space between both Heaven and Earth is said to be the *vigour* of *exalação*. The vitality of the *five phases* is above *exalação*, its substance is Heaven. Therefore things are originated in the middle of Heaven, things are originated in the middle of water, and things are originated in the middle of soil. To put this to the test let's argue it now. Though the Barbarian scholar says that water is above soil, and soil is below water, if we put soil above water to see if it can fluctuate, in truth it sinks to the bottom of water, and it is not possible for it to fluctuate above water. It seems [thus] as it should be said that the place of soil is below the water. Again, if we try to put water above soil, it passes through soil and enters below the soil, moving to the place where underground water is. This is extremely evident. With this result it can be seen that, as it is not possible for soil to be above water, it is also not possible for water to be above soil. That water and soil are together in the same place[763] is something obvious. Some people argue that there are pounds in the peaks of high mountains, and the water of [those] pounds overflows[764]. This water cannot be above soil, which means that, originally water and soil do not depart from each other, but inter-mix in the same place. Thus, it can be said that in high mountains of ten thousand *jin*[765], where there is soil there is also water, and because in the soil of high mountains there is water, that water easily overflows into water ponds. It is clear that water ponds are sunken places where water from the middle of soil sinks into. When this is skillfuly used, water can be elevated to the top of mountains with water

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nirvāna の音訳。もと、吹き消す意。①滅度・寂滅などと訳す。煩悩ボンノウの火を吹き消し、一切の迷いから離れた悟りの境地解脱。↔輪廻リンネ。②聖者、特に釈迦の死をいう。入滅。入寂。」, Kōkanwa.

[763] *Dōkyo* 同居: to be together in the same place ("Dôqio. Vonajiqu iru. *Estar juntamente*.", Vocabvlario, fl. 73v.).

[764] *Tatae* 湛え: overflow ("Tataye, uru, eta. *Tresbordar. Vt*, Xiuoga tatayuru. *Estar a mare chea, ou ser preamar*. ¶ *Tambem rege Acusatiuo*. Vt, Mizzuuo tatayuru. *Encher de agoa atè tresbordar*. ¶ Vtçuuamononi saqeuo tatayuru. *Encher o vaso de vinho atè tresbordar*." Vocabvlario, fl. 242;「満潮」, Kojien;).

[765] *Jin* 仞: a measure of deep and height, it corresponded to seven *shaku* in ancient China (「{単位}深さや高さの単位。一仞は、周代の七尺(一尺は二二・五センチメートル)にあたる」, Kanjigen).

pipes[766]. Soil is loaded[767] into ships [and thus] fluctuates above the sea. All of this is extremely evident. Also in what concerns element fire, it is not the ordinary fire that people use for everyday life. Ordinary fire, taking the appearance of element fire, is used to ignite firewood and charcoal. Element fire is said to be the fire at the foundation that has the virtue of producing the myriad things. The two schools of Confucianism and Medical Learning name this *mutual fire*, which is combined with and is in the same place as water and earth. Thus inside water and soil it is warm in winter. From the cold streams of water smoke rises, from mountains of brimstone[768] fire comes out, fishes[769] inside water have warmness as a nature, [there is] dragon fire[770] inside water and fatuous fire[771] inside stone, [and from all of these] it is evident the meaning[772] that fire is also in the same place as water and soil. Is there any doubt about this? What the Barbarian scholar says concerning the warm *vigour* there is inside water and soil during winter is that, in summer the surface of the earth is heated up because the *solar vigour* of the Sun and hot *vigour* of fire come down, and when winter arrives, because the cold *vigour* comes, and because all of the hot *vigour* of the surface of the earth, enters inside earth, it is warm inside water and soil

[766] *Kakehi* かけ樋 (manuscript [A4]: 懸樋): water pipe, aqueduct, flume, conduit ("Caqefi. *Cano por onde vẽ agoa trazida delonge*.", Vocabvlario, fl. 37v;「ふしを抜いた竹や中心部をくりぬいた木を地上に架設して水を通ずる樋(とい)。うちひ。かけどい。かけい。」, Kojien; "water pipe, conduit, flume", Nelson).

[767] *Noseru* 載る (manuscript [A4]: 乗る): load ("Noxe, suru, eta. *Fazer embarcar, l, caualgar*. ¶ Catani nosuru. *Por algũa cousa a os ōbros*. ¶ Niuo nosuru. *Embarcar o fato, ou pollo na besta, &c.*", Vocabvlario, fl. 186v).

[768] *Iō*, *yuō* 硫黄: sulphur, brimstone (「(ユワウの転。古くはユノアワ・ユワとも)(sulfur)非金属元素の一. 元素記号 S 原子番号 16。原子量 32,07。黄色の樹脂光沢あるもろい結晶で、水には溶けない。火を点ずれば青い炎をあげて燃える。遊離して火山地方に多く産し、化合物としては硫化鉄・硫化銀・硫化銅・硫化水銀などの硫化物として産出。火薬・マッチ・ゴム・漂白用などに使用。」, Kojien; "sulphur, brimstone", Nelson).

[769] *Gyobetsu* 魚鼈: fishes (「魚とすっぽん。転じて広く魚類をいう。」, Kojien).

[770] *Ryūka* 龍火: dragon fire, the flame of a meteor seen in the mist above the sea (「②海上の霧の中をとぶほうき星。」, Nikkoku; The Nikkoku presents as an example of this meaning a sentence of the *Kenkon Bensetsu*, ch. 24).

[771] *Inka* 陰火: fatuous fire (「①夜間、山野、墓地などで幽霊、妖怪などが出るとき燃えるといわれる不気味な火。実際には燐(りん)などが燃える火という。きつね火。鬼火。」, Nikkoku).

[772] We follow the reading in manuscript [A4], which has 義 (meaning, sense), instead of *Bunmei Genryu Sosho* which writes 儀 (rule).

in winter. If it is like this, as for myriads and myriads of years since the beginning [of the World], the *vigour* of hotness at the surface of the earth has been constantly entering the underground, then water and soil, both of them, should boil and bake[773]. If Barbarian learning does not know the *principle* and *vigour* [theory] and the *telluric* and *solar* [*vigour*] it is because it uses vulgar devices, and it does not know about the place of the *five phases* and of the four elements. The two *phases* metal and water[774] are also in the same place as water, soil and fire. If it is a work about the wonders[775] of creation, whose principles are deep, there is no space for a detailed explanation here. The sage[776] should use his devices, the fool hardly can reach it, and for the moment we omit it.

[773] *Niewaku* にゑわく: boil and bake ("Niye, uru, eta. *Cozerse no fogo*. ¶ *Itẽ, Feruer soando. Vt*, Cono camaua yô niyuru. *Esta panela do Chanoyu coze, l, faz feruer bem a agoa*.", Vocabvlario, fl. 184).

[774] Manuscript [A4] has in this place the caracter wood 木 instead of the caracter water 水 that appears in *Bunmei*.

[775] *Yoku* 能: wonder ("2〈うまく・見事に〉well; wonderfully", Shinwaei).

[776] *Chisha* 智者: sage (「①知恵のすぐれた人。賢い人。②智識の高い僧」, Kojien).

第七　四大大小之事

一、　地水風火の大小を互に比するに、四大共に其所在の上下に隨て、十倍の廣狭有と云説あり、たとへば火大は風大の上に有が故に、風大に十倍し、風大は水大の上に有が故に、水大に十倍し、水大は地大の上に有が故に、地大に十倍するもの也、此説非也、水大は地大の上に有と云ども、地大よりも遙に小也、凡大海と陸と、其面の廣狭は二大ともに似たりと云ども、地大の正中より上迄の厚さは、二千五百七十里也、大海の深さは十二里に過ざるもの也、故に水大は地大よりも遙に小也、風大は上中下の三部ありて、水大よりも廣しと雖ども、地大よりは小也、日輪の景影と衆星の牛羊（イ吸揚）とを以て、地水の二大より上騰する濕氣其品々有て、何れも浮輕なるが故に、風中へ上騰すと云ども、とりわき濕の性氣熱燥して浮輕成る故に、上部の風大迄上騰して、火大のほとりに至る時、炎上せらるゝことあり、俗是をはうき星と云也、此はうき星の上騰する高さを計りみるに、昔より今に至迄、五十里に過たる例なし、然則（イ時）は風大の厚さも五十里に不レ可レ過、若風大其上に有り餘せば、右浮輕なる、清濕氣何ぞ上騰せずして、中分に止る事あらんや、然らば風大は水大よりも大にして、地大よりは小也、右清濕氣上騰して、炎上せらるゝ所の高さは、五十里に不レ過と云へども、夫火大の邊際に非ず、風大猶其上に有餘するもの也、然れども其上の風大は至て炎熱成が故に、濕の性氣其ほとりに至る時は、炎上せられてもゆるもの也と云説あり、火大は地水風の三大よりも遙かに廣大成故に、地大の正中より火大迄、凡二千六百里餘也、火大は其體以て天に連る故に、地大の正中より一番の月天迄は、十萬里余なれば、火大は地水風の三大よりも、遙に廣大成物也、されば火大は其體以て天に連るしるしには、上部の風大に至てもゆる慧星は、東より西にめぐること目前也、此慧星いか成故にめぐると云に、下より第十番の天、東より西へ常に運轉す、此天の余勢に循じて、内の九天も皆運轉する也、又諸天の運轉に隨て、火大も天と共に運轉す、火大の運轉に循して、上部の風大（イはうき星ともにまわるもの也、是上部の風大アリ）は火大に連り、火大は天に連り、諸天又互に其體を以て連る故也、若互に連らざらずんば、下成體は上成運轉に爭でか隨循して廻るべきや、又

上成體は何として下成體を引まわすべきや、難じて曰、火大の厚さ九萬里の余有らば、世界の萬物悉く焔爍せずと云こと不レ可レ有と、火大は此地より遠くして、其體至て清薄なる故に、世界の萬物焔爍することなし、雖レ然日輪の光耀の氣降下するに隨て、火氣下て以て萬物を温養するものなり、

辨説、右南蠻學士の説如レ是、其地大の正中より、上迄の厚さは二千五百七十里と云は、地大の中心より地面迄の分量也、其地大の正中より火大迄は、凡二千六百里也と云は、地大の中心より風大と火大との際迄の分量也、然則（イ時）は風大は五十里に過ずと云是也、其地大の正中より一番の月天迄は十萬里余と云は、地大の中心より天の下際迄の分量也、此内二千六百里を引除て、殘る所は九万七千四百里餘也、然則ば火大の厚さは、地水風之三大を合せたる厚さの、四十三四雙倍余可レ有、又風大は水大より廣と云ども、地大よりは小也と云、是らの論辯を見るに蠻學は正説なくして邪僻なる説也、故何となれば、火大は其性熱燥にして、地水風三大を合たる四十三四雙倍ありて、其所在は三大の上にあり、地大は其性寒燥にして、水風二大を合せたるよりも大にして、その所在は水風二大の下に有と云、又火大の（イ熱性は至剛にして地大之燥性も至剛也と云アリ）熱と燥と至剛にして、火大と地大と至大ならば、至小なる水大の寒性は、至大至剛の火大の熱性には不レ可レ勝、況や又風大に温性有をや、次小の風大に至剛の濕性ありと云ども、至剛の地大の燥に不レ可レ勝、況や又火大の至大に燥性有をや、若蠻説の如くならば、河海の水は日々夜々に干潟と成て、大地は日々夜々に焦土と可レ成、然ども開闢より今に至て、海水蕩々として地上豊々たり、山海田野共に能物を生じて、焦枯の憂なし、然則ば火大は風大の上にありて、九萬里余有と云ことは正説に非ず、右論中の問答に、火大は此地より遠くして、其性至て清薄なるが故、世界の萬物を焔爍することなしと云は、火大の熱は至剛也と云に、大きに違逆したる辯也、又風大に上中下の三部有て、上部の風大は火大に近き故に、火大の如く炎熱し、下部の風大は温煖也と、風大の部第廿一に云り、如レ此ときんば、中部の風大嚴寒也と云ども、開闢以來火大の至大至剛の熱燥と、風大上部の炎熱と、下部の温燥とに煎炒せられて、風

大の中部も嚴寒不レ可レ成、萬物皆焦枯すべし、蠻學の徒陰陽を不レ知、故に此の俗工夫をなす、皆邪説也、猶風大の部に詳に辯説するもの也、

[Paragraph] 7— About the Dimensions of [the Strata Occupied by] the Four Elements

When comparing the dimensions of earth, water, air and fire in relation to each other, there is a theory [according to which] depending on the higher or lower place where the four elements are, there is a ten-fold [proportion] between broad and narrow. For example, because the element fire is above the element air it is ten times [larger than] the element air. Because the element air is above the element water it is ten times [larger than] the element water. Because the element water is above the element earth it is ten times [larger than] the element earth. This theory is wrong. Although the element water is above the element earth, it is by far much smaller than the element earth. Although the extent of the area of oceans and continents can be said to be similar for the two [respective] elements, the thickness of the element earth from its centre up to the top is 2,570 *ri*.[777] As the deepness of the ocean is no more than 12 *ri* the element water is by far smaller than the element earth. In the element air there are three regions, the upper, the middle and the lower, and though it is wider than the element water it is smaller than the element earth. Considering the light and shade of the Sun and the *exalação* by the large number of stars[778], there is the *vigour* of dampness that ascends with its various attributes from the two elements earth and water, and because it becomes lighter and floating [it] ascends to the middle of air. Thus, because the properties[779] of dampness get warmer and dryer, it becomes lighter and floating, [and] goes up to the upper region of element air. When [the *vigour* of dampness] arrives close to the vicinity of the element fire sometimes it gets inflamed, what is usually called a comet. In the measurement of the height to which these comets rise, from ancient times

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[777] *Ri* 里: a linear measure, usually defined as 36 *chō*, what is equivalent to 3927 meters. However, other definitions were used; see José Miguel Pinto dos Santos, "As Distâncias dos Céus aos Infernos na Cosmologia Nanban", *Anais de História de Além-Mar*, vol. 5, 2003, pp. 415-479.

[778] *Shūsei* 衆星: great number of stars (「多くの星」, Kojien).

[779] *Seiki* 性氣: properties (「気質。性質。気生。また、気力」, Nikkoku; *seishitsu* 性質: property (cf. Shinwaei)). It is possible that Chūan ment *xeiqi* 生気 or *seiki* ("Xeiqi. *Espiritos vitaes, ou forças interiores*. ¶ Xeiqiga tçuquru. *Esgotarense as forças, & espiritos*.", Vocabvlario, fl. 294,「いきいきした気力。活気」, Kojien), but that Genshō when listening to the dictation by Nishi wrote 性氣 by misinterpretation or mistake. If *xeiqi* was meant, this sentece would read "Thus, because the vital spirits of humidity get warmer and dryer, …".

to the present, there is no example of it being above 50 *ri*. Hence the thickness of element air is no more than 50 *ri*. If part of element air remains above this, and it becomes lighter and floating as [said] above, why should the pure *vigour* of dampness not rise, and why should it stop in the middle? Although the element air is larger than the element water, it is smaller than the element earth. As [said] above, as the pure *vigour* of dampness rises, the height of the place where it goes up to in flames is no more than 50 *ri*. This does not happen in the border with element fire. However there are some remains of element air above that. Despite that, because the element air inflames upon reaching above that [level], when the *vigour* of the nature of dampness reaches that vicinity, it goes up in flames and is burned according to an existing theory. As the element fire is by far much larger than the three elements earth, water and air, the [distance] from the centre of the element earth to the element fire, is about 2,600 *ri*. Because the body of the element fire is taken along by the heavens, from the centre of the element earth to the first heaven of the Moon, there are about 100,000 *ri*, and therefore the element fire, more than the three elements earth, water and air, is by far a much larger thing. The proof that the substance of the element fire is taken along by the heavens, is that the comets which are burned in the upper region of element air make a circle from east to west, and this is evident. The reason why these comets circle is that the tenth heaven [counting] from below always moves from east to west. The force left over from the circling of this heaven drives all the nine interior heavens. Also following the driving of the several Heavens, the element fire is driven together with the Heavens, and following the movement of the element fire, the upper level of element air (turns together with the shooting stars. This upper level of element air) is taken along with element fire. Element fire is taken together with the heavens, and the several heavens are also taken along by the substance of each other. If they take along each other, the substance below contends with the drive of the substance above. And again, the substance above should, by all means, draw around the body below. A difficulty advanced is that, if the thickness of the element fire is somewhat more than 90,000 *ri,* then it cannot be said that the myriad things in the World are not consumed in a blaze. The element fire is far from this Earth, and because its substance is so thin, the myriad things in the World are not consumed in a blaze. Instead, as the *vigour* of the light of the Sun descends it brings down the *vigour* of fire to warm and make grow the myriad things.

Commentary. The above explanations by the Southern Barbarian scholar are like this. Namely, he says that the thickness from the exact centre[780] of the element earth up to its top is 2,570 *ri*. This is a measure [of the distance] from the centre of the element earth to the surface of the Earth. He says that from the centre of the element earth to the element fire, the [distance] is about 2,600 *ri*. This is a measure [of the distance] from the middle of the element earth to the boundary between element air and element fire. However, he says that the element air is no more than 50 *ri*. He says that from the centre of element earth to the first Heaven of the Moon there are about 100,000 *ri*. This is a measure from the middle of the element earth to the lower boundary of Heaven, out of which, if 2,600 *ri* are subtracted, the remaining is about 97,400 *ri*. Therefore, the thickness of element fire is 43, 44 times[781] the thickness of the three elements earth, water and air taken together. He says also that the element air is larger than element water, but smaller than element earth. Seeing this exposition, [it is obvious that] Barbarian Learning is not a righteous theory but a wicked and vicious theory. Why this is the case is that: it makes the nature of element fire hot and dry, and 43, 44 times larger than the three elements earth, water and fire, its place being above the three elements; it makes the nature of element earth cold and dry, larger than the two elements water and air taken together and says its place is below the two elements water and air. Moreover, (he says that the heat of) element fire is (the strongest and the dryness of element earth is the strongest,) the strongest in heat and in dryness. But if element fire and element earth are the largest and the coldness of the smallest which is element water, cannot win [against] the hotness of element fire which is the largest and the strongest. What is more is that the element air has the nature of warmness, and element air, the second smallest, which has dampness in the highest degree, cannot win [against] the strongest dryness of element earth. In addition, as the largest element which is element fire has the nature of dryness, according to the Barbarian Theory the water of rivers and seas should dry day by day and night by night. The continents would be scorched day by day and night by night, but from the beginning until now, seas and waters remain abundant and plentiful above the Earth. Useful

[780] *Seichū* 正中: exact centre. This term is employed in later paragraphs by Chūan, but Genshō brings it up to paraphrase the Barbarian explanation.

[781] Given the numbers presented above this ratio should be around 38, instead of 43 or 44 times.

things are born in mountains, seas, paddies and fields, and there is no fear of scorching or withering. Therefore, to say that element fire is above element air and it has something more than 90,000 *ri* is no righteous theory. In the questions and answers in the argument above, element fire is made far away from this Earth, and because its nature is the thinnest, the myriad things of the World are said not to be scorched, but the heat of element fire is said to be the strongest. What an explanation so far from reason[782]! And again, in element air there are three regions, the higher, middle, and lower. Because the upper region of air is near the element fire, it is hot and blazing as element fire. The lower region of element air is warm as said in part "On Air", [paragraph] 21. When this is so, though the middle region of element air is said to be of a rigorous coldness, since the beginning [of the World] the largest and strongest hotness and dryness of element fire and the blazing upper part of element air, [together with] the warmness and dryness of the lower region [of element air] should have made the middle region of element air boil and thus it could not be of a rigorous cold, and the myriad things, all of them, should have blazed and dried. The disciples of the Barbarian Learning do not know the Telluric and Solar [*vigour*], and thus they use these vulgar devices. All of them are evil theories! Now, further and detailed commentaries are made in the part "On Air".

[782] *Igyaku* 違逆: contrary to reason (「道理にたがうこと。不都合。ふらち。」, Kojien)

第八　世界圓相成事

一、　右地水風火の四大、互に其體を以て連りたるを世界と云へども、とりわけ人倫の住む、地水の二大を一つとして世界と云也、されば此世界のなり形は、如何様に有りと論ずるに、高山に登て世界をながめ、或は船に乗て大海を見渡せば、目の及ぶ分量は平直にみゆるなり、然るにより世界は圓相に非ず、平直也と人民思ふものなり、然ると雖ども道理を例し見るに、世界は平直に非ずして圓也、此理を徴するに、日月星日夜一二時に、東より西へ一廻すると云へども、朝暮の遅速は東西同時に非ず、西よりも東の國に、旦たには日輪早く出て晝となり、夕べには早く入て夜と成也、西の國には東よりも、旦たには日輪遅く出で、夕べには遅く入て夜と成もの也、星辰も同前也、西よりも東の國に、夕べには早く出て旦には早く入、西の國には東よりも、夕べには遅く出て、旦には遅く入もの也、其證據を云に、日月相對する時節に、月、世界の影にさゝへられて、月光を受けざるが故に蝕するもの也、其時、月をみる程の國は、皆月蝕成と云へども、其月蝕をみる時節は、東西同時に非ず、時に遅速有て、西方には早く見、東方には遅く見ゆるもの也、たとへば西の地に亥の刻に見え、東の地には子の刻みゆる也、是國々所々海陸共に常の例也、圖を以てことわる、右日月星の循環、月輪の蝕、南北の兩軸、南斗北斗の高下、世界も影を以て、世界東西南北共に、圓相成事明也と云へども、猶其證據例して云に、一つには海を渡る時に船より陸を見るに、其海邊近き間は湊も海邊も見ゆると云へども、遠く成るに隨て、港も山々も海の影に漸々にかくれ、終には陸より船も不レ見、船より陸も見へざること、二つには大海を渡るに高天と大海より外に見ゆるものなしと雖も、陸近く成て見に、初には離れ島の如く、山々の峯のみ早く見へ、近く成に随て山を漸々に高く見、終には麓も海邊も見ゆること、三つには海邊より海上をみるに、所により漫々たる大海より外、見ゆるもの無と云へども、高山に上りて見るに、島をみること是皆常の例し也、其故如何となれば、世界圓相にして、見ゆるものと見ゆる所との中間高き故也、中間より低き處はかくれ不レ見、中間よりも高き時は見ゆるなり、是中間を見起すほど高ければ也、論じ

て曰、右山頭などみへざることは、其間遠き故に非ずやと、然らず、大海を渡るに、船中より未だ陸の不レ見と雖ども、帆檣に上りてみるに、同き間成と雖ども、山をみることあり、又曰、海邊より山頭不レ見と云へども、退て其海邊よりも數十里遠き高山に上りてみるに、山頭みることあり、呂宋よりノバイスパンヤへ渡海するに、海に近き駿河、伊豆、相摸抔の國々は、船より不レ見と云へども、海に遠き富士山はみゆるもの也、故に海邊より山頭など見えざるは、其遠きが故に非ず、世界圓相にして、其中高き故なり、伊豆相摸の國は海に近しと雖も、船と其國の中間より低きが故に、隱れてみえず、富士山は遠しと雖も、中間よりも高き故に、船より見越すもの也、四には南蠻の内に、カステイラとホルトガルと共に並の兩國あり、此兩國の者共大明、日本に渡るに、其道天地雲泥也、其故はカステイラの者は西へさして船を乘りホルトガルの者は東へさして乘もの也、然といへども大明にても日本にても、行合こと再三の例しなり、爰を以てみるに、世界圓相成は明白也、其故は世界圓相に非ず平直たらば、右の兩國の者同時に東西に行ものなれば、先へ行程互に遠ざかるべし、さはなくして東西兩方へ相違ひ行内に、行合ときんば、世界圓相成事明白也、難じて曰、地體に山峯溪谷、何れの國にも是れ多し、然則ば世界圓相に不レ可レ有、水大は其體やはらにして流るゝ體なれば、高下なくして圓也、地體は本固密にして堅し、故に山峯溪谷多して高下あり、然と云ども山峯溪谷の高下を、廣大なる世界に比すれば、たとへば漫々たる大海に小波の立が如し、故に山峯溪谷有と云へども、世界は圓也、右に云如く、月蝕の刻世界のかげの形を見るに、即圓相也、かげの圓成は體の圓カ故なれば也、論じて曰、日月會合して、月は下に日は上に重りて、日蝕する刻、日輪漸々に月の影にかくるゝなり、形ちを見るに、横文字にかくれずして、虹なりにかくるものなり、是れ月（イ地）の圓相成故なり、圖を以て顯レ之、然と云へども日輪旦夕に晝夜の界を出で、半分は上に見へ、半分は下、未だ世界の影にかくれて不レ見時、其半顯半隱のさかひを見るに、虹なりに不レ見して、横一文字に見ゆるものなり、入日も同前也、然ときんば世界は平直にして、圓相に不レ可レ有、其故は世界圓相ならば、日輪晨たに世界の陰より晝夜の界を出る時、虹なりに出べきに、横一文字に見る時は、世界圓相に非る證據也、日輪は世界よりも遙に廣大也と雖も、其上高遠懸隔なるが故に、此地より小にみゆ、世界は日輪よりも遙に小成と雖も、近きが故に

廣く見ゆる物也、然るに世界は圓相也と雖も、晝夜の界を出る日輪の半分かくす世界の分量は、世界の廣大に比すれば、萬分一、千分一にも非ざるが故、圓相に不レ見して平直にみゆる也、故に右月輪の半分に、横一文字にかくすもの也、たとへば大き成圓相の一分をみるに、圓相に不レ見して平直に見ゆるが如し、月は日輪より小しと雖も、此地よりみる時は、月の面は圓相に見へて、日輪と同じ程に見るが故に、日蝕の時に月の影にかくるヽ日の形は、月の如く圓相也、又曰、世界を見渡すに、平直にみへて圓相に不レ見は、高山に上りても、目の及ぶ世界之分量は、世界の廣大の萬分一にも非る故也、

辯説、右南蠻學士の説如レ是、然るに世界地體の圓相なる事は、世界の學家同説也、儒家の説に、天地の形體は鷄卵の如し、天の地の外を包むことは、卵殻の清外を包むが如し、地の天中にあることは、黄清の清中に有が如し、其圓成ことは彈丸の如しと云り、彈丸とは鐵砲の玉抔の如くに、至て圓なるもの也、醫家の説も同じ、儒書に、天は圓にして地は方也と云説あり、是は地の形體の四角成と云義には非ず、地には東西南北の四方を分て、春夏秋冬の義を述ぶ、是によつて方也と云也、東西南北の四方の意也、南蠻學家の説誤りなし、然るにたとへを引、證據を引て明白也と雖ども、たゞ形體の上の議論にて、眼目の境界なる故に、大海を渡り遠遊したる人は、見なれたる上を以て、其理を得るもの有と雖も、猶遠きものはみへ難く、近きものは見へ易く、大なる物は見へ易く、小成物は見へ難く、高きものは見へ易く卑き物は見へ難く、霧にこもる物は見へ難く、晴々ある物は見へ易く、光明有物は見安く、陰晦なる物は見へ難きの疑ひもあり、山は陵谷高下の峯嶸ありと雖も、遠山は只一面にみえて陵谷不分明、樹木は雖レ有二枝葉一遠樹は枝葉不レ分、一團圓に見ゆる物也、如レ是の類一々擧て不レ及レ云、畫家の筆法に遠山無皺遠樹無葉、遠水無波、遠人無目と云、遠き物の分明ならざることは、畫工も能知るもの也、然るに蠻學の徒の、日月の蝕の形を以て、地の形體を論ずるは、日月所在高遠懸絶なる故に、才發利口の輩猶是を疑ふ、天地陰陽の理に能通したる人ば、蠻説の證據を聞ずと雖ども、能其理に明にして、天地日月の形體を知覚するものなり、蠻學士は本より理氣陰陽を知ざる故に、理を以て人に示す

事あたわず、唯偏に形の上の工夫論辯耳也、天地の形體圓相成事は、儒の門に入て能極むべし、無レ疑ものなり、

乾坤辨説元卷終

[Paragraph] 8— About the Sphericity of the World

The four elements earth, water, air and fire, with their substances placed consecutively[783] are refered to as the World. In particular, it is called World to the one [place composed by] the two elements earth and water where people live. Consequently [we] discuss how the shape of this World is. If one climbs a high mountain and then observes the World, or when one boards a ship and glances over the ocean, up to where sight reaches it is seen as flat[784]. Therefore common people think that the World is not round[785] but flat.[786] However it can be said that if this matter is observed through reason, the World is round and not flat. To refer[787] this [matter] to *principle*, it can be said that during one day and night of twelve hours[788], the Sun, the Moon and the stars make a single rotation from east to west. The progress of morning and evening does not occur at the same time in the east and in the west. In the countries in the east more than in those in the west, the Sun rises sooner and noon comes earlier, and [the Sun] sets sooner and evening comes earlier. More than in those in the east, in western countries,

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[783] *Tsuranaru* 連る: ranged consecutively (①1 列にならびつづく。②つながる。連繋。), Kojien).

[784] *Heichoku* 平直: flat, plane, straight (「①たいらでまっすぐなこと。たいらであること。また、たいらなこととまっすぐなこと。また、そのものやそのさま」, Nikkoku). The Nikkoku uses this passage of the *Kenkon Bensetsu*「目の及ぶ分量は平直にみゆるなり」to exemplify the usage of this word.

[785] *Ensō* 圓相: round; spheric ("Yenso. Motocana catachi. *Figura redonda*", Vocabvlario, fl. 321;「(仏)①まるい姿。円形。②禅で、悟りの象徴として描く円輪③曼荼羅の諸尊の全身を包む円輪」, Kojien;「①まるい形。②仏語。禅宗で、ひとの心に本来備わっている悟りを示すために、象徴として描く円、円のなかに文字や記号をかいて、心の働きや、悟りの階程を表わすこともある。円相。③仏語。曼荼羅(まんだら)で、仏・菩薩の像をかこむ円輪。④室町時代、京都五山の僧たちが用いた銭一貫文の異名。貨幣の形が円いことによるという。⑤紋所の名。円相をかたどった紋。細線で円を描いたもの。」, Nikkoku). *Ensō* is used in *Salvator Mvndi*, a confessional printed in Japanese script in 1598, with meaning "round":「〇おすちや〇ごみいさのをこなひのためにせうぞくをとゝのへたるゑんさうのこと」, fl. 27.

[786] This sentence,「世界は圓相に非ず、平直也と人民思ふものなり」, is given as an usage example for the word *ensō* 圓相 in Nikkoku.

[787] *Chō suru* 徴する: refer to; judged by (「①召す。呼び出す。②取り立てる。③求める。要求する。④証拠を求める。見比べて考える」, Kojien; "collect, solicit, seek; judge by; question; refer to; call for (someone); demand", Nelson).

[788] *Jūniji* 十二時: twelve hours. The Japanese, as the Chinese, divided the day (from midday to midday) into twelve parts, or hours. Nathan Sivin, *Granting the Seasons: The Chinese Astronomical Reform of 1280, With a Study of Its Many Dimensions and an Annotated Translation of Its Records*, New York, 2009, p. 82, uses the term "double-hours" for this time interval.

the Sun comes up later, goes down [later], and it becomes night later. The same happens with the stars. In eastern countries more than in western ones, they appear earlier in the evening and set earlier in the morning. In the countries in the west more than those in the east, [they] appear later in the evening and set later in the morning. As a proof of that it can be said that in times of opposition between the Sun and the Moon, the Moon is obstructed[789] by the shade[790] of the World, and the Moon, because it does not receive light[791], is eclipsed. It can be said that even though in all countries that can see Moon when an eclipse occurs, the time [of the day] when that eclipse is seen is not the same in the east and in the west. There is [a diference in] earlier or later hour, [the eclipse] being observed [at an] earlier [hour] in the western regions, and observed [at an] later [hour] in the eastern regions. For example, if it is observed in the hour of the boar[792] in the

[789] *Sasaeru* 支える: obstruct (「④通れないようにする。妨げる。中傷する」, Kojien; "Sasaye, uru, eta. *Deter, ou impedir*. ¶ Michiuo sasayuni. *Impedir o caminho*. ¶ Fitouo sasayuru. *Falar mal dalguẽ diante do senhor, ou de quem lhe pode empecer*", Vocabvlario, fl. 220).

[790] *Kage* 影: shadow, figure, shape ("Cague. *Sombra*. ¶ *Item, Permet*. *Emparo, ou proteição*. ¶ Micague, l, goyei. *Imagem de Sancto, &c*. ¶ *Item*, Cague. *Lugar escuro, ou secreto*. ¶ Monouo caguede mŏsu. *Falar manso, ou con sigoso algũa cousa*. Caguegotouo yù. *Murmurar dalguem em absencia*." Vocabulario, fl. 32; 「❶日・月・灯火などの光。❷光によって、その物のほかにできる、その物の姿。①水や鏡の面などにうつる物の形や色。②物体が光をさえぎったため、光源と反対側にできる暗い部分。③比喩的な用法。㋐あるものに離れずつきまとうもの。㋑やせ細ったもの。㋒薄くぼんやり見えるもの。㋓ほのかに現われた好ましくない影響・兆候。❸物の姿。①形。②おもかげ。③原物に似せて作ったもの。❹物の後の、暗いまたは隠れた所。①物にさえぎられ、またはおおわれた、背面・後方の場所。②他の者をおおうように及ぶ、その恩恵・庇護。③人目の届かない、隠れた所。④人目に隠れた暗い面。かげり。⑤正式のものに対して略式に行う方。❺二匁取りの下級女郎。二寸。」, Kojien; 「❶かげ。物の光に照らされてできた明暗の境めのついた暗い部分。❷かげ。物を照らして明暗をつける光。❸かげ。物の姿や形。❹かげ。鏡や水面に映った姿。❺写真の像。」, Kanjigen; "light; shadow; silhouette; phantom; reflection; figure; trace", Nelson).

[791] *Hikari* 光: light ("Ficari. *Claridade*. ¶ Ficariuo fanatçu. *Dar, ou deitar de si claridade*. ¶ *Item, permet. Resplandecer, ou dar bom exemplo em algua obra boa*. ¶ Ficariuo tçutçumu. *Encubrir a claridade, & às vezes se toma por encubrir as virtudes, nome, &c*." Vocabvlario, fl. 88v.; 「㊀(物理的あるいは視覚的意味で)明るい、輝かしい、美しいなどと感じられるもの。①視覚を起こさせるもの。すなわち、発光体から発する光線、およびそれが反射したものをいう。②人間の視覚で感じ得る電磁波。③色、つやなどの輝くばかりの美しさ。きらびやかさ。光彩。つややかさ。光沢。④容貌。容姿の美をたとえていう。まばゆいばかりの美しさ。また、この上なく美しい人。⑤眼の輝き。眼光。また、物を見る眼の様子。」, Nikkoku). An example of usage for *hikari* is found in the opening pages of *Contemptvs mundi jenbu*: "Vareuo xitŏ mononoua yamigiuo yucazu: tada jumiŏno ficariuo motçu bexito nari. Cocoroni yami uo nogarete, macotono ficariuo vqento vomô ni voiteua, Christono gocŏxeqito, von cataguiuo manabi tatematçureto, cono micotoba uomotte susume tamŏ nari", *Contemptvs mundi jenbu. Core yovoitoi, Iesv Christono gocŏxeqiuo manabi tetematçuru michiuo voxiyuru qiŏ*, 1596, p.3.

[792] *I no koku* 亥の刻: hour of the boar, or the period from 21:00 to 23:00.

regions of the west, it is seen in the hour of the rat[793] in the regions of the east. This is the constant case in all countries and places, on the sea and in the land. This is demonstrated[794] with a figure.[795]

It is evident from the rotation of the Sun, Moon, and stars [presented] above, [from] the eclipse of the lunar disc[796], [from the existence of] both south and north axes[797], [from] the rise and descent of the North Star[798] and the Southern Dipper[799], [from] the World also making a shade, [from the existence] of both east and west, south and north in the World, that [the World] is round. In addition other proofs can be added such as the following. Firstly, when sighting land from a ship that crosses the sea, though it can be said that at close distance from the seashore both port[800] and seashore can be seen, as it gets farther away, gradually the port and the mountains are hidden by

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[793] *Ne no koku* 子の刻: hour of the rat, or the period from 23:00 to 1:00.

[794] *Kotowaru* ことわる: demonstrate ("Cotouari, ru, atta. *Arrezoar, ou dar rezão*.", Vocabvlario, fl. 60; 「【断る・判る】①物事の筋道をはっきりさせる。理非曲直を判断する。また、筋道を立てて説明する。②道理ありと認める。③物事の内容理解する思い知る。④あらかじめ了解を求める。予告する。⑤(理由をのべて)言いわけをする。⑥(理由を言って)辞退する。承諾しない。拒絶する。」, Kojien).

[795] See Figure 4.

[796] *Getsurin* 月輪: lunar disc, Moon (「(形が輪のように見えることから)月。つきのわ。」, Kojien; 「❷車輪のように平らな円形をしたもの。「日輪」「火輪」」, Kanjigen; *tsukinowa*: 「【月の輪】①月。げつりん。②満月にかたどった円い形。」, Kojien).

[797] *Jiku* 軸: axis; pivot; linchpin; *makimono* (「㊀①車の轂を貫いて車輪を保持し車体をささえる棒。車の心木(しんき)。よこがみ。②巻くものの心(しん)にする丸い棒。特に巻物や掛物などの心木にする棒。また、その両端につき出た部分。③(②から転じて)巻物。また、掛物。かけじ。幅(ふく)。⑨物事のかなめ。転じて、重要な地位。⑩数学で用いる語。㋑平面図形を、一つの直線を中心にして回転させ立体図形を得るときの、その直線。㋺図形がある直線に関して対称であるときの、その直線。対称軸。㋩解析幾何学で、点の座標を定めるとき、基準としてとる直線。座標軸。⑪物体が回転運動をするとき、その物体に固定したと考える直線で、その空間的位置を変えないもの。独楽(こま)などにいう。回転軸。⑫工学で、機会などの回転する丸い棒。動力伝達を主な目的とする伝導軸と車軸に大別させる。」, Nikkoku).

[798] *Hokuto* 北斗: the North Star, the Polaris (「北斗星の略。」, Kojien; also: 「ほくとしちせい 北斗七星 北極から約 30 度にあり、斗ひしゃく形を描くおおぐま座の 7 星に当たる。中国では 7 星を天枢、」, Tenmon).

[799] *Nanto* 南斗: Southern Dipper (「斗に同じ。いて座 ζ・τ・σ・φ・λ・μ の 6 星が北斗七星のような形に並んでいるので、北斗七星に対して南斗六星とよぶこともある」, Tenmongaku).

[800] *Minato* 湊: port. ("Minato. *Porto*. ¶ Minatoni tçuqu. *Chegar ao porto*. ¶ Funeuominatoni iruru. *Meter a embarcação no porto*." Vocabvlario, fl. 160v.).

the figure of the sea. In the end neither the ship is seen from land, nor land is seen from the ship. Secondly, even though when crossing the ocean nothing is seen besides the high heavens and the ocean, if we look towards the approaching land, in the beginning it appears like scattered islands, and only the summit of the mountains are seen at first. As it gradually becomes nearer, the mountains appear higher, and in the end the foot of the mountains[801] and the seashore are also seen. Thirdly, when looking to the sea from the seashore, though it can be said that depending on the place nothing but the boundless[802] sea can be seen, ascending to a high mountain and looking [towards the sea], it is the case that islands are always seen. The reason why this is so is that as the World is round it is higher in the middle space between he who sees and the place being seen. The places lower than the middle space [between them] cannot be seen, and those [places] that are higher than the middle space can be seen. The better these can be seen, the higher they are in relation to the middle space. It is argued that, as refered above, when one is not able to see the top of the mountains, etc., is it not because of their distance? However, when crossing the ocean, though land cannot be seen from the middle of the ship, going up the masts[803] and looking [around], even though it is [from] the same distance, it is the case that mountains can be seen. Again, it can be said that though from the seashore the top of the mountains cannot be seen, going away several thousand of *ri* from the seashore and ascending to a high mountain, it happens that the top of mountains can be seen. Crossing the sea from Luzon to Nova Hispania, though it can be said that the countries of Suruga, Izu, Sagami[804] and so forth[805] [which] are near the sea,

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[801] *Fumoto* 麓: foot of a mountain ("Fumoto. *Pe de serra, ou monte*." Vocabvlario, fl. 108;「山の下方の部分。山のすそ山麓。」, Kojien).

[802] *Manman* 漫々: boundless ("Manman. *Milhares de milhares*. ¶ Manmantara caixŏni funauatari su. S. *Nauegar por mares immensos*." Vocabvlario, fl. 151;「遠くひろびろとしたさま。広くてはてしのないさま。」, Kojien).

[803] *Hanshō* 帆檣: mast ("Fanxŏ. Focaqe bune. *Embarcação à vela*." Vocabvlario, fl. 80; "mast", Nelson).

[804] In manuscript [A4] Sagami is writen correctly as 相模.

[805] Nado 抔: and so forth, etc. ("Nado. *E o de mais, ou outras cousas*." Vocabvlario, fl. 173v.;「(副助詞)(「何」に助詞「と」が付いたものの転。平安時代に使われだした語。本来なかった「などと」の例が鎌倉時代以後に見られる)①ある語に添えて、それに類する物事が他にもあることを示す。…や何か。②それだけに限定せずやわらげていう。③(引用句を受けて)「大体そんなことを」の意を表す。④その価値を低めていう。相手の言ったことをしりぞける心持で、特にとり立てて示す。否定的・反語的表現を伴うことが多い。…なんか。」, Kojien).

cannot be seen from the ships, Mt. Fuji, which is far away from the ships, can be seen. The reason the top of the mountains cannot be seen from the seashore is not due to their distance but because of the height in the middle [space] arising from the World being round. Because the ship and those countries are lower than the middle space between them they are hidden and cannot be seen [from each other]. Fourth, in Southern Barbary there are two countries, Castile and Portugal.[806] The people of these two countries cross over to China[807] and Japan, their routes running from one extreme of the Universe to the other[808]. Even though the people of Castile go west aboard their ships and the people of Portugal go aboard sailing east, there are many[809] examples of their meeting in China and Japan. From this it is evident that the World is round.[810] The reason is that if the World was flat and not round, the people of both countries [exemplified] above, had they gone to the east and to the west at the same time, the distance between them would increase as they would advance. As this is not the case[811], as they come across[812] each other while traveling in the opposite[813] directions of east and west it is evident that the

[806] At the time this text was composed a Spaniard would hardly have agreed with this political division.

[807] *Daimin* 大明: the Chinese dinasty reigning from 1368 to *c*. 1644. Thus, by extension, China. Might this prove that the *Kenkon Bensetsu* was writen and translated before *c*. 1644? Probably not: costumary appellations do not go out of usage in a few years.

[808] *Undei* 雲泥: from one extreme of something to the other ("Vndei. Cumo, doro. *Nuuem, & lama*. *Tomase por ceo, & terra. Vt*, Tenchi vndeino fedategia. *Ha tanta differença como do ceo à terra*." Vocabvlario, fl. 274;「天にある雲と地にある泥(どろ)。転じて、隔たりの甚だしいたとえ」, Kojien).

[809] *Saisan* 再三: repeated ("Saisan. Futatabi, mitabi. *Duas, & tres vezes*. ¶ Saisan mŏxita. *Ja falei duas, ou tres vezes, oumuitas vezes*.", Vocabvlario, fl. 216v.;「2 度も 3 度も。たびたび。しばしば。」, Kojien; "again and again; over and over (again); time and time again; repeatedly; more than once", Shinwaei).

[810] This example was presented by Fabian Fukan to Hayashi Razan in 1606. For the reaction of the latter to this argument see Chapter IX below.

[811] *Sawa*: this way, this being the case ("Saua. *Adu. Assi*. ¶ Chujt no nacani saua naqimonozo. *Entre osamigos não ha tal cousa*. i, *Ser assi desleal, &c*." Vocabvlario, fl. 220v.;「【然は】そうは。さようには。」, Kojien; *sayō*:「【然様・左様】そのとおり。そのよう。そう。」, Kojien; *sayōshikaraba*:「【左様然らば】(本来は武士言葉)そうであるならば。「さよう」と答えて「然らば」と切り出す口上。しかつめらしい言葉づかい。」, Kojien; *sayōnara*:「【左様なら】(元来、接続詞、それならばの意)別れの挨拶語。さようなら」, Kojien; *sawasōzu*:「そうでありましょう。それはそのとおりである」, Kojien).

[812] *Yukiai* 行合: come across ("Yuqiai, ŏ, ŏta. *Encontrarse indo*." Vocabvlario, fl. 326;「①行き合うこと。また、その所、その時。出合い。②夏と秋など、隣り合せの 2 季にまたがること。また、その頃。」, Kojien).

[813] *Sōi* 相違: different, opposite ("Sŏ-i. Aitagŏ. *Discrepancia*. ¶ Sŏ-ixita coto. *Cousa que discrepa, ou he diferente*." Vocabvlario, fl. 224v.;「たがいに異なっていること」, Kojien).

World is round. It is argued against this that in the body of Earth there are mountain peaks and deep valleys, and in all countries these are numerous. Consequently the World should not be[814] round. The substance of element water, as it is flexible, is round and without highs or lows. The substance of earth, as it is hard and dense, it is solid. Thus it has the many highs and lows [composed] of high mountains and deep valleys. However it can be said that the highs and lows of high mountains and deep valleys, compared with the vastness of the World, are like the crest of small waves in the boundless sea. Therefore, though it can be said that there are high mountains and deep valleys the World is round. As was exposed above, the shape of the shadow of the World is seen at the time of a lunar eclipse. This shape is round. The shape is round because the substance is round. [Against this] it is argued that [during] the conjunction of the Sun and the Moon, as the Moon below and the Sun above overlap, at the time of the Solar eclipse the Sun is gradually hidden by the shade of the Moon. The shape that is seen is not an occultation as if by the [Chinese character writen] horizontally [meaning] one[815], but it is an occultation like [that of] a rainbow. This is because the Moon (Earth) is round. This is clear with a figure.[816]

When in the morning and in the evening the Sun is in the threshold of day and night, half [of it] can be seen above, half below. When it is still hidden in the shade of the World and cannot be seen [completely], the threshold of half of it being distinct and half being hidden, [the threshold] cannot be seen as a rainbow, but is seen as the horizontal [Chinese] character one. It is the same as [explained] before at the entrance of the Sun. If the World is round, when in the morning[817] the Sun leaves the threshold between day and night from the shade of the World, it should leave as if it was a rainbow, but when it is seen as the horizontal letter one, this is proof that the World is not round. Though the Sun is much larger than the World, because it is so far above in

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[814] *Ari* 有: to be, to exist ("Ari, ru, atta. *Auer, estar, ter*. ¶ *Itẽ, Dizer de pessoa honrrada. Vt*, Tonosama sonatano cataye gozarõto atta. *O* tono *disse que iria a vossa casa*." Vocabvlario, fl. 12-12v.; 「あること。現存すること」, Kojien).

[815] The Japanese letter for one (一) is an horizontal line.

[816] See Figure 6.

[817] *Asa* 晨: morning ("Asa. *Menhaã clara ou tẽpo de pola manhaã*." Vocabvlario, fl. 12 v.;「❶あさ。あした。太陽がふるいたってのぼるあさ。生気に満ちた早朝の意に用いる。❷とき。早朝、鶏がときを告げること。❸二十八宿の一つ。房星。」, Kanjigen).

the high, it is seen as smaller than the Earth. Though the World is much smaller than the Sun, because it is near [to us] is seen as very large. Therefore, in spite of the World being round, the extent of the World that hides half of the Sun when [this] is leaving the threshold of night and day, compared with the huge extent of the World, because it is not [even] one thousand to one, [but like] ten thousand to one, it is not seen as round but as a straight line. Therefore, as referred above, half the Moon circumference is hidden like the horizontal letter one.[818] For example, this is like when one part of a large circle is examined, it is not seen as round but it is seen as straight. Even though the Moon is smaller than the Sun, when observed from this Earth, the surface of the Moon is seen as round. Because it is seen as of equal dimension to the Sun, the shape of the Sun that is hidden by the figure of the Moon during a solar eclipse is round like that of the Moon. It is futher said that glancing over the World, it is seen as plane and not seen as round. Even [when] going up high mountains, the extent of the World reached with the eyes is not even as ten thousand to one of the vastness of the World.

Commentary. The above explanations by the Southern Barbarian scholar are like this. Incidentally, that the World or body of the Earth is round is a theory similar among the scholars of the World. The theory of the Confucians is that the shape of the substance of Heavens and Earth is like a chicken's egg. The Heaven envelops the outside of the Earth, like the eggshell envelops the outside of the white. The Earth being in the middle of Heaven, is like the yolk being in the middle of the white, that roundness being said to be like that of a canon ball. A canon ball is like a rifle ball and such alike, something round. The theory of the Medical School is also similar. In Confucian writings the theory that the Heaven is round and the Earth quadrangular appears. This does not mean that the shape of the body of Earth is quadrilateral, but that in the Earth the four directions[819] of east, west, south, and

[818] Here the argument jumps from the Sun to the Moon, but this slip does not affect the conclusion of the argument: when the Sun (or the Moon) is in the horizon the line that cuts their circle is seen as a straight line because the portion of the Earth's circumference that cuts them is very small compared with the total circumference.

[819] *Yohō*, *shihō* 四方: quadrangular, four directions (*Yohō*: "Yofoguiri. *Verruma quadrada*." Vocabvlario, fl. 323;「①四つの方向。方角。四方。②四すみに角(かど)のある形。四角。四方。③周囲。ぐるり。しほう。④⑤風呂敷。また、金巾(かねきん)のことをいう、盗人仲間の隠語。⑥蒲団をいう、盗人仲間の隠語。」, Nikkoku; "Yofõ. *Vide* Xifõ", Vocabvlario, fl 400. *shihō*:「①四つの方向。方角。東、西、南、北。②周囲。ぐるり。あらゆる方角。八方。③自国のまわりの国。諸国。諸方。天下。④四すみに角がある形。四角。よほう。⑤四すみにくり形の穴がある物を載せる台。⑥近世の武具の指物(さしもの)の一種。正

north can be distinguished, this referring to the meaning of spring, summer, autumn and winter. These are said to give rise to the directions, meaning the four directions of east, west, south and north. In the theory of the Southern Barbarian scholar there is no error. Nevertheless, though it can be said that it is clear with the examples and proofs presented, it is simply a formalist discussion. Because it is in the border of the eyes[820], the people who travel far and cross the seas use what can be seen on the surface and though sometimes[821] they can get to the *principle*, yet it is difficult to see things [that are] far away and easy to see things [that are] near. It is easy to see large things and difficult to see small things. It is easy to see high things and difficult to see low things. It is difficult to see misty things and easy to see clear things. It is easy to see bright things and it is difficult and doubtfull to see dark and clouded things. Though in the mountains there are hummocks and valleys and highs and lows of peaks and heights, [in the] faraway mountain only one face can be seen and the hummocks and valleys [remain] unclear. Though in the trees there are branches and leaves, in the far away trees the branches and leaves [remain] unclear, and are seen as round [and] as a body[822]. Things of this kind cannot, each one of them, be brought up. It is said that in the art of the brush of painters, far away mountains have no wrinkles and far away trees have no leaves, far away water has no waves and far away people have no eyes. That far away things cannot be distinguished is to have a good painting technique[823] and a good discernment. However, the disciples of Barbarian learning, bringing up the eclipses of the Sun and the Moon, argue about the shape of the Earth, the about the great difference of height, and the distance between the Sun and the Moon. [Nevertheless] a clever and shrewd person will be doubtfull of all of this. If a person is knowledgeable about the *principle* of Heaven and Earth as well as of the *telluric* and the *solar* [*vigour*], even though he has not

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方形のもの。一説に、四半とも。⑦「しほうがみ(四方髪)」の略」, Nikkoku; "Xifõ. Yotçuno cata. *Quatro partes do mundo, ou de outra cousa*", Vocabvlario, f. 300v.).

[820] *Ganmoku* 眼目: eyes ("Ganmocu. Manaco, me. *Olhos*", Vocabvlario;「①まなこ。め。②物事の肝心なところ。主眼。要点。」, Kojien).

[821] *Erumono ari* 得るもの有 includes the nuance that this might not be always the case. Thus "sometimes".

[822] *Ichidan* 一團: a body ("a body, a group, a party, a gang, a troupe", Nelson).

[823] *Gakō* 畫工: professional painter (「絵をかくことを職業とする人。絵かき職人。」, Kojien).

heard the proofs of the Barbarian theory, with his clear [knowledge of] *principle* he has the perception of Heaven and Earth, of the Sun and the Moon. Because Barbarian scholars, to begin with, do not have the knowledge of the *principle* and *vigour* [theory] and of the *telluric* and *solar* [*theory*], they cannot show *principle* to the people but only argue with tricky and formalist arguments. That the shape of Heaven and Earth is spherical should be, without doubt, learned and mastered to the utmost from the study of Confucianism.

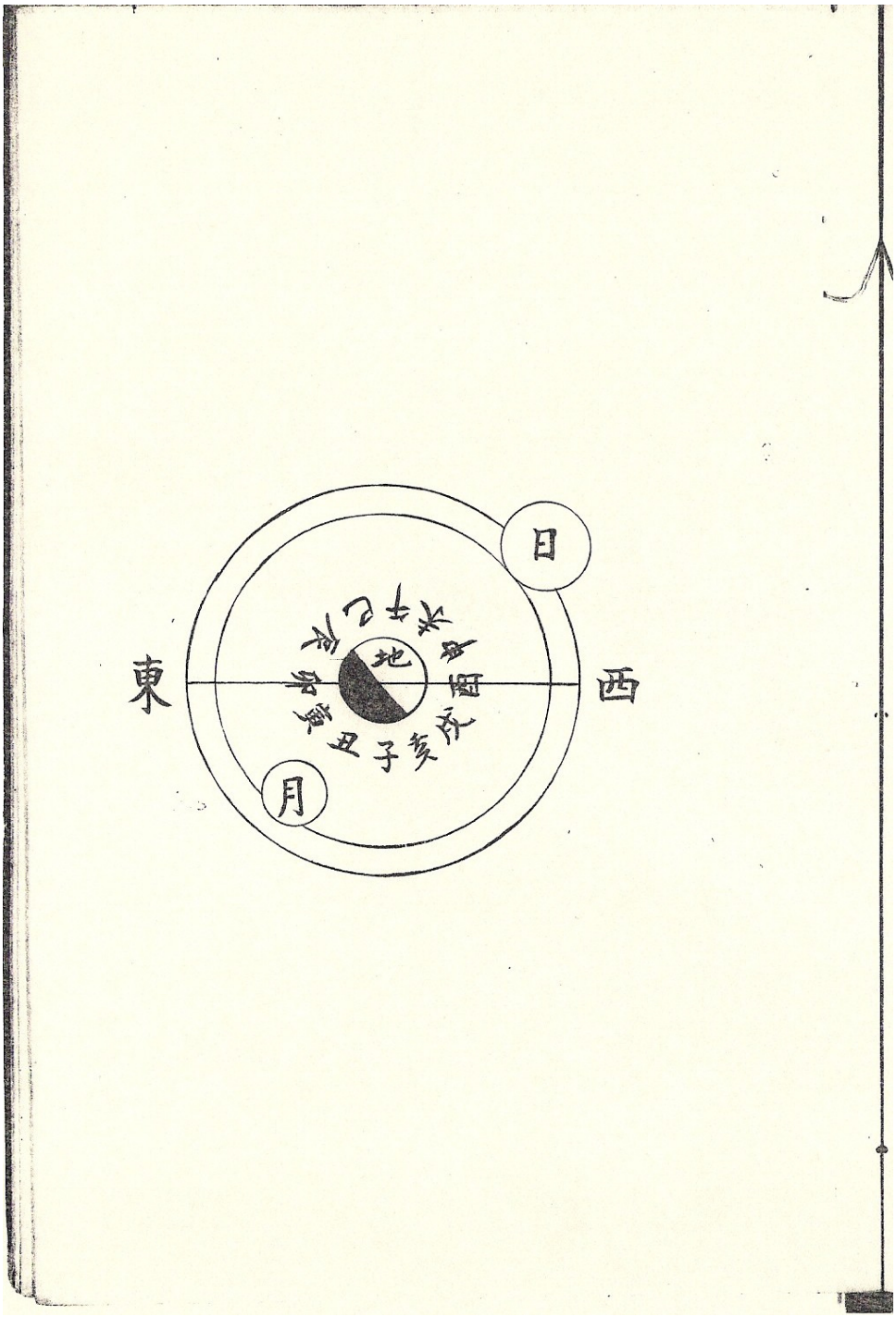

Figure 4 [No caption; The Sun and Moon in opposition]

East on the left, west on the right; Earth on the centre; Sun on the outer circle (above right) and Moon in the inside circle (below left); the twelve Mansions around the Earth

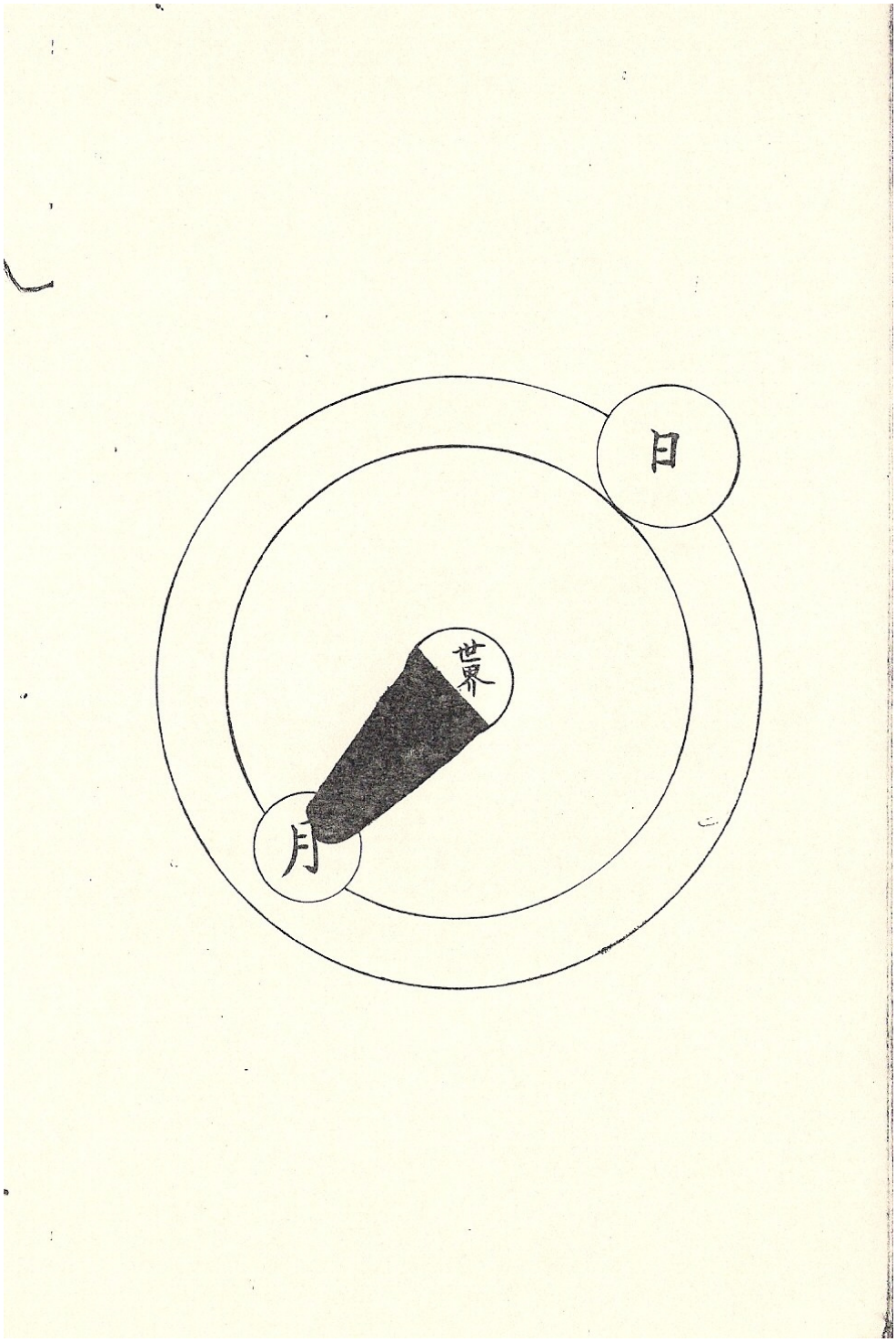

Figure 5 [No caption; The Sun and Moon in opposition with eclipse of the Moon]

World on the centre; Sun on the outer circle (above right) and Moon in the inside circle (below left)

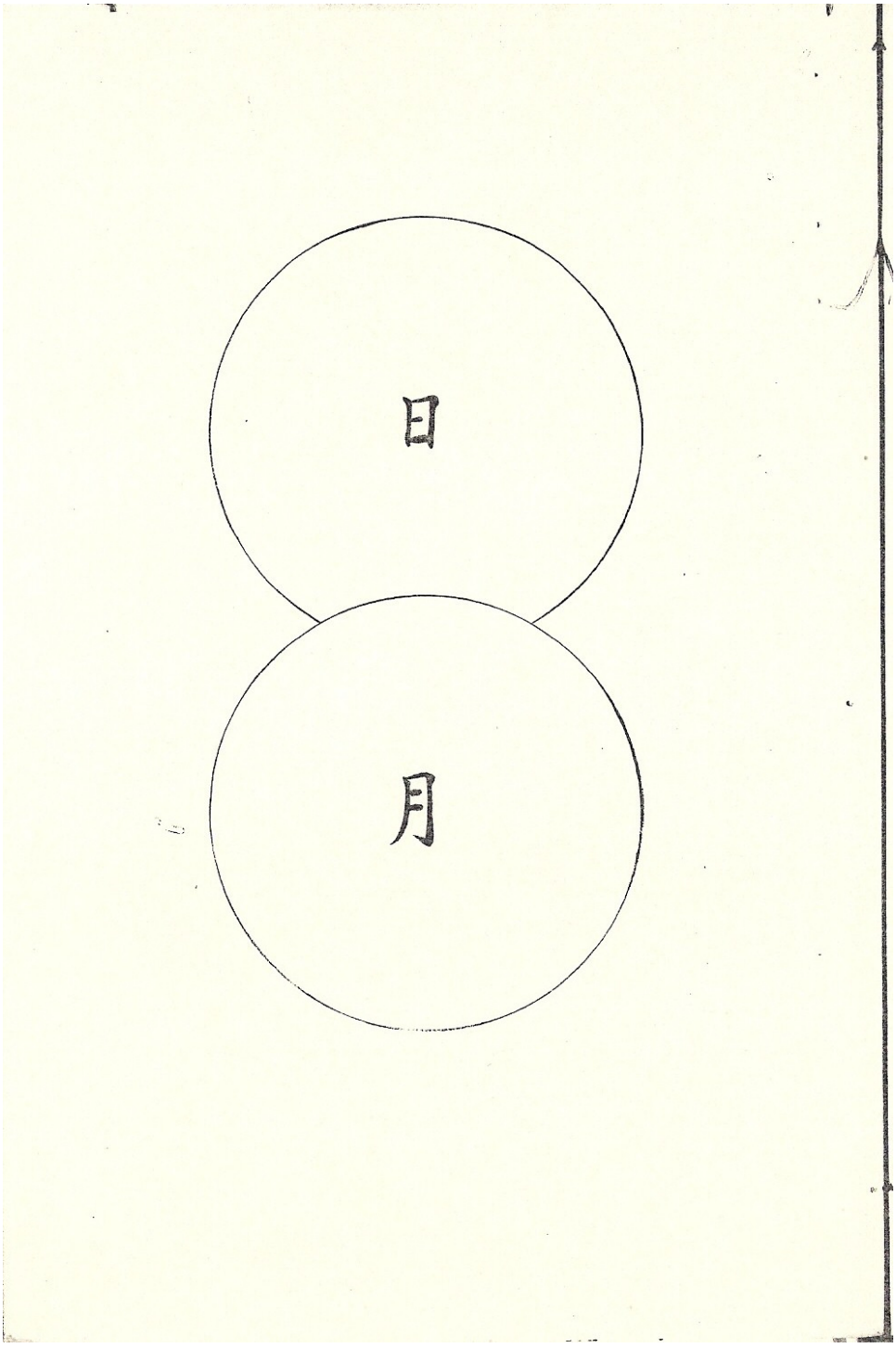

Figure 6 [No caption; The eclipse of the Sun: the circumferences of the Sun and the Moon are seem with about the same size]

Circles of the Sun (above) and the Moon (below)

End of the First Volume of Explanations Concerning the Heavens and the Earth

第九　世界の廣相の事

一、　地を道法に積るに、其一回りを三百六十度に分つ也、一度は五畿内の道四十五里の間也、一度を又六十分に分つ也、然るに天地を南北へ等分に分つ一筋有、是即日夜等分の筋と云也、其故は日輪かしこに至る時、何國も日夜等分なるが故也、此筋を界にして、西より北の極めまで九十度、又南の極まで九十度なり、東より南北へ各々同く九十度宛に分けり、凡て南北の一回りの間は三百六十度也、東西の一回を（イは）世界の圓相成故に、同く三百六十度に分つなり、然るに世界の一回りを道法に積てみるに、一萬六千二百里也、其故は世界の一回りは三百六十度也、一度は四十五里の間なれば、凡て一萬六千二百也、世界の廣相如レ此なれば、厚さは五千二百五十四里の少し上也、何を以て一度の間を四十五里に積るぞと云に、日中に日影を寫す道具を以て、何れの所も何ほど南北へよりたるぞと云事を知る道也、即其道を以て一度の法を積るもの也、たとへば彼道具を以て日影を移して見るに、等分の筋より三十度分を北へよれり、是より北へ行又日影を移して見に、三十一度よりたれば一度ちがい也、其間の道法を計りて、一度は幾里ありと考るに、則四十五里の間なり、是南北の道法を計る道也、世界圓相なるが故に、東西も同じ道法也、雖レ然東西の道法を計るにも、又各別の道也、右に云如く、月は世界の影にさへられて、蝕する時月をみる程の國、いづくも同じ月蝕なりといへども、其月蝕を見る時刻は、東西同時に非ず、其國西によりたるに隨て、東よりも西に早く見ゆるもの也、然に月は三百六十度の一回りを、十二時にせしむるが故に、彼月蝕東よりも西へ、半時早く見る時は、其違は十五度也、其十五度の道法を以て、一度の間を計るに四十五里也、爰を以ても世界の一回りを道法に積るに、東西南北ともに、一萬六千二百里也と、慥かに知る者也、

辯説、右南蠻學士の説如レ此、世界一回り凡て一萬六千二百里也、世界の廣相は如レ此なれば、其厚さ五千二百五十四里余りと云、一度を五畿内道四十五里にするの積りと云論説詳也、彼南蠻學士は蠻法邪説を以て、世界の萬國に流傳せんとし、南蠻學王は世界萬國を己れ領せんと◎行カ事を欲し、故に大船に乗て、世界萬國に往來すること毎年の事也、

故に地體海上の道里を能窮むる、日輪又赤道の出入を以て、地體も又三百六十度、一度は四十五里の儀を窮め知ること分明也、儒醫の兩家には、三百六十度の説に詳にして、道里の説に略せり、倭漢の人物は、本來大人君子の氣象ありて、世界萬國に求むるの慾心なし、其國々自ら事足て、萬國遠行の苦難なし、但し禮記、尚書等の疏に、地の厚さ三萬余里の説有り、南蠻説と大都相似たり、右に云五畿内道とは、三十六町を一里とす、漢土の道は六町を一里とすとかや、如レ此ときには、南蠻の云五千二百五十里余とは、漢土の三萬余里と云に相同じ、學者可レ詳レ之、

Second Volume

[Paragraph] 9— About the Dimensions of the World

When estimating[824] Heavens and Earth with the measures used on the roads[825], their circumferences[826] can be divided into 360 degrees. One degree is the distance of 45 *ri* on the roads of Gokinai. One degree can further be divided into 60 minutes. Moreover there is an arc that divides Heavens and Earth in equal parts south-north. This is the arc of equal day-night [duration], because when the sun is there[827], in all countries[828] the day and night are equally divided. Making this arc a boundary, from west to the extremity of north [there are] 90 degrees, and again to the extreme of south there are 90 degrees. From east to [both] south and north 90 degrees can be divided in a similary way in each direction. The distance in a south-north circumference is overall

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[824] *Tsumoru* 積る: estimate, calculate, measure (「㊀量・数の膨大なもの、または実体のつかめないものを大づかみにして、およその結果を出そうとする意。①あらかじめ見計らって見当をつくる。みつもる。②他の心を推測する。」, Kojien; cf. Nelson 3306).

[825] *Dōhō* 道法: measures used in the roads, distance (「みちのり。路程。道程」, Nikkoku).

[826] *Hitomeguri* 一回: circumference, one turn ("Icquai. Fitomeguri. *Hum rodeo, ou volta*. S.", Vocabvlario, fl. 129v;「ひとまわり。一巡。」, Kojien)

[827] In the "arc of equal day-night [duration]".

[828] *Iduku* 何國: where, everywhere, in all places, in all countries ("Izzuco. *P. Onde*", Vocabvlario, fl. 138v; "Izzucu. *Onde, ou em que parte*. ¶ Izzucu mademo. *Em toda a parte*", Vocabvlario, fl. 138v; "Izzucumo. *Idem*", Vocabvlario, fl. 138v; "Izzucunimo. *Idem*", Vocabvlario, fl. 138v). J. J. Hoffman, *A Japanese Grammar*, second edition, Leiden, E. J. Brill, 1876, p. 80, gives the following definition: "Idzuku (何ｲﾂ處ｸ), old-Japanese *Idzŭko*, which place? Some consider *ku* as an abbreviation of *kuni*, country, and consequently write 何ｲﾂ國ｸ, which country? - *O kuniwá ídzŭkude gozárimásŭ*, your country - which country is it? what is your country? - *Idzŭkuno fítózo*, from what country is the man? - *ldzŭkuyé*, whither? - *Idzŭkuye mó*, whithersoever, - to every-where. - *Idzŭku yóri kitazo*, whence has he come? - *Idzŭku yori mó*, whenceeoever, from every place whatever. - *Idzŭkuni árŭzo*, where is he? *Iyéni áru*, he is at home. - *Idzŭkuniká*, or *Idzŭkunká*, where? whither? 1). - 牛ｳｼ何ｲﾂｸﾝｶ之ﾕｸ whither is the ox going?" This word word was used in *Contempyvs mundi jenbu* (1596) to translate "ubi": "Cocorono xŭgiacuua izzucuniaruzotoyŭ cotouo qiŭmei xezu, mata vareraga yorozzu no tçutanaqi cotouo canaximi naqu coto naxi", *Contemptvs mundi jenbu. Core yovoitoi, Iesv Christono gocŏxeqiuo manabi tetematçuru michiuo voxiyuru qiŏ*, 1596, p. 246. In the original this sentence is "Ubi iacent affectus nostri non attendimus, et quam impura sint omnia nostra non deploramus."

360 degrees. Because the World is round[829] the east-west circumference can equally be divided into 360 degrees. Thus the estimation of the circumference of the World on road measures is 16,200 *ri*. As the circumference of the World is 360 degrees, if each degree is a distance of 45 *ri*, [then] it is about 16,200 *ri*. If the vastness of the World is like this, [its] thickness is somewhat above 5,254 *ri*. Concerning the question of why the distance of one degree measures 45 *ri*, [the answer is] that an instrument[830] is used in which the shade of the Sun during the day is projected. This way in all places it can be known how far south or north they are. By the use of this way one degree can be measured. For example, if when using this instrument the transposition of the solar shade is observed, giving 30 degrees north from the arc of equal [night and day duration], and going from this place to the north and again observing the transposition of the solar shade, if it is 31 degrees, then there is a difference of 1 degree. When that distance is measured in road measures, considering how many *ri* are in one degree, it is a distance of precisely 45 *ri*. This is the way of measuring the dimension south-north. Because the World is round, the distance east-west is the same. However there is another different way to measure the distance east-west. As said above, when the Moon is occulted[831] in the shade of the World the Moon is eclipsed. To the extent that when the Moon is seen in a country, although it can be said that it is the same eclipse everywhere, the time when that lunar eclipse is seen, is not the same time in the east and in the west. As a country is more to the west, [the eclipse] is seen earlier in the west than in the east. Therefore, because the Moon takes 12 hours to make one turn of 360 degrees, when this lunar eclipse is seen half an hour earlier in the west than in the east, that difference is 15 degrees. Taking the road measures of those 15 degrees, the measurement of the interval of one degree [yields] 45 *ri*. Using this [value] the estimate of the circumference of the World, both east-west and south-north is 16,200 *ri*. [This much] can be known with certitude[832].

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[829] *Ensō* 圓相: round ("Yenso. Marocana catachi. *Figura redonda*.", Vocabvlario, fl. 321;「①まるい姿。円形。」, Kojien).

[830] *Dōgu* 道具: instrument ("Dŏgu. Aparelhos, ou instrumentos, & petrechos", Vocabvlario).

[831] *Saeru* 障える: occult (「①塞(せ)を止める。さえぎる。」, Kojien; *saegiru* 遮る:「③間を隔てて見えなくなる。」, Kojien).

[832] *Tashikani* 慥かに: certain, sure, indubitable, definite (「㊀①しっかりして動かないこと。②信用できること。安心なこと。③間違いのないこと。確実なこと。④あぶないくないこと。安全なこと。⑤はっきりしていること。明瞭なこと。㊁(自分の記憶によれば)まず間違いなく。」, Kojien).

Commentary. The above explanations by the Southern Barbarian scholar are like this. The circumference of the World is about 16,200 *ri*. If the expanse of the World is like this, its thickness is said to be somewhat more than 5,254 *ri*. The explanation of how one degree is estimated to be 45 *ri* of the roads in Gokinai is a detailed one. The Southern Barbarian scholar, bringing along the Evil Law of Barbary, moves around the myriad countries of the World. The King of Southern Barbary wishes to make the myriad countries of the World his own territories. Hence, to subjugate the myriad countries in the World, every year [they] go aboard in large ships. Therefore [they] excel in the ability to measure the body of the Earth and the seas. Using the Sun and [its] entrances and exits in the Red Way[833], and again [the fact that] the body of the Earth [has] 360 degrees, the rule that one degree is 45 *ri* is clear[834]. Both Confucianism and the Medical School have detailed knowledge of the 360 degree theory, having omitted the measurements. The people of Japan and China, knowing from the beginning[835] the relation between minister and sovereign, do not crave for the myriad countries of the World; they are satisfied in themselves, and do not suffer the hardships of long trips to the myriad countries. However in the Book of Rites, the Book of Zhuangzi, etc., the theory that the thickness of the Earth is somewhat more than 30,000 *ri* is sparsely prsented. This is similar to the Southern Barbarian theory, as in the road measures of Gokinai referred above, 36 *chō* are 1 *ri*. On the roads of China 6 *chō* correspond to 1 *ri*. In this case what is said to be more that 5,250 *ri* in Southern Barbary corresponds roughly to 30,000 *ri* in China. Scholars should be knowledgeable about these matters.

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[833] *Sekidō* 赤道: Red Way, Equator.「①赤道面が地表面と交わる線。春分または秋分のとき太陽は真上を通る。緯度の基準線。②赤道面が天球と交わる線。赤緯の基準線。天の赤道。」Nikkoku. In the *Kenkon Bensetsu* two expressions are employed to name Equator: the classical *sekidō*, which appears here for the first time, and the more descriptive *nichiya tōbun no suji*, which probably is an expression coined by the Southern Barbarian scholar.

[834] *Funmyō* 分明: clear ("Funmiõ. *Clareza*.", Vocabvlario, fl. 109;「他と区別がついて、はっきりしていること。」, Kojien).

[835] *Honrai* 本來: from the beginning ("Fonrai. *Principio, ou desdo principio ate agora*.", Vocabvlario, fl. 101v).

第十　地大之部之事

一、　夫地大は、其體水風火の三大よりも固密にして重く、故に至下を所在とす、冷燥の二性を帯する故に、物生じ難しといへども、水の潤澤をかり、日輪の煖気を借用して、餘の三大よりも莫大に物を生じ養ふものなり、地大の形體は、山峰渓谷ありと雖も圓相也、山峰渓谷破離磷々の異ある事は、是生ずる所の萬物、皆以て人間を初め、生類のために非ずと云ことなし、その故は山には草木珠玉金銀銅鐵鉛（なまり）等を生じ、里には五穀を生じ、谷には禽獣を治む、故に平等ならず、

辯説、右南蠻學士の説如レ是、地大は水の潤澤の氣をかり、日輪の煖気を借用して、餘の三大よりも莫大に者を生じ養ふ物也と云、火大の氣は不レ受や、又水大に物を生ずる事尤多し、地大に生ずる物よりも、大なる物を能生ず、又水中にも草木の類を生じ、山峰渓谷は生類のために非ずと云事なしと云は、似たることにて實は不レ然、夫萬物は山峰渓谷なしと云ども、此地ある時は萬物生ずべし、生類の為めに此の山峰渓谷有に非ず、故に山峰にも草木あり五穀あり、平原にも草木あり、水の中にも禽獣あり、何必しも山峰は生類の為めに有と云んや、只是五行の氣化、其所々の便によりて生ずる物也、又地體は至下とすと云事、四大所在の部に辨ず、土は冷燥の二性を帯すと云事、四大性の部に辨ず、

[Paragraph] 10— About the Section Concerning Element Earth

Concerning the element earth, as its substance is more hard and dense than that of the elements water, air and fire, it is heavier [than them] and therefore has for place the lowest [region]. Because it has the two natures of cold and dry, it can be said that it is difficult for it to produce things. Borrowing the plentifulness[836] of water and taking as a loan the warm *vigour* of the Sun, more than the [other] remaining three elements it gives life and nurtures[837] multitudinous beings. The shape of the Earth, though it has

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[836] *Juntaku* 潤澤: plentiful, abundant ("Iuntacu. *Abundancia*", Vocabvlario, fl. 146v.; "Affluens, entás, Lus. Cousa abundante. Iap. Bentŏ naru mono, fucuyŭ naru mono, juntacu naru mono", Dictionarivm, p. 31; "Hvber, eris. Lus. Cousa fertil, abundante. Iap. Bentŏ, juntacu naru coto" Dictionarivm, p. 335;「①つや。うるおい。②物資や利益などが豊富にあること。十分ゆとりのあること。③恩恵を施すこと。」), Kojien;「①うるおうこと。うるおすこと。にんだく。②情のあること。なさけをかけること。また、なさけ。恵み。③物がたくさんあること。豊富であること。また、そのさま。さわ。じゅうぶん。④つやを添えること。また、つや。⑤もうけること。利益。」, Nikkoku). In *Meigoki*『名語記』(1275) *juntaku* is used as follows:「ニヨ ニタ 問 ニタニタトアルトイヘル ニタ如何 答 潤澤ヲニタトイヘル歟 サハサハトモナキ心也」, *Meigoki*『名語記』, modern printing edited by Kitano Tayuru 北野克, revised by Tayama Hōnan 田山方南, Tokyo, Benseisha 勉誠社, 1983, p. 558. It is found also in one intersting passage of *Gōdanshō*『江談抄』:「又云、神泉苑修請雨経法四箇度。人々、大僧都空海、一七ケ日不雨降降。延ニケ日。九ケ日竜破神泉苑上天。即降雨天下潤沢。陰陽師滋岳川人勲五竜祭。今度殊同成精之度云々。又云、大僧都元杲、一七ケ日雨不降。延ニケ日。至于九日雨降。又云、小僧都元真、一七ケ日雨不降。延ニケ日遂不降。仍隠居鎮西安楽寺云々。又云、阿闍梨仁海、寛仁二年六月四日始。五ケ日之間雨降。可任律師之状、蒙宣旨、八月十一日任権律師。」, Gotō Akio 後藤昭雄, Ikegami Jun-ichi 池上洵一, Yamane Taisuke 山根對助 (eds.), *Gōdanshō, Chūgaishō, Fukego*「江談抄 中外抄 富家語」, *Shin-Nihon Koten Bungaku Daikei*『新日本古典大系』, vol. 32, Tokyo, Iwanami Shoten 岩波書店, 1997, p. 478.

[837] *Yashinau* 養う: nurture ("Yaxinai, ŏ, ŏta. Criar ou sostentar." Vocabvlario, fl. 318v.;「①子供をそだてる。養育する。扶養する。②餌を与えて動物を育てる。飼う。③体力・気力がおとろえないように保つ。養生する。④だんだんに作りあげる。つちかう。⑤飲食する。⑥箸(はし)を取って子供などに飲食させる。」, Kojien;「①子どもをはぐくみ育てる。助け守って成長させる。うしろみする。②食事など生活の面倒をみる。扶養する。③動物を飼い育てる。飼育する。また、植物を培う。施肥する。④仕えて世話をする。かしずく。傅育(ふいく)する。⑤供養する。布施する。⑥世の中を治め整えて、良い方向に導く。天子、主君が人民を保護して向上させる。⑦からだや気力などを衰えないように保つ。また、ある状態を発達、向上させる。⑧慰める。喜ばせる。⑨飲食する。栄養をとる。⑩他人の子を、自分の子として育てる。養子にする。⑪幼児・病人など、自分で食事のできない者に、箸(はし)をとってたべさせる。⑫治療や休養をして、病気や傷を治したり体力などを回復させる。養生する。⑬教育や努力によって、習慣づける訓育する」, Nikkoku). Some other possible ways to translate this word are: bring up, foster, support, maintain, cultivate, develop, rule the world according to the right path, console (as for example in the following setence of *Hōjōki*:「ヒトリ調ベヒトリ詠ジテ、ミヅカラ情ヲ養フバカリナリ。」, in "Hōjōki, Tsuretzure kusa"「方丈記・徒然草」, edited and annotated by Satake Akihiro 佐竹明広 and Kubota Jun 久保田淳, *Shin Nihon Koten Bungaku Taikei*『新日本古典文学大系』, vol. 39, Tokyo, Iwanami Shoten 岩波書店, 1989, p. 21), etc.

mountains and massifs, gorges and valeys, it is round. The various different things [like] mountains and massifs, gorges and valleys, crystals[838] and jewels[839], and the myriad things that are produced there, all of them cannot be said not to exist for the sake of sentient beings, Man first amongst them.[840] For that reason grass and trees, pearls and gems, gold and silver, cooper, iron and lead are generated in the mountains. The five cereals are produced in the fields and the savage beasts are sovereign in the valeys. Therefore there is no equality[841].

Commentary. The above explanations by the Southern Barbarian scholar are like this. He says that element earth, borrowing the plentifulness of water and taking

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[838] *Hari* 破離: crystal, jewel, quartz ("Fari. Tama. Hũa pedra preciosa", Vocabvlario, fl. 81;「【玻璃・玻瓈・頗梨】(梵 sphaṭika の音訳・水精と意訳する)①仏教でいう七宝の一つ。現在の水晶をさす。紫・白・紅・碧の四種類がある。②(透明であるところから)ガラスの別称。③火山岩に含まれている非結晶質の物質。黒曜石(こくようせき)のように、岩漿(がんしょう)が急激に冷えたために生じたもの。」, Nikkoku). The characters used for this word in the *Kenkon Bensetsu* are non-standard. This word was used in the *Honchō Monzui* , book 14, 407,『朱雀院平レ賊後レ修二法会一願文』, as follows (*op. cit*., p. 358):「況賄高祖之建二仁祠一、変二戦場於頗梨之閣一、唐太宗之設二斎会一、迎二亡卒於菩提之門一。」.

[839] *Rinrin* 磷々: jewel (「磷磷 リンリン ①玉石の光沢がつやつやして輝くさま。②水中に石が見えるさま」, Kokanwa;「磷磷 ①玉(ぎょく)、石、金属などが美しく輝くさま。②りんりん(粼粼)に同じ。」, Nikkoku). The *Honchō Monzui*, book 1, 10,『奉レ同二源澄才子河原院賦一』, *op. cit*., p. 126-127, also uses this expression:「有レ院無レ隣、自隔二囂塵一。山吐二嵐之漢々一、水含二右之磷磷一。」.

[840] That the Earth, and everything in it, exists for the sake of Man is a doctrine that was held by Christianity. It differs from the Confucian view as stated by Gensho in the commentary. There he states that the Earth "is simply the action of the *vigour* of the *five phases*", a blind impessoal working of nature: "It is not for the sentient beings that these mountains and massifs, gorges and valeys exist." This is a rare instance of an ontological implication of Western natural philosophy being brought into the open in the exposition of the *Kenkon Bensetsu*. As it would be expected Gensho does not let it go undetected.

[841] *Byōdō* 平等: without unevenness or irregularities, equality, similarity, lack of difference; equity; equanimity ("Biŏdŏ. Tairacani fitoxi. *Igualdade de cousas que estão prainas*. ¶ *Item, Permet. Equidade & justiça*", Vocabvlario, fl. 23; "Biŏdŏni, Vt. Biŏdŏni monouo vosamuru. *Gouernar com igualdade, & justiça*. ¶ Biŏdŏni monouo cubaru. *Repartir algua cousa igualmente*", Vocabvlario, fl. 23;「かたよりや差別がなく、すべてのものが一様で等しいこと」, Kojien,「①平らかにひとしいこと。でこぼこなくそろっているさま。②かたよることなくひとしいこと。ひろく行きわたって差別がないこと。一様に扱うこと。また、そのさま。へいとう。③心を平らかにして乱れないさま。」, Nikkoku). Though this word is used to mean "equanimity" in the passage "Christono von cagamiuo muneto xite guezaino nangui, facanaqi cotouo biŏdô naru cocorouo motte vqubeqi coto", *Contemptvs mundi jenbu. Core yovoitoi, Iesv Christono gocŏxeqiuo manabi tetematçuru michiuo voxiyuru qiŏ*, 1596, p. 201, it is defined in "Cono Contemptus mundino vchi funbet xinicuqi cotobano yauaragueˮ, or glossary, which is found at the end of this same work as "Biodô. Tairacani fitoxi", to mean "without unevenness". Hence, another possible rendering could be "therefore, it is not plane". Depending on whether "therefore" refers to the shape of the Earth or to the special position of Man in creation, this sentence might refer either to the roundness of the Earth or to the diference of dignity amongst things in the World.

in loan the warm *vigour*[842] of the Sun, more than the [other] remaining three elements, gives life and nurtures multitudinous beings. It does not receive the *vigour* of element fire, and in element water the things that receive life are naturally in large number, and in addition the things living [in the element water] are larger than the things living in element earth. Again, inside water live several species of grasses and trees. [He] denies that mountains and massifs, gorges and valeys do not exist for the sake of sentient beings. In truth, if it were not like this, even though mountains and massifs, gorges and valeys didn't exist, as long as this Earth existed, the myriad things should have been given life to. It is not for the sentient beings that these mountains and massifs, gorges and valeys exist. The reason is that there are grasses and trees and the five cereals in mountains and massifs, but in the plains there are also grasses and trees, and inside the waters there are also savage beasts. Why does he say that mountains and massifs are surely for the sake of sentient beings? This is simply the action of the *vigour* of the five agents that according to the appropriateness of each place gives life to things. Again, concerning the body of the Earth being in the lowest [place], this is argued in the heading "Concerning the place of the four elements". Concerning soil having the two natures of cold and dry it is argued [under] the heading "The nature of the four elements".

[842] *Danki* 煖気: warm vigour ("Danqi. Atatacana qi. *Grande calma, ou tempo quente*.", Vocabvlario, fl. 70;「①あたたかい気候。②あたたかみ。」, Kojien .

第十一 地大は天の正中成事

一、　天地の形體は、地水風火の四大、天と共に、透間なくまるまるとして重りて円か也、喩へば丸き物を八重に包みなるが如し、地大至下にあり、地大の上に水大あり、此上二大右の如く圓相なる所を、風大其上に有て二大を包み、風大の上に火大有て風大を包み、火大の上に天有て火大を包み、諸天又上なる天は、下なる天を包裹せしむる物也、此天地の総圓相の正中は、天の正中と云也、正中は則圓なる物の中の一點也、然るに地體は天の為に正中なる事を云に其國々に有處の人、何れの国にても天の半分をみるもの也、日月五星西より東へ逆旋せる道筋に、星辰三百四十六有り、これ星辰を十二宿に分て、一宿一宿は同く三十度の間なるを、何国よりみても、六宿にそなはる星辰殘りなくみへ、餘の六宿の星辰は、かくれて不レ見こと常の例也、是いづくよりみても、天の半分をみる證據なり、天の半分をみるときんば、地大は天の正中なること明白也、其故は地大天の正中にあらずして、一方によらば、よる方は天に近かるべし、近き方より天を半分、又逆道の六宿星辰不レ殘みること不レ可レ有、又のきたる方の天は遠らるべし、遠方よりは半天よりも広くみへ、六宿よりも多くみゆべきに、何国よりみても多少なく、六宿を常にみること、昔より今に至る迄其例し也、是地大の一方にかたよらずして、天の正中にある一つの證據也、難じて曰、何国よりみても半天をみると云説は非也、其故は天の正中は、いづれ一方の為に至下なれば、天の遠近の隔なし、故に正中より両方の天迄筋を引てみるに、天を等分に分つことなし、然るときは天の正中より天を見ば、半天をみべけれど、世界の表よりは、半天をみることあるべからず、是ちかき方より半天をみることあたはざれば也、円を以って斷はる、

世界の面、正中より二千五百里余天に近しと雖も、世界の二千五百里の間を、天の広大無辺なる広相に比すれば、一分とするにも不レ足、故に是よりみる時は、世界の二千五百里の遠を、天において見分るほどに非ず、總じて物をみるに、其見る物の近程大にみへ、遠き程せばくほそく小にみゆるなり、目前にみつべし、数千間の長廊厦或は長き馬場をみるに、本より末迄同じ廣さなりと云へども、本よりも未狭くみゆる物也、是により天の正中と世界の面より、

両筋を天迄引き地よりみば、彼筋の両さき一点によれりと目にかかるべし、是天の廣遠懸隔なれば也、故に何国よりみり第八番の天に具はる数々の星辰、其大小有と雖も、此地より體を見分る程の星辰は、何れも世界よりも遙(はるか)に大也と雖も、是よりみるに廻り五六分が程に見也、是天と地との間廣遠懸隔なる故也、然るに世界よりも遙かに大きなる星さへ、かほど微少に見ゆるときは、世界の六分一にたらざる二千五百りの間は、天に於て爭でか目にかかる事有んや、故に何国よりみても半天を見る也、半天を見るときは、地大は天の正中なる故也、又日月は日光を受て以て照すと雖も、日月正對する時は、地大其中間に隔碍の（イして）影となる故に、月食するもの也、毎十五日に日月對行して、月円満すと雖も、正對せざる故に食なし、正對する時は食有、正對なき時は食なし、故如何んとなれば、日月正對するとき節、地大必ず其中間に遮布して影と成る故に、月は地大の影にさへられて、日光を受ざる故に食する物也、圖を以てあらはす、

日月對行しても、無二正對一時は、地大其中間に無き故に、影と成て日光をささへず、故に月食することなし、圖を以て断はる、

然るに地大天の正中に非ずんば、たとへ日月の正對すと云ども、月食成べからず、其故は地大天の正中に非る時は、日月の正對の中間に物なく、地大日月の正對の中間に無き時は、影となる事なし、影と不レ成時は月食する事なし、是月は地大の陰にささへられて、日光を受ざる故に食する物あれば也、圖を以て顕す、

然と雖も日月正對の時は必月食あり、正對なき時は月食なき事常の例也、猶是を決するに、日月十二宿の内、何れの宿にても正對する時節必食するに、両宿にて有し月食を見るに、其両宿の正對の辻は、天の正中に合もの也、然るに日月兩度の正對の時、地大其正中になくんば、日光を隔碍して影と成事不レ可レ有、地大影と不レ成時は月食有事なし、是を以てみるに、地大天の正中に有事分明也、

論じて曰、圓なる物の正中は則一点也、地大の廣大は一萬六千二百里の一廻りなるに、地大（イは天アリ）の正中成とは何ぞや、世界の廣大は如レ此也と云ども、諸星具はる下より八番の天に比すれば、一点とするにも不レ足、其故

は彼の天に具はる星辰、其数積り難しと雖も、此地より体を見分る程の星辰は、其数千二百二有り、此内第一小なる星は、二百四十九あり、此星一つの圓相は、地大に十八倍大也と云へども、此地より何れもかすかに見ゆる星也、幽かに見ゆる星さへ其廣相如レ此、いかに況んや其天の廣大に於てをや、故に地大を天に比すれば、微塵とするにも不レ足、然るにより学士曰、人有て一番の天より世界を見れば、其廣相は此地より見る月の廣相よりも、三双倍大にみへ、四番目の日天より見ば、其廣相は此より太白星を見る廣相よりも一倍にみへ、五番目の天より見ば、小なる星程にみへ、六七番目の天より見ば、会て以てみへべからずと云々、

弁説、右南蛮学士の説如レ此、地は天の正中に有事、其論儒医の説と同じ、但し其論辨証拠煩鋪、重複して理趣決し難し、医家に云、地は人の下にして天の中也と、儒家に云、天の地を包む事は、鶏子清の黄を包むが如く、地の天中に有は、鶏子黄の卵殻清液の中に有が如しと、是を以てみれば、地は人の下に有て、天の中に有る時は、天の正中に非ずして何ぞや、鶏卵の黄清は、白液の内卵殻の中に有物也、是を以て譬ゆるときは、地は天の正中に非ずして何ぞや、易簡にして知り易し、地は天の正中に在て人の下とし、天は地の外を廻りて人の上と成事、眼前の境界也、臣に知るべし、地は天の正中に有事を、

[Paragraph] 11— About Element Earth Being the True Centre of the Heavens

The shape of the Universe [is as follows:] the four elements earth, water, air and fire, together with the Heavens, overlap completely[843] one another spherically[844] without any aperture [between them]. For example, as a round thing is wrapped eightfoldly, element earth is in the lowest [place]. Above element earth is element water, and in the place above these two elements that, as explained above, are round, [is element air. In other words,] enveloping the two elements and above them there is element air. Above element air there is element fire that envelops element air. Above element fire there is a Heaven that envelops element fire. Likewise for the several Heavens, the Heaven that is above envelops the back of the Heaven below. The exact centre[845] of all the spheres of the Universe is said to be the Exact Centre of Heavens. An exact centre is precisely one point inside a spherical thing. Consequently in saying that the body of the Earth is the exact centre for the Heavens, half of the Heaven can be seen in all the countries by the people of all places in those countries. In the inverse rotation path of the Sun, the Moon and the five stars[846] from west to east there are 346 stars[847]. These stars are divided into 12 Mansions[848], each Mansion having the same space of

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[843] *Marumaru*: completely, everything (「①全く。すべて。すっかり。」, Kogien).

[844] *Madoka* 円か: spherical (「①まるいさま。まんまるなさま。」, Kojien; "round", Kenkyusha).

[845] *Seichū* 正中: exact centre, true centre (「①物の中心。まんなか。④南中に同じ。」, Kojien; *nanchū* 南中:「天体が子午線 meridian を通過する現象。天体高度はこの時最大となる。」, Kojien).

[846] *Gosei* 五星: five stars, namely Jupiter (歳星(さいせい・さいしょう) also 木星,) Mars (熒星(けいわくせい), also 火星), Venus (太白(たいはく), as in Heike Monogatari, Book 6,「太白昂星をかす」, also 金星), Mercury (辰星(しんせい), also 水星), and Saturn (鎮星(ちんせい), also 土星).

[847] *Seishin* 星辰: star, constelation (「ほし。また、星座」, Kojien).

[848] *Shuku* 宿: Mansion ("Xucu. *Venda, ou casa onde pousão os caminantes*. ¶ Xucu suru. *Pousar em semelhantes casas ou vendas*." Vocabvlario, 313v.;「①やどること。②旅人のとまる所やど。また、宿屋の集まっていり所。④星座。」, Kojien; see also Rodrigues, História: "dividindo o Ceu em 12 partes iguaos a que chamão Cazas, ou partes, ou Signos, ou tambem horas", fl. 158; Nathan Sivin, *Granting the Seasons: The Chinese Astronomical Reform of 1280, With a Study of Its Many Dimensions and an Annotated Translation of Its records*, New York, Springer, 2009, p. 601, translates as *lodge*, while Joseph Needham (with the collaboration of Wang Ling), *Science and Civilisation in China*, Vol. 2, "History of Scientific Thought", Cambridge, Cambridge University Press, 1956, p. 830, uses *Mansion*).

thirty degrees so that from any country from where the observation is made the stars in six Mansions can all be seen. It is always the case that the constellations of the remaining six Mansions, being hidden, cannot be seen. This is a proof that from any place only half of the Heaven[849] can be seen. When half of the Heaven can be seen, it is evident that element earth is in the exact centre of Heavens. The reason is that if element earth was not in the exact centre of Heavens and was to move to one side, it should have been nearer to the Heavens on the side into which it was to move. From the side that was nearer it would not be possible to see half heaven or see all the stars and constellations of six Mansions in the path of retrograde motion[850]. Again, Heavens would become further away from the side from where it moved. The farther away Heaven would be seen more broadly and more than six Mansions would be observable. [However], from whatever country the observation is made there is no difference[851] and six Mansions can always be seen. This has been the constant case from old times to the present. This is one proof that the element earth is not more to one side but is in the centre of the Heavens. It is argued against this that the theory that half of the Heaven should be seen from all countries is false. The reason is that if the exact centre of Heavens is the lowest [place] from every direction, then there should be no difference in the distance to the Heavens. Thus, if from the exact centre of [Heavens] a line is drawn up to the Heaven in both sides, the Heaven is not divided into two equal parts.[852] Consequently, if Heaven is observed from the centre of Heavens half Heaven is seen,

[849] Instead of *Heaven*, *sky* might be more idiomatic here and in the following passages. However to help the reader to stay aware that the same Japanese word is being used in the original, *Heaven* is used througout.

[850] *Gyakudō* 逆道: the path of a retrograde motion, retrograde motion; wicked ways ("Guiacudŏ. Sacaximana michi. *Mao caminho. i, maas obras. Vt*, Guiacudŏuo vovonŏ. *Fazer màs obras*", Vocabvlario, fl. 177;「①道に外れた悪い行い。不正な道。②道、軌道などを反対方向に進むこと。」, Nikkoku). The Nikkoku presents as an usage example the sentecence「日月五星、西より東へ逆旋する道筋也、故に逆道と云也、」that appears in paragraph 8 of book 3 of *Kenkon Bensetsu*.

[851] *Tashō* 多少: many and few, the degree of how many or how few there are; a small quantity, a bit; many; how many? ("Taxô. Vouoi, sucunai. *Cousa muita, & pouca, ou muitos, & poucos*." Vocabvlario, fl. 243v.;「㊀①多いことと少ないこと。また、多いか少ないかの程度。②ちょっとした分量。少しであること。③(「少」は助字) 多いこと。㊁いくらか。幾分か。すこしは。」, Kojien).

[852] This sentence does not make sense. Instead of the negative *nashi* なし probably it was the affirmative *naru* なる that was intended to be used. However *nashi* is appears in all manuscripts consulted: [A1], [A2], [A3], [A4], and [A5].

but from the surface of the World half Heaven should not be seen [because] from there the half Heaven is seen from nearer. This can be judged with a figure.[853]

Though the surface of the World is about 2,500 *ri* nearer to Heaven than the exact centre, this distance of 2,500 *ri* of the World, compared with the broadness[854] of the unlimited immensity of Heaven, it is not even an infinitesimal portion. Therefore, when seen from this perspective, in what concerns the Heavens, the distance of 2,500 *ri* of the World, cannot be distinguished. Generally, when an object is observed, the object is seen larger the nearer it is, it is seen narrower, thinner and smaller the farther away it is. If a long corridor of several thousand *kan* or a long hippodrome spreads in front of one's eyes, even though they have the same width from beginning to end, the end is seen narrower than the beginning. From this, if from the exact centre of Heavens and from the surface of the World two [parallel] lines are drawn to the Heavens and seen from the Earth, the end of both these lines should be seen approaching one point, such is the broadness and vastness of Heavens. Therefore, from whatever country the observation is made, the[re is a] great number of stars and constellations that adorn the eight Heaven. The stars and constellations whose bodies can be distinguished from this Earth, though they are different in size, [and] although they are considerably much larger than the World, their circumferences are seen from here with about 5, 6 minutes. This is because of the broadness and vastness of the space between Heaven and Earth. Therefore, even the stars that are much larger that the World, when they are seen as most minuscule, the distance of 2,500 *ri* which is not even one sixth of the World, in what concerns Heavens is it something [worth] fighting for, or is it something that can be seen? Therefore, from whatever country it is observed half Heaven can be seen. When half Heaven is seen, element earth is in the exact centre of Heavens. Again, though the Sun and the Moon shine[855] with the sunlight they receive, when the Sun and the Moon are in perfect opposition [with each other], because the element earth is in the

[853] See Figure 7.

[854] *Kōsō* 広相: broadness. Probably, a variant writing for *kōsō* 広壮: something broad, large and excelent (「広く大きくりっぱなこと。」, Kojien).

[855] *Terasu* 照す: shine ("Teraxi, su, ai a. *Alumiar, ou dar luz, & claridade a outra cousa como o sol, &c*." Vocabvlario, fl. 255v.).

middle point[856] between them, it becomes an obstacle that creates a shadow which eclipses the Moon. Every fifteenth day[857], when the Sun and the Moon are in opposition, though the Moon is full[858], there is no eclipse when there is no perfect opposition. The reason why there is an eclipse when there is perfect opposition and there is no eclipse when there is no perfect opposition [is the following]. On the occasion when there is perfect opposition between the Sun and the Moon, element earth is invariably in the middle point and thus by its interposition, it creates a shadow. Therefore the Moon is intercepted by the shadow of element earth and because it doesn't receive sunlight it is eclipsed. This is shown in the figure.[859]

Even when the Sun and the Moon are in opposition, when it is not perfect opposition, because element earth is not in the middle point between them, the sunlight is not intercepted, no shade is created and therefore there is no lunar eclipse. This can be considered with [the help of two] figures.[860]

If the Sun and the Moon were in perfect opposition, but the element earth was not in the exact centre of Heavens, lunar eclipses would not occur. This is because when element earth is not in the exact centre of Heavens, in the middle of the Sun and Moon, when they are in perfect opposition, there is nothing. When element earth is not in the middle of the Sun and Moon, [when they are] in perfect opposition, there is nothing to create a shadow. When there is nothing to create shadow there is no eclipse. Because the Moon is intercepted by the shade of element earth it does not receive sunlight and thus it is eclipsed. This is shown with a figure.[861]

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[856] *Chūkan* 中間: middle point (「①二つの物事・地点の間。特に、そのまんなか。②相対するものの、どちらにも片寄らないまんなか。なかほど。」, Kojien). The Vocabvlario, fl. 339 v., gives this definition applied to the month: "Chùcan. *Os dez dias do meo do mes*."

[857] Refers to the fifteenth day of the lunar month.

[858] *Enman* 円満: full ("Yenman. Matocani mitçuru. *Cousa redonda, ou chea, ou perfeita*. ¶ Yenmanno tçuqi. *Lŭa chea*. ¶ Deusua xojen yenmanno tai nari. *Deus he hũa substancia chea de todas as perfeições, & bondades*.", Vocabvlario, fl. 320v.;「①十分い満ち足りること。欠点・不足のないこと。②かどがなくおだやかなこと。感情が激しくないこと。」, Kojien).

[859] See Figure 8.

[860] See Figures 9 and 10.

[861] See Figure 11.

However, when the Sun and the Moon are in perfect opposition there is invariably a lunar eclipse, and when there isn't perfect opposition it is always the case that there is no lunar eclipse. Further, this is determined depending on which of the twelve Mansions the Sun and the Moon are in. In whatever Mansion they may be in, if they are there at the time of perfect opposition there is invariably an eclipse. The line between those two Mansions in perfect opposition meets at the exact centre of Heavens. However, when the Sun and the Moon are again[862] in perfect opposition, if element earth was not in the exact centre it would not make an obstacle to the sunlight and there should be no shadow. When element earth does not create a shadow there is no lunar eclipse. From this it is evident that element earth is in the exact centre of Heaven.

It is argued against this that the exact centre of something round is just one point. As the vastness of element earth has a circumference of 16,200 *ri*, how is it that it can be in the exact centre of element earth (Earth and Heaven)? Though the vastness of the World is like this, if compared with the stars that adorn the eight Heavens from below, it is not enough to make even one point. The reason is that the stars that adorn this [eight] Heaven[863], though their number is difficult to estimate, the stars whose substance[864] can be distinguished from this Earth number 1202[865]. Of these, the smallest stars are 249. Though the roundness of one of these stars is eighteen times as large as element earth, any of them can only be seen indistinctly from this Earth. If the broadness of the stars that can be seen indistinctly is like this, what can be said

[862] *Futatabi* 兩度: again (「にど。両度。かさねて。また。」, Kojien).

[863] The Eight Heaven.

[864] Note that *tai* 体, which is being translated as *substance*, is used here.

[865] Ptolomy in *The Almagest* wrote: "Thus altogether there are 1022 stars, of which 15 are of 1st magnitude, 45 of 2nd, 208 of 3rd, 474 of 4th, 217 of 5th, 49 of 6th, 9 dim ones, 5 nebulae, and the Hair." Ptolomy, The Almagest, *Great Books of the Western World*, Robert M. Hutchins (ed. In chief), vol. 16, Chicago, Encyclopædia Britannica, 1952, p. 258. In Clavii, pp. 165-166 these same numbers are presented. Gomez, fl. 19, 20v., presents slightly diferent numbers; as they do not add up there are probably the result of mistakes in transcription: "Aliorum autem astrorum, qui stellae fixae communiter dicuntur, quia ordinem et situm non mutant, licet infinitus prope videantur esse numerus [...] quae mille et viginti duarum stellarum numerum conficiunt, de quarum magnitudinibus mira dicunt; dividunt enim earum magnitudes in 6 ordines, ita ut primae magnitudinis sint tantum 12, 2^{ae} vero 48, 3^{ae} magnitudinis 200 et 8, 4^{ae} magnitudinis 404, 5^{ae} magnitudinis 217, 6^{ae} magnitudinis 49, nebulosae quinque, obscuriores 9, quae praedictum numerum conficiunt." It is not known whether the figures presented by Chuan came from another treatise or are a mistake due to faulty notes, or to faulty memory or they are due to faulty caligraphy.

concerning the vastness of that Heaven? Therefore if element earth is compared with Heaven, it is not enough to make even a tiny speck of dust. Hence scholars say that if a person was to observe the World from the first Heaven, its vastness would be seen as twice three times as large as the vastness of the Moon as seen from this Earth. If it was to be observed from the fourth Heaven of the Sun, its vastness would be seen as one time as large as the vastness of Venus seen from here. If it was to be observed from the fifth Heaven, it would be seen as a small star. If it was observed from the sixth Heaven it is said that the sight would not meet it.

Commentary. The above explanations by the Southern Barbarian scholar are like this. That the Earth is located in the exact centre of Heaven is a theory equal to the explanations of Confucians and of the Medical School. However, their explanations and proofs are irksome, repetitive, and its reasons[866] very difficult [to follow]. According to the Medical School, the Earth is below Man and in the middle of Heaven. According to the Confucians, Heaven envelops Earth like the white enveloping the yolk in the egg. That Earth is in the middle of Heaven is like the yolk being inside the eggshell and the white. Seeing this, when the Earth is below Man and is in the middle of Heaven, how can it not be in the exact centre of Heaven? The yolk of an egg is inside the white and in the middle of the eggshell. When this comparison is made, how can the Earth not be in the exact centre of Heaven? It is simple and easy to understand that the Earth is in the exact centre of Heaven and below Man and Heaven circles outside Earth above Man. This is exceptionally evident. That the Earth is in the exact centre of Heaven is something that ministers should know!

[866] *Rishu* 理趣: reason, right reason (「正しいことへのすじみち。ことの次第。道理。理義。」, Nikkoku; 「事のわけ。物の道理。」, Kojien). *Rishu* was used by Kūkai (774—835) to mean "truth" or "right reason" in Book 10 of *Shōryō-shū*『性靈集』:「又所謂。理趣釋經者。汝之三密。即是理趣也。我三密。即是釋經。」, Watanabe Shōkō, Miyasaka Yūshō (ed.), Sangō Shi-iki—Shōryō-shū「三教指歸性靈集」, *Nihon Koten Bungaku Taikei*『日本古典文學体系』, Vol. 71, Tokyo, Iwanami Shoten 岩波書店, 1965, p. 447.

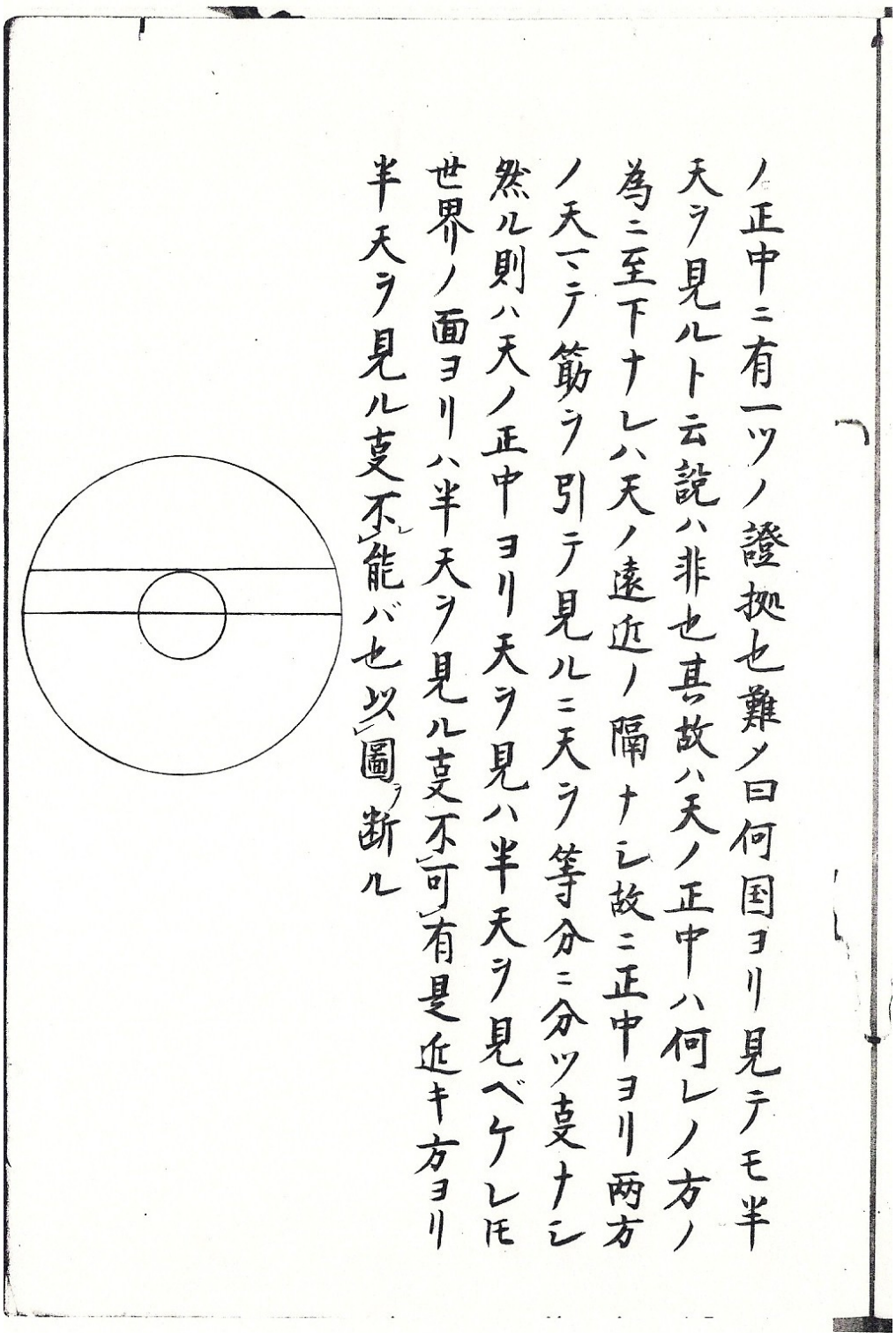

ノ正中ニ有一ツノ證拠也難ノ曰何国ヨリ見テモ半
天ヲ見ルト云説ハ非也甚故ハ天ノ正中ハ何レノ方ノ
為ニ至下ナレハ天ノ遠近ノ隔ナシ故ニ正中ヨリ両方
ノ天ニテ筋ヲ引テ見ルニ天ヲ等分ニ分ツ処ナシ
然ル則ハ天ノ正中ヨリ天ヲ見ハ半天ヲ見ベケレモ
世界ノ面ヨリハ半天ヲ見ル処不可有是近キ方ヨリ
半天ヲ見ル処不能バ也以圖断ル

Figure 7 [No caption; The Heaven observable from the Earth]

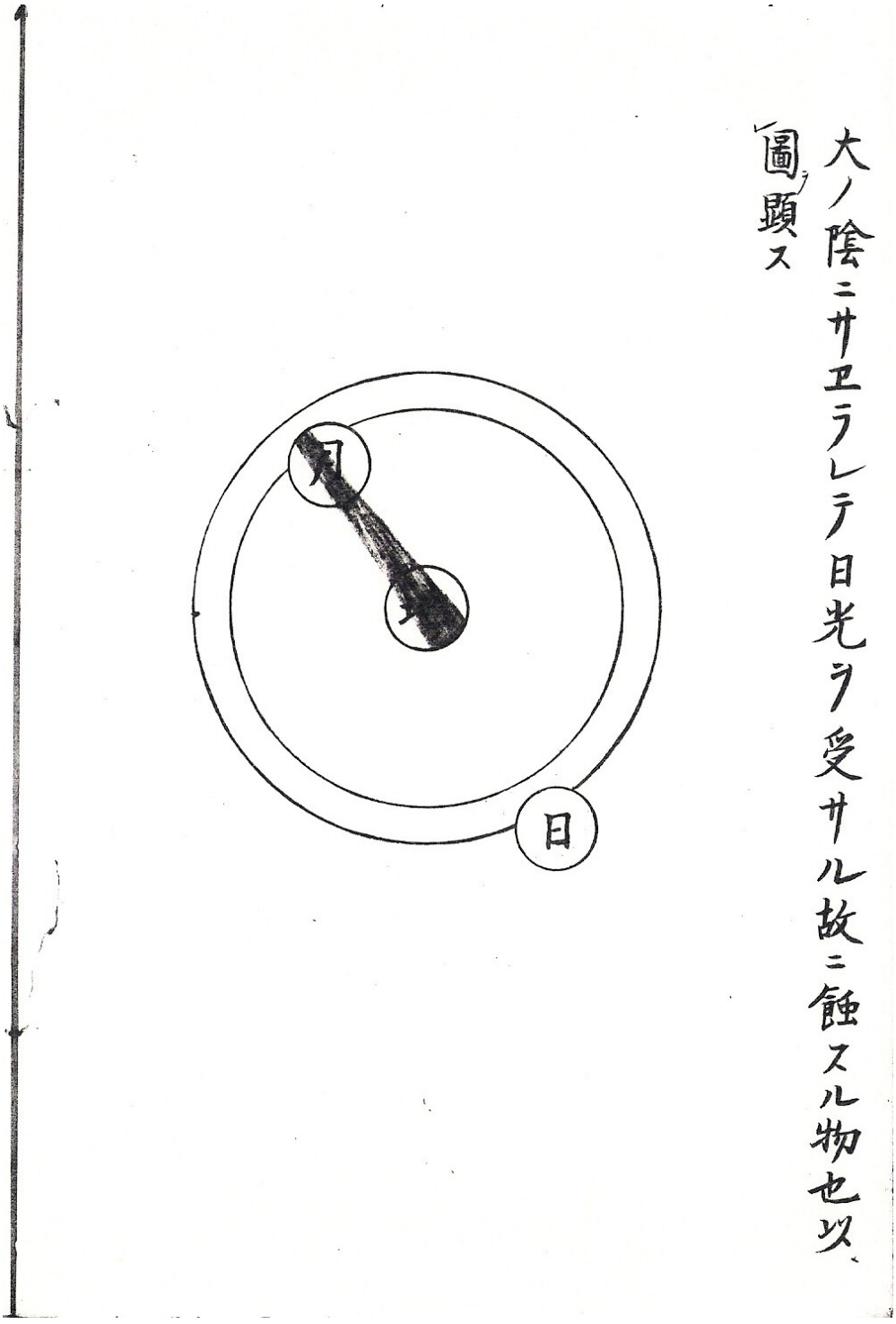
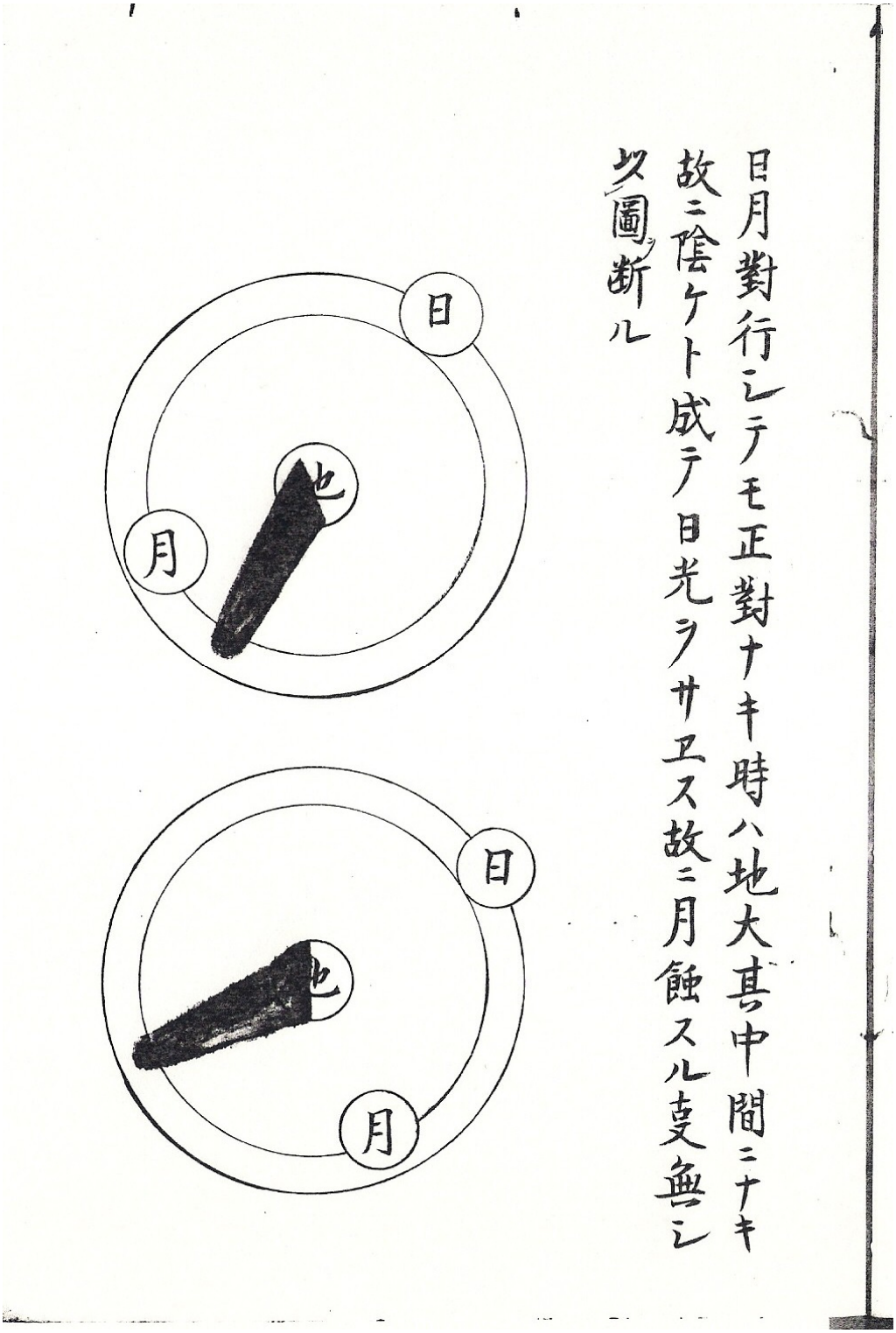


Figure 8 [No caption; Lunar eclipse when the Sun and the Moon are in opposition]

Earth on the centre; Sun on the outer circle (below right) and Moon in the inside circle (above)



Figures 9 and 10 [No caption; Eclipses do not occur when the Sun and Moon in are not in opposition]

Earth on the centre; Sun on the outer circle (above right) and Moon in the inside circle (below)

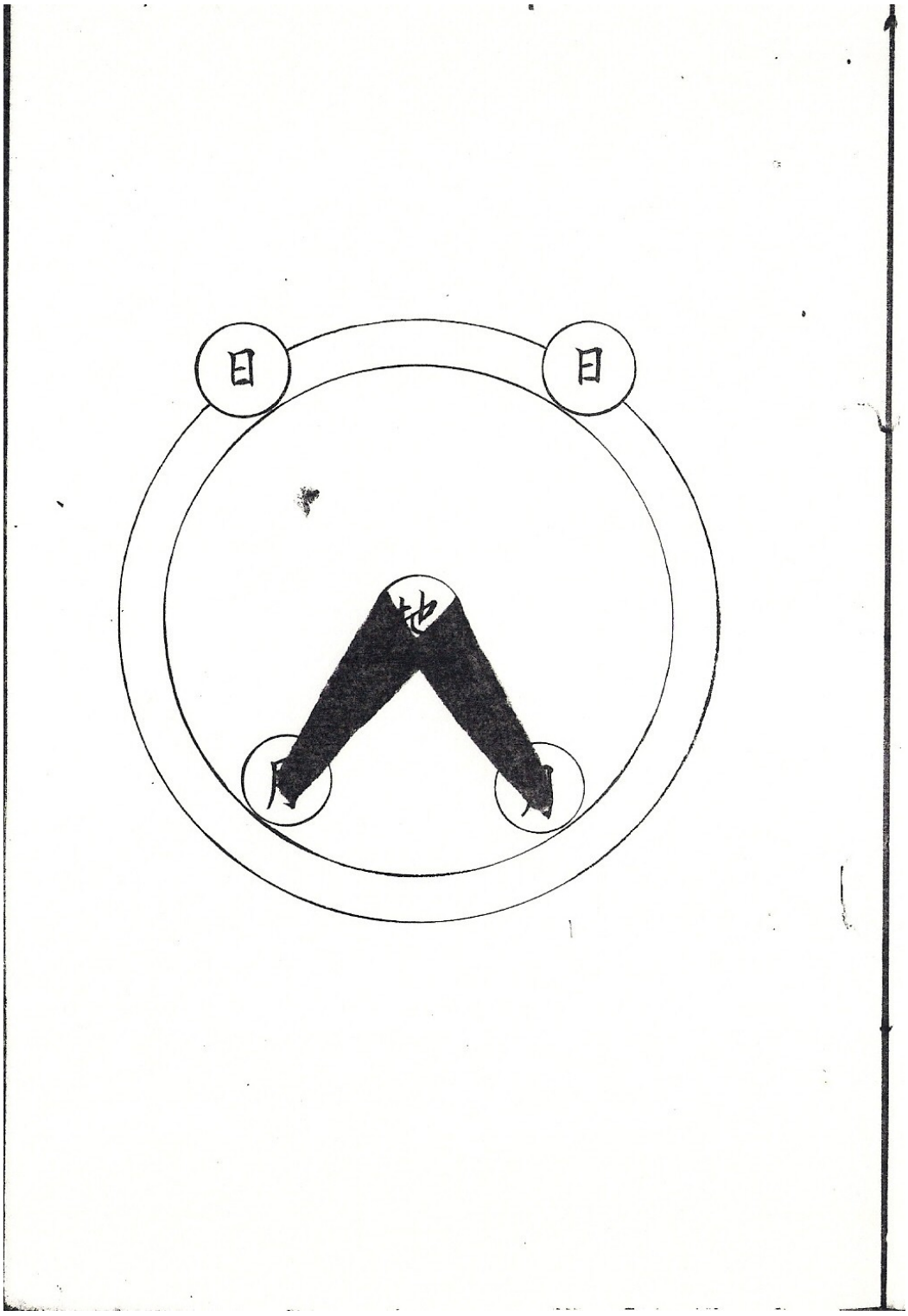


Figure 11 [No caption; Eclipses do occur when the Sun and Moon in are in opposition]

Earth on the centre; Sun on the outer circle (above) and Moon in the inner circle (below)

第十三[867] 重き物は天の正中を望む事

一、 されば地大はいかなる故に、天の正中に具はるぞと云に、右に云如く、萬物は其輕重に隨て、輕きは上に、重きは下を望む性なれば、重物は何れも至下を望む物也、此至下はかづくぞと云に、則天の正中也、其故は天は地大の爲めに、いづれの方も上地、地大又天のためにいづれの所も下なれば、天の正中は至下也、然るに重きものは、何れも至下なる天の正中を望むと雖も、重きに重疊有て、四大の中に地大は至て重し、故に天中に具はるもの也、論じて曰、地大は天の爲に包裹せられて、天の正中にあらば中に可レ有、然らば重き故に下へ落べし、地大は天の正中に有ものなれば、中に有事なし、しかとすわりに居るもの也、是天の正中は至下なれば也、さしも重き地大の至下にそなはる時は、可レ落方なし、是至下よりは何れの方も上なれば也、此理を以て世界を掘ぬき、上より大石を投落さば、彼大石いづくまで行き、いづくに止るぞと見るに、則天の正中に至りて止るべし、其故は重き物は、至下なる天の正中を望て下る性なればなり、若天の正中に止ずして猶先へ行かば、世界の正中より何れの方も上なれば、重き物自から上騰すべし、是又有事なし、又曰、糸二筋に重しを付て、數十間の高き兩所よりさげば、彼二筋の糸上より下迄、同じ廣さに下るべきかと見るに、左なくて下るに隨て、兩筋の間は上より下は漸々に狹くなるべし、故に兩筋共に天の正中まで下ては、下の兩先は正中の一點によるべし、是重き物は自ら天の正中を望んで下れば也、圖を以て顯す、

右を以て見に、世界圓相成と云へども、其國々に有處の人、何國に居ても、或は倒或は横に居ると云事なくして、立て居る物也、其故は天の正中より望む物なれば、何國に居ても地をふみ、天を戴て居るもの也、地をふみ天を戴き居るものは、倒に横などに居ることなく、則立て居るもの也、尤此國の者と此下なる國の者との手足は,互に向ひ合て居ると雖ども、いづれも地を踏、天を戴く者なれば、立て居るもの也、譬へば家の天井に蟻のとまるが如し、又は圓相に蟻蟻のはふが如し、故に此下なる國の者とても可レ落様なし、其故は天はいづれの所の爲にも上の方なれば、重きものは天の方へ可レ落様なし、

[867] A typo in Bunmei has this paragraph as the thirteenth, when reality it is the twelfth.

辯説、右南蠻學士の説如レ是、重き物は至下を望むの説、其理よし、但し論辨工夫の俗學に書たる故に、たとへを取り證據を引事陋きのみなり、

[Paragraph] 12[868]— About Heavy Things Aspiring the Centre of the Heavens

This being so, why is it said that the element earth is placed in the exact centre of Heavens? As said above, if according to their lightness and heaviness the myriad things have a nature that aspires for the low in the heavy and for the high in the light, all heavy things aspire for the lowest [place]. Concerning where this lowest [place] is, it is in the exact centre of Heavens. The reason is that if for element earth Heavens are above in all places, and if, again, for Heavens element earth is below in all places, [then] the centre of Heavens is in the lowest place. Well then, though heavy things, wherever they are, aspire to the lowest [place] in the exact centre of Heavens, there is excellence[869] in heaviness. Element earth is the heaviest

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[868] A typo in Bunmei has this paragraph as the thirteenth, when reality it is the twelfth. It is corrected here.

[869] *Chōjō* 重疊: excellence, peak, superior to everything else, giving the highest satisfaction; repeating many times ("Chôgiô. Casane tatamu. *Hũa vez, & outra.*", Vocabvlario, fl. 50;「①幾重にも重なること。②この上もなく満足であること。とても好都合なこと」, Kojien;「①(形動列)(-する)幾重にも重なっていること。ますます重なること。また、そのさま。かさねがさね。②この上もなく喜ばしこと。きわめて満足なこと。しごく都合がよいこと。多く、感動詞的に用いる。頂上。」, Nikkoku; "piled one upon another; excellent, splendid", Nelson). This phrase intends to say that "there are some things heavier that others," excellence indicating in this case extreme in heaviness. However, according to Aristotelian natural philosophy *excellence* is more properly applied to the lack of heaviness. *Chōjō* can be found in literary works as early as *Kanke Bunsō*『菅家文草』, dated Shōtai 昌泰 3 (900), of Sugawara no Michizane 菅原道真 (845-903). For example, in Book 4「小知章」, we can read that「此章更載二大椿花葉之長年、尺鷃鯤鵬之遊放一、義爲二重畳一、略而不レ取也。」, and in Book 7 祭二城山神一文, that「若二八十九郷、二十万口一、一郷(底木無二二字一、今據二群載一補)无レ損、一口无レ愁、敢不下薦藻清明、玉幣重畳、以賽二應驗一、以飾中威稜上。」, "Kanke Bunsō, Kanke Goshū"「菅家文草 菅家後集」, Kawaguchi Hisao 川口久雄,『日本古典文學大系』, Vol. 72, Iwanami Shoten 岩波書店, 1966, p. 366 and p. 534. In *Shōyūki*『小右記』is writen in the entry for Kankō 2.12.21 (or 1006.01.23)「左大臣、右大臣、大納言道綱、中納言齋信・公任・時光・俊賢・隆家・忠輔、参議懐平・行成・經房参入、(...)左苻傳勅語云、造宮重畳諸國亡幣、随又官物無其實、又國司勸賞若可有乎否、造畢期等宜定申者、」, Tokyo Daigaku Shiryō Hensansho (ed.), *Shōyūki*「小右記」, vol. 2, *Dainihon kokiroku*『大日本古記録』, Tokyo, Iwanami Shoten 岩波書店, 1961, p. 141. In the Takano manuscript version of *Heike Monogatari*, of the first half of the thirteenth century, it can be read that「両条希代いまだ着飾る狼藉也。事既に重畳(テウデウ)せり、罪科尤のかれがたし」, *Takano hon Heike Monogatari*『高野本平家物語』, ed. by Ichiko Teiji 市古貞次, vol. 1, Tokyo, Kasama Shoin 笠間書院, 1973, p. 15. This word is also found in the *Nō* piece *Ko nusumibito*「子盗人」included in *Kyōgenki*『狂言記』(1660):「扨も扨もよい道具そふな、どれを一色とつても一元手は有、やあ、是に小袖が有、是は重畳(ちやうぢやう)のことじや、此中女共が着る物を打こふだれば、殊外機嫌が悪ひ、此小袖をとつて行て、取らしたら、喜ぶでござらふ、先とつて帰らふ」, "Kyōgenki"「狂言記」, ed. by Hashimoto Asao 橋本朝生 and Doi Yōichi 土井洋一, *Shin Nihon Koten Bungaku Taikei*『新日本古典文学大系』, vol. 58, Tokyo, Iwanami Shoten Kankō, 1996, p. 361.

amongst the four elements. Therefore it is placed[870] in the centre of Heavens. It is said that the element earth is wraped by the back of Heavens. If it is in the exact centre of Heavens it should be inside. Therefore, heavy [things] should fall down. If element earth is in the exact centre of Heavens, in the middle there is nothing, and it should be firmly sat. This exact centre of Heavens is the lowest [place]. When the heavy element earth is in the lowest [place] there is no way in which to fall. In the lowest [place] all the directions are up. Using this *principle*, if the World was dug and a large stone was thrown down from above, if it were observed where to this large stone went and where it would come to a stop, it should stop when it reaches the exact centre of Heavens. The reason for this is that heavy things have the nature of falling as they aspire to the lowest place in the exact centre of Heavens. If it does not stop in the exact centre of Heavens but was to go still further, as all directions from the exact centre of the World are up, the heavy thing should have been going up by itself, what is absurd. It is argued also that if weights are attached to two lines that hang down from two places with a height of several tens of *ken*[871], the strings of these two lines from up to down, if they were observed, they should have come down with the same breadth [between them]. [On the contrary,] as they come down the space between the two lines gradually should become narrower from up to down. The reason is that as the two lines both come down until the exact centre of Heaven the two lower ends should approach the one point of the exact centre. Heavy things go down by themselves aspiring for the exact centre of Heavens. This is shown with a figure.[872]

As can be seen from [what is written] above, though it is said that the World is round, the people of each country, in whatever country they are, they never say that where they are is either upside down or on a side, but that they stand up. The reason is

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[870] *Sonau* 具う has the same same meaning as *sonaeru* 具える. Sonaeru: place ("Sonaye, uru, eta. *Offerecer, ou por algũa cousa diãte de pessoa nobre, Fotoques, &c. Vt*, Xôranni sonayuru. *Mostrar, ou propor algũa cousa aos Camis, & Fotoques*. ¶ Gocŭuo sonayuru. *Por, ou offerecer algum comer diãte do Cami*. ¶ Miqiuo sonayuru. *Por uinho diante do Cami*. ¶ De' tẽni tçuqi, fi, foxiuo sonaye tamo. *De' pos nos ceos a lũa, sol, & estrelas por ordẽ, &c*. ¶ Fitouo curaini sonayuru. *Por a alguẽ em dignidade*.", Vocabvlario, fl. 225;「④その地位につける」, Kojien; sonae:「【備・具・供】㊀(動詞「そなえる(備)」の連用形の名詞化)①物、状態、条件などをととのえること。また、それらを具備した状況や設備。準備。②特に、攻撃などに対し防備・警戒すること。また、そのひと。③(供)神仏・貴人などにそなえるもの。㊁(接尾)ひとまとまりになる器具や物事、または、神へのそなえ物を数えるのに用いる。ぐ。」, Nikkoku).

[871] One *ken* 間 is equivalent to about 1.8 meters.

[872] See Figure 12.

that if things aspire for the exact centre of Heavens, in whatever countries they are they step on earth and are crowned[873] with Heaven. Those who step on earth and are crowned with Heaven, are neither upside down nor sideways, but standing up. Naturally[874], the legs and arms of the people of these countries and of the people of those countries that are below these, though they face each other, if all of them step on earth and are crowned with the Heavens, they [all] stand up. For example, just as an ant stops on the ceiling of a house, or as the feathers of a cricket in a ball, the people of the countries below this [place] do not fall because everywhere the Heavens are above and heavy things do not fall into the Heaven.

Commentary. The above explanations by the Southern Barbarian scholar are like this. The theory [is] that heavy things aspire for the lowest place, [and] its *principle* is good. However, as his exposition makes use of devices of vulgar learning, seizing examples and pulling proofs, it is narrowness[875] [of mind] indeed.[876]

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[873] *Itadaku* 戴く: crowned with ("Itadaqi. Cucuruta da cabeça, &c. ¶ Yamano itadaqi. Cume da serra, ou mõte.", Vocabvlario, fl. 135;「Itadaqi. イタダキ (頂) 頭などのてっぺん. ¶ Yamano itadaqui. (山の頂) 山脈や山の頂上」, Nippō; "Itadaqi, u, aita. Por algũa cousa sobre a cabeça. ¶ Sacazzuqiuo itadaqu. Aleuãtar o Sacazzuqui. ¶ Xiraga, yuqi, l. ximouo itadaqu. Ter muitas cãs na cabeça", Vocabvlario, fl. 135;「Itadaqi, u, aita. イタダキ, ク, イタ (戴き, く, いた) 頭の上に物をのせる. ¶ Sacazzuqiuo itadaku. (盃を戴く) 盃 (Sacazzuqui) を上へさし上げる. ¶ Xiraga, yuqi, l, ximouo itadaqu. (白髪、雪、または、霜を戴く) 頭に白髪がたくさん生えている」, Vocabvlario;「①頭にのせる。また、頭上高くに位置させる。」, Kojien).

[874] *Mottomo* 尤も: natural ("reasonable, right, just, natural; of course; altho", Nelson).

[875] *Semai* 陋: narrow, tapered, narrow-minded, poor (「❶せまい。小さくせまくるし。❷せましとする。せま苦しいと思う。❸せまい。心や知識がせまい。❹そまつさま。」, Kanjigen).

[876] The idea that heavy things such as earth and water fall, and light things such as air and fire rise had a long tradition in Buddhist thought. See for example *Konkō Myōkyō* 金光明経. However Dōgen offers a different opinion:「しかあればすなはち、水はかみにのぼらずといふは、内外の典籍にあらず。水之道は上下縦横に通達するなり。しかあるに、仏経のなかに、「火風は上にのぼり、地水は下にくだる」。この上下は、参学するところあり。いはゆる仏道の上下を参学するなり。いはゆる地水のゆくところを下とするなり。下を地水のゆくところとするにあらず。火風のゆくところは上なり。法界かならずしも上下四維の量にかゝはるべからざれども、四大・五大・.六大等の行処によりて、しばらく方隅法界を建立するのみなり。無想天はかみ、阿鼻獄はしもとせるにあらず。阿鼻も尽法界なり、無想も尽法界なり。」, *Shōhōgenzō*『正法眼蔵』, ed. by Ishii Kyōji 石井恭二, vol. 2, Tokyo, Kawade Shobo Shinsha 河出書房新社, 1996, p. 319.

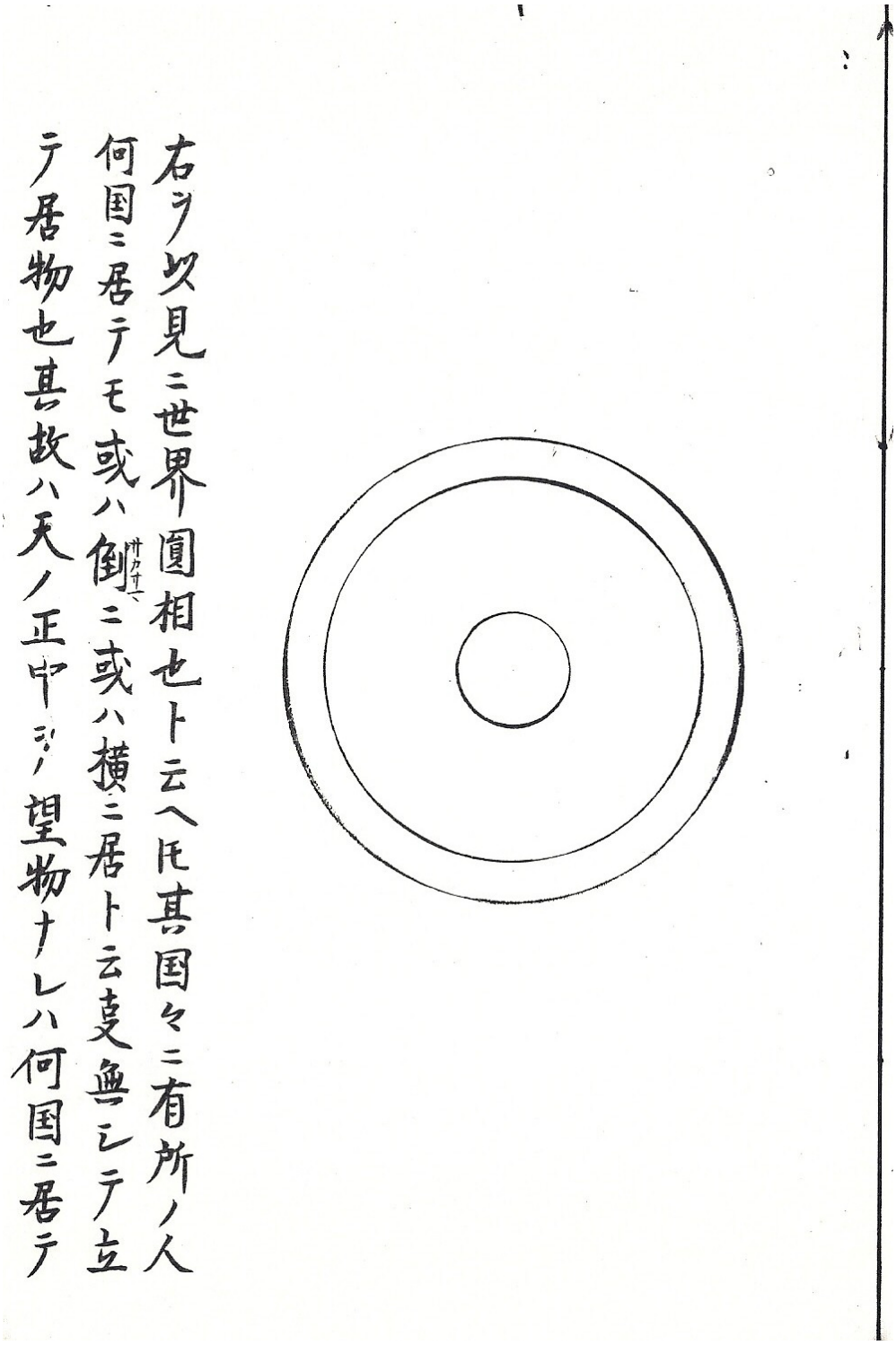

Figure 12 [No caption; Two lines (missing in this figure) hanging in Heaven would approach as they approach Earth]

第十三　地體搖なき事

一、　夫天と地水風火の四大、己が性の儘に動するをみるに、其動は或は世界の正中を中に於て運轉し、或は正中より遠のき、或は正中へ近より動也、正中を中に於てめぐる動は環行也、正中より遠く動は上行也、正中へ近よる動は下行也、天は世界の正中に於てめぐる故に、天の自己の動は環行也、風火の二大は其體輕浮にして上升するが故に、世界の正中より遠のく故に、其自己の動は上行也、地水の二大は、其體重くして下へ下る故に、世界の正中へ近寄故に、其自己の動は下行也、然るときんば天地の性の儘なる動は、環行上行下行、此三つより外に別の動なし、爰以て見るに、地大は動搖なきものなり、其故は地大は其體固密にして重きが故に、上行することなし、又風水火の三大よりも重くして、至下なる天の正中にすわつて有故に、下行すると云ことなし、地大は上行下行せずと雖も、天動せずして地大獨り環行するの説有、此説に云、日月星朝夕には東より出て、夕べには西山に入ると見る事、天東より西へ廻る故に非ず、地大西より東へ廻る故也、たとへば地近く船に乘に、陸は動せずと云へども、船に乘ものは船は動さずして、陸獨り跡へ行とみるが如し、此説非也、其故は一には地大獨り東西へ循環せば、世界の一回りは一万六千二百里成を、日夜十二時にめぐり、一時に一千三百五十里を廻るべし、然れば人倫の居処家屋抔は残りなく、此早き循環にして、破れずと云事有んや、難じて曰、地大東西へめぐる循環早き故に、人倫の居所家屋抔は破るることあるべからず、譬へば水の入たる器を中に振れまはすに、其廻し早き時は水こぼるゝ事なし、事の入たる器を振廻す勢は、外より内へ水を椎込む勢也、故に水のこぼるゝことなし、地大東西へ循環せば、廻る勢は内より外へ推出す勢也、故に人倫の居處家屋は、破れずと云事不レ可レ有、二には天めぐらずして、地大獨りめぐらば、日月星互に或はさきだち後るゝと云事不レ可レ有、日月星の所在も變易すべからず、所在變易せずんば、運遷の會合不レ可レ有、會合なくんば蝕すること不レ可レ有、若夫地大も天と共に廻るといはゞ、日月星朝には東より出て、夕には西山に入ること不レ可レ有、此地大も天も一様に廻れば也、是皆常の例

しに相違ふ事共也、故に地大は運搖環行せずして、諸天常に循環すること分明也、

辨説、右南蛮学士の説如レ是、地體は動搖せざるの辨論よし、詳也、但陰陽性情の至理を以て述ず、只形の上に付て論ずる故に、たとへを引証拠を取こと多し、天動而不レ息、地静而守レ常、其説儒医の兩家に詳也、

[Paragraph] 13— About the Immobility of the Earth

The Heavens and the four elements, earth, water, air and fire, each one and all can be seen to move according to their own nature. This motion can be rotational movement around the exact centre of the World, it can be [a movement] away from the exact centre, or a movement towards the exact centre of the world. The rotational movement around the exact centre is circular, [the movement] away from the centre is upwards, and the movement towards the centre is downwards. The reason the Heavens rotate around the exact centre of the World, is that the proper movement of the Heavens is circular. The body of the two elements air and fire are light and float, and they ascend, and they get farther and farther from the exact centre of the world, their own movement being upwards. The two elements earth and water, with their heavy bodies they go down downwards, [and] come near the exact centre of the world, and consequently their proper movement is downwards. Thus [everything] in the Heaven and Earth moves just according to its nature, either circularly, or up, or down, and besides these three there is no other [kind] of movement. Looking closer to this point, the element earth is without any kind of movement. This is because as the substance of the element earth is solid and dense it is heavy, and it cannot move upwards[877]. Also, as it is heavier than the three elements air, water and fire, and because it is in the lowest place at the exact centre of heavens, it cannot be said that it moves downwards. Even though the element earth can't move either upwards or downwards, there is a theory that the Earth alone revolves[878] and the firmament does not move. The Sun, Moon and stars always get out from the East, and at nightfall can be seen to enter the western mountains. This would not be because the Heavens rotate[879] from East to West, but because the element earth rotates from West to East. For example, this is like when one sails near the land; though it can be said that the shore does not move, to those inside

[877] This passage (「地大は動揺なきものなり、其故は地大は其體固密にして重きが故に、上行することなし」) is presented in Nikkoku as an example of usage of the word *komitsu* 固密.

[878] *Kankō* 環行: revolve (「まわること。あるものの周囲をめぐろこと」, Nikkoku); this passge is given in the Nikkoku as an example of usage for *kankō*.

[879] *Meguru* 廻る: rotate ("Meguri,u, utta. *Rodear*.", Vocabvlario, fl. 155).

the vessel the ship does not move and only the shore is seen to move back.[880] This theory is not true. And the reason is, first, that if the element earth alone did rotate from East to West, as one turn is sixteen thousand two hundred *ri*, [and as] it rotates in the twelve hours of night and day, in one hour it needs to rotate one thousand three hundred and fifty *ri*. Therefore, the places where people live, their houses &tc., would not be left [standing]. A rotation at this speed, can it be said that is not [that] destructive? Against this it is argued that the dwelling places of Men, their houses &tc., cannot be destroyed just because of a fast rotation of the element earth from east to west. For example, if the water inside a receptacle is stirred, the water turning around rapidly does not spill out. Concerning the force[881] that makes the stirring, it is a force that sucks in the water from the outside in, from which results that the water does not spill out. But if the element earth rotates from east to west[882], the force of the rotation is a force that sucks out. For this reason the dwelling places of men and their houses, cannot be said not to be destroyed. Second, assuming that the Heavens do not rotate, and that the element earth alone rotates, the Sun, the Moon and the stars cannot advance or be left behind one in relation to the others. The position of the Sun, the Moon and stars should not change, and if [their] position should not change, then opposition in the rotation becomes impossible and without opposition eclipses cannot occur. If it was said that the element earth rotates as well as the Heavens do, then it would be impossible for the Sun, the Moon, the planets and stars to get out in the east in the morning, and to enter the western mountains in the evening. This would be the case where the element earth would rotate together with the Heavens. This goes against to the constant experience.

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[880] This example was first given by Jean Buridan (*ca*. 1300—*ca*. 1358) in his *Questions on On the Heavens*: "If anyone is moved in a ship and he imagines that he is at rest, then, should he see another ship which is truly at rest, it will appear to him that the other ship is moved. This is so because his eye would be completely in the same relationship to the other ship regardless of whether his own ship is at rest and the other moved, or the contrary situation prevailed. And so we also posit that the sphere of the sun is everywhere at rest and the earth in carrying us would be rotated. Since, however, we imagine that we are at rest, just as the man located on the ship which is moving swiftly does not perceive his own motion nor the motion of the ship, then it is certain that the sun would appear to us to rise and then set, just as it does when it is moved and we are at rest." *A Source Book in Medieval Science*, Edward Grant (ed.), Cambridge University Press, 1974, p. 67. Eventualy, taking in consideration all arguments for and against, Buridan would decide for the stillness of the Earth.

[881] *Ikioi* 勢いきおい: force ("Iqiuoi. *Vigor, ou impeto*. Tçuuamonono iqiuoiga tçuqita. *Acabou-se o impeto, & vigor dos soldados*.", Vocabvlario, fl. 133.

[882] Probably a lapse of the brush. From the context, it should be "west to east".

Therefore it is clear that the element earth does not move or revolve, and the several Heavens permanently rotate.

Commentary. The above explanations by the Southern Barbarian scholar are like this. The argument that the substance of the earth does not [in any way] move is good, detailed, but does not make use in its exposition of the deep *principle* concerning the nature of the *telluric* and *solar* [*vigour*]. It simply uses formal arguments, and makes use of numerous similes and proofs. That the movement of Heaven does not stop and the Earth always keeps its rest is a theory well known by the Confucian and medical schools.

第十四　地震之事

一、　右に書する如く地震と云は、土大の穴々より、風大吹冲して土中に伏藏す、然りと雖も風大の自己の所在は、地水の上なるが故に、風夫れに至らんとて土中を出んとす、其時土中より可レ出道なき時は、強て上騰せんと欲するに、其出來する性力にて、地體震動するもの也、一説には、下部の風大温煖潤澤の氣、土大の穴々より吹冲す、されば土は冷燥の二性を具し、風大の温濕の性なるが故に、土の冷燥の氣と、風の温濕の氣と尅して、以て潤澤の風氣、土の燥性に奪却せられて、濕煖の氣獨り爰に存す、然るに風の煖氣と土の燥氣と和合して、ゑいさらさんとして熱燥の氣と成る也、爰に於て又新風吹冲す、其時に於て彼熱燥の氣と、新風の潤澤と攻撃するが故に、新入の風氣擯出せらる、其出來に及で土大震動するもの也、又一説曰、吹入せずして右熱燥の氣多き時は、其體浮輕なるが故に、強て上騰せんと欲するに、其出來に及で地大震動するもの也、島々又は海邊近き所は、水氣多くして土大の穴塞つて、彼風氣など土中より可レ出道なし、故に再三震動するものなり、

辯説、右南蠻學士の説如レ是、其曰、土中の風大出んとする時、地體震動すると云はよし、地震の根本を論ずるは非也、夫地震は地中の陽氣升上せんとする時、地の上分に陰氣あつく、閉塞するに仍て、陽氣升上すること易からずして、憤撃發開し、陰氣を破却して升上するもの也、其氣勢に隨て地體動搖震慄す、地中より升上する陽氣は風大に属す、土大の穴々より吹入たる風に非ず、萬物を出生せんとて、地中より升上する陽氣也、此陽氣地上に升りて出後空中に至り、空中の陰氣に閉塞せられて、又憤撃發動して雷となる、陽氣地の上分の陰氣を破り出るとき、地體震動するを地震と云、陽氣地上に出て、空中の陰氣の閉塞を破り出る時、空中に震動するを雷電と云、雷といひ震と云、上下のかはりに依て其名二つありと雖も、其實は一氣一理也、春は陽氣地中より升上して萬物を生ず、故に地震は必ず春多し、夏は陽氣空中に升り至り、空中の陰氣の閉塞にあへば、空中の陰氣を破りて陽氣彌憤撃す、故に雷電は必夏多し、大雨の日に雷電するは、陰雨深雲空中を閉塞ぎ、雨は下に降

んとし、陽氣は猶升上する故に、大雨の空に雷電するは常の例し也、雷電も震動も他時にあるは、天の六氣の回轉により、司天在泉の替り有て、多も陽氣下に回り、夏も陰氣上に回る事ある故也、夏も寒く冬も温くなる類の如し、故に易に☳此卦を立て、雷と震との根元を窮め、其理を明む、南蠻學士陰陽の氣を不レ知、只土水風火の四大のみにて、天地變易生成の理を論ず、故に形の上に付たる工夫のみ也、故に地震の説も如レ右、

[Paragraph] 14— About Earthquakes

As written above, what is called an earthquake is element air blowing, running into and accumulating in the crevices of element soil so that it becomes hidden inside the soil[883]. However, because the proper place of element air is above earth and water, air having reached this [place] tries to leave the interior of soil. When there is no available way to leave the interior of soil, it craves to rise strongly and the force it makes to leave makes the substance of Earth to vibrate.[884] According to a theory, the *vigour* of warmness and dampness of the lower region of element air blows, runs into and accumulates in the crevices of element soil. If this is the case, because soil has the two natures of coldness and dryness and element air has the nature of warmness and dampness, the cold and dry *vigour* of soil conflicts with the warm and damp *vigour* of air. Consequently[885], the *vigour* of the moisture of air is taken away[886] by the dryness of soil and what remains[887] is only the *vigour* of damp warmness[888]. Therefore the warm

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[883] This passage (「地震と云は、土大の穴々より、風大吹冲して土中に伏藏す、」) is presented in Nikkoku as an usage example of the word *fukuzō* 伏藏.

[884] According to Seneca, in his *Natural Questions*, Thales of Miletus was the first natural philosopher to give a non teleological explanation for earthquaques: "the world is held up by water and rides like a ship, and when it is said to 'quake' it is actually rocking because of the water's movement." Cited in Edward Grant, Edward Grant, *A History of Natural Philosophy: From the Ancient World to the Nineteenth Century*, Cambridge, Cambridge University Press, 2007, p. 8.

[885] *Motte* 以て: consequently ("Motte. *Preposição, com ou per. Vt.*, Iesusno minauo motte. *Com o sancto nome de Iesu*." Vocabvlario, fl. 167v.; 「②上を受けて語調を強めていう語。とりもなおさず。すなわち」, Kojien).

[886] *Dakkyaku* 奪却: take away (「奪ってなくなすこと。」, Nikkoku). *Dakkyaku* is used with this meaning in Dōgen's 道元 (Shōji 2.1.2—Kenchō 5.8.28; 1200.1.19—1253.9.22) *Shōhōgenzō* (writen between 1231 and 1253): 「このゆゑにいはく、「一法纔通万法通」。いふところの「法通」は、一法の従来せる面目を奪却するにあらず、一法を相対せしむるにあらず、一法を無対ならしむるにあらず。無対ならしむるはこれ相礙なり。通をして通の礙なからしむるに、一通これ、万通これなり。一通は一法なり、一法通、これ万法通なり。」, *Shōhōgenzō*『正法眼蔵』, ed. by Ishii Kyōji 石井恭二, vol. 2, Tokyo, Kawade Shobo Shinsha 河出書房新社, 1996, p. 186.

[887] *Son* or *zon* 存: remain, exist, be, live; preserve, have (「①あること。いること。生きていること。②たもつこと。持っていること。③思うこと。考えること。④見舞うこと。ねぎらうこと。」, Kojien).

[888] The reading of manuscript [A4], which in this passage instead of *shitsudan* 濕煖, has *ondan* 温煖, where both caracters, *on* 温 and *dan* 煖, have the same meaning, warm, would read: "…is only the *vigour* of warmness."

vigour of air and the dry *vigour* of soil combine, and it becomes the *exalação*, the abundance of the *vigour* that is the source of the myriad things, of the *vigour* of hot dryness. What happens here is that new air again blows and runs into [crevices in soil] and then, because this hot and dry *vigour* attacks the plentifulness of the new air, the *vigour* of the entering air is expelled[889]. That exit results in the vibration of element soil. According to another theory, [though air is] not blowing into [soil] when the *vigour* of the hot dryness referred above is abundant, because its substance becomes light and floats, it craves to rise strongly. That exit results in the vibration of element earth. In places like islands or near the seashore, the crevices of element soil are shut with the abundance of the *vigour* of water. Because this *vigour* of air, &tc, does not have a proper way to leave from inside the soil the vibrations are repeated again and again.

Commentary. The above explanations by the Southern Barbarian scholar are like this. What he says is that when element air inside the soil tries to leave, the substance of the earth vibrates, and this theory is right, but the source of earthquakes is not argued about. [What] earthquakes [are is this:] when the *vigour* of the solar *principle* inside earth tries to rise, the *telluric vigour* is thick on the upper level of earth obstructing [the exit], making the rise of the *solar vigour* not easy. Mustering its forces it attacks[890] and opens a way, it destroys the *telluric vigour* and rises. Depending on the energy[891] of that *vigour* the body of the Earth shakes and quakes. The *solar vigour* that rises from inside the Earth belongs to the element air, but is not in the air that blows into and accumulates in the crevices of element soil. To give birth[892] to the myriad things, the *vigour* of the solar *principle* rises from inside the Earth. After this *solar vigour* has risen to the top of the Earth and left, [it] reaches the middle of Heaven. Being obstructed by the *telluric vigour*

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[889] *Hinjutsu* 擯出: expel ("Finjut. *Despedir, ou lançar fora. Vt*, Coqiõuo finjutsu. *Ser lançado, & desterrado for a da patria*. S.", Vocabvlario, fl. 91;「しりぞけること。濱斥（ひんせき）」, Kojien).

[890] *Fungeki* 憤撃: although no dictionary lists this two character word, from the meaning of its component ideograms, it probably is a synonym of *fungeki* 憤激 or of *fungeki* 奮激. *Fungeki* 憤激・忿激: be flamed with anger (「はげしくいきどおること」, Kojien;「はげしく怒ること」, Nikkoku). *Fungeki* 奮激: attack the enemy with full strengh (「力をふるって敵をうつこと」, Kojien;「激しく心をふるい起こすこと。激しくふるいたつこと。」, Nikkoku).

[891] *Sei* 勢: energy ("energy, military strengh, force, vigor, energy, spirit, life; (…) impetus", Nelson).

[892] *Shusshō* 出生: birth (「①胎児が生れ出ること。」, Kojien, "birth", Nelson).

of the middle of Heaven, it again musters its forces, attacks, gets [itself] in motion[893] and it becomes thunder. When the *solar vigour* breaks and leaves through the *telluric vigour*, which is on the upper level of earth, it makes the body of Earth shake and quake, what is called an earthquake. The *solar vigour* when leaving the top of Earth and breaking through the obstruction of the *telluric vigour*, makes the middle of Heaven shake, what is called a thunderbolt[894], called thunder and called quiver. Though there are two names according to whether it [happens] higher or lower, its reality is one *vigour* and one *principle*. In spring the *solar vigour* rises from inside the Earth and gives origin to the myriad things. Therefore earthquakes are always numerous in spring. In summer the *solar vigour* rises and reaches the middle of Heaven and meeting obstruction by the *telluric vigour* in the middle of Heaven, the *solar vigour* finally musters its forces, attacks and breaks the *telluric vigour* in the middle of Heaven. Therefore, there is always much thunder and lightning[895] in summer. What causes thunder and lightning in days of heavy rain is the *telluric* rain and thick clouds obstructing the middle of Heaven. Because rain comes down even as the *solar vigour* rises, it is the common experience that there is thunder and lightning in the Heaven with heavy rain. What produces both thunder and lightning and earthquakes at other times is the rotation of Heaven's six vital forces because, at the change of heavenly[896] springs, large quantities of the *solar vigour* spin down and in summer the *telluric vigour* also spins up. [These phenomena are] of the same type as the becoming cold in summer and warm in

[893] *Hatsudō* 発動: to move, to get in motion (「①うごき出すこと。活動を起すこと。②動力を起すこと。」, Kojien).

[894] *Raiden* 雷電: ("Raiden. Caminari, inabicari. *Troução, ou corisco, & relampago*. ¶ Raidenga furu. *Auer trouões, & relampagos*.", Vocabvlario, fl. 206v.;「かみなりといなずま。」, Kojien).

[895] *Raiden* 雷電: thunder and lightning ("Raiden. Caminari, inabicari. *Troução, ou corisco, & relampago*. ¶ Raidenga furu. *Auer trouões, & relampagos*.", Vocabvlario, fl. 206v.;「かみなりといなずま」, Kojien).

[896] *Shiten* 司天: heavenly. All dictionaries define this word as "astronomer" or "doctor in astronomy". From the context it is evident that this is not the meaning Mukai Gensho intended. Therefore the use of "heavenly" in this passage. *Shiten*:「天文博士(てんもんはかせ)の唐名。」, Kojien;「(天文をつかさどるの意)「てんもんはかせ(天文博士)」の異称」, Nikkoku. Also in the classics of Japanese literature this word is used with the meaning of "astronomer" or "doctor in astronomy". In *Honchō Monzui*, book 1, 14,『視レ雲知レ隠賦』, *op. cit*., p.130, is found「原夫道有二夷隆一、運有二通塞一。廊廟雖レ掄二其材一、巖穴猶毓二汝徳一。司天遥識、自契二栖遁之蹤一。望気潜通、遂致二束帛之色一。徒観夫一人慎レ日、四方観レ雲。鶴書頻飛、難レ全二霜竹之潔一。鳳詔屢聘、誰動二風桂之文一。訪而無レ遺、二華触レ石之膚髪隷。求而必致、五葉浸レ浪之痕氤氳。」.

winter. Therefore in divination science by revealing[897] the divination sign ䷲ the fundamentals of thunder and quake are reached in plenitude, its *principle* made clear. The Southern Barbarian scholars do not know about the *telluric* and *solar vigour*, and only discuss the *principle* of production and change on Heaven and Earth with resort simply to the four elements soil, water, air and fire, thereby being only a contrivance concerning appearances. Therefore the theory about earthquakes is as above.

[897] *Tateru* 立てる: reveal ("Tate, tçuru, eta. (…) ¶ Monouo me ni tatçuru. *Por diante dos olhos algũa cousa pera que se ueja*. (…) ¶ Fô uo tatçuru. *Aleuantar, ou publicar algũa doutrina*."「❷物事をあらわにする。①ひびかせる。②人に知れるようにする。現す。③はっきりしめす。」, Kojien).

水大部

第十五　水源之事

水大は寒濕の二性を帯し、其體地大よりも小相輕浮成故に、地大の上を所在とす、萬物を洗浴びして、以て垢穢を清むるもの也、余の三大には此性なし、地大は余の三大よりも、莫大に物を生じ育ふと云へども、（イ水の潤澤をかりて以て育つもの也アリ）水の潤澤をからざる時は、萬物やしないがたし、

一、　夫水源と云は、下部の風大に温煖にして潤澤の氣あり、此風氣土の穴々より吹入する也、されば土は冷燥の性あり、然りと雖も所により、水氣流通する穴々の地あり、此水氣流通の土大には、必しも潤濕の性を相兼ぬ、然れば其水氣のある處の土中へ、温濕の風氣吹入するときは、風の煖氣土の冷燥に奪却せられて、潤澤の氣獨り存す、爰に於て右の土の冷燥の性と、風の潤澤の氣と和合して、以て水源となるもの也、其故は土中に入所の風大、温煖の和氣を失ふが故に、元の風となること不レ叶、又硬燥の性なきが故に、土にもなること不レ能して、水源と變ずる也、是れ水は冷濕の性なればなり、又曰、水氣流通の土大必しも濕氣多し、濕氣は潤澤にして微温の氣あり、然るに彼微温の氣土の冷に奪却せられて、濕氣の潤澤と土の冷と和合して、水源となる者也、水源の流通斷滅なきことは、一には水氣流通の土に必ず濕氣多し、二には彼下部の温氣常不レ斷、土の穴々より吹入すること不レ絶がゆへなり、水源或は有る處もあり、或は一偏になきことは、其土大固密にして、穴々無所には下部の温氣吹入せず、或は濕氣これなき所は、水源なきものなり、

辯説、右南蠻學士の説如レ是、其曰、水源とは水大の源を云々、若水大の源と云はゞ、寔に愚成見解也、何となれば、地水風火の四大は、萬物生成の根元とかや、然るに地風火の三大には其源無して、獨り水大にのみ其源有るべきや、右の論を見るに、地下に吹入する風の煖氣、土の冷燥に奪却せられて、潤澤獨り存し、土の冷濕と和合して、水源と成る事云云、然るときは、水大は地風の和合に生ずるものか、和合に生ずるものは、萬物の根元と成がたかるべし、其上風の煖氣、土の冷燥に奪却せ

られて、潤澤獨り存すといふは、理不盡の説也、第一論四大性に云く、風大は濕性は至強也、温性は厓弱也、地大は燥性は至強也、寒性は厓弱也と云々、是を以て見れば、燥濕互に至強の性にて、風の潤澤獨り存する事も、不レ盡の論辨也、但水大の源と云には非ずして、泉源滴々涓々を云か、若是を云はヾ論ずる所遠からず、然れども泉源の活水は、地中の陽氣升る時、水上の濕氣は共に升上して、土地の上分迄升たる濕氣聚りて、泉源の活水と成也、猶地上に升りたる濕氣露と成もの也、岩崖洞穴の内に水界多きは、彼升上の濕氣洞裏に聚りて、洞の上に付て滴りあるもの也、平人は洞の上分の土中に水ありと思へり、陽氣の升るに隨て、水土の濕氣も升りて、露となり泉源となるは、譬ば熱湯を器へ入て蓋を覆へば、其蓋の裏面露有て流るヽが如し、人の息を物に吹て、其物の濕ひしめる此心也、地體の穴々より風吹入るとは非也、地の穴々に風吹入すること不レ能、地の穴々は風を吹出すもの也、洞の中より不斷に氣を吹出すにて見るべし、地の穴々何れも内より氣を吹出する故に、外の風吹入することなきもの也、喩へば四方の窓や戸をさしつめたる座敷は、風の吹方の戸を一間明たりと云ども、外の風強けれども入ること無が如し、此座敷には素より充滿したる氣ある故也、此氣内より吹出さゞれども、内にこもりたる氣不足なきゆへに、外の風入ることなし、況や地大は萬物を生ずる氣地中より出るをや、山の洞穴の口より、常に風氣の吹出すこと諸人の知所也、故に人是を風穴と云、若外の風強く吹く時は、強て吹入れずと云ども、纔に洞口にて吹まよいて頓て出る故に、洞口にある塵くるあきて外へ出るは常の例し也、蠻學の法に、外の風能く地大穴々より吹入して、地震となり水源となり、種々の變化をなすと云ことを論ずるに、陰陽升降變化妙用を不レ知、故に天地造化千變を論ずる時は、皆地大の穴々吹入の風を以て論ず、此説を能く看破する時は、蠻學の説は皆皮膚の見にて、正理至當の説に非ることを知べし、

On Element Water

[Paragraph] 15— About Headsprings

Element water has the two natures of coldness and dampness. Because its substance is somewhat lighter than that of element earth its place is above element earth. It washes the myriad things and thereby is what purifies [them from] their filth. The remaining three elements do not possess this nature. Element earth, more than the remaining three elements, gives origin and nurtures a huge [number] of things. It is (by borrowing the plentifulness of water that it nurtures)[898], and when [element earth] does not borrow the plentifulness of water, it can hardly nurture the myriad things.

What is called headspring [is the following:] in the lower region of air there is an abundance of warm *vigour*. This *vigour* of air is blown inside and accumulates in the crevices of soil. Given this, in the soil there are the natures of coldness and dryness. Depending on the place, there are crevices of Earth where the *vigour* of water circulates. This element soil where the *vigour* of water circulates does not necessarily combine with the nature of abundant dampness. If in a place inside soil there is that *vigour* of water and the warm and damp *vigour* of air is blown inside, then the warm *vigour* of air is taken away by the coldness and dryness of soil, remaining alone the *vigour* of moisture. Here the natures of dry and cold [referred to] above combine with the plentifulness of air and become headsprings. The reason for this is that element air entering the place inside soil, because it loses the serenity[899] of warmness, it becomes unsuitable to become the original air. Again, because it has not the nature of hard dryness, it is also impossible for it to become soil, [thus] changing to headsprings. For this reason the nature of this water becomes cold and damp. Also it is said that it is not necessary for the element soil where the *vigour* of water circulates to have abundance of damp *vigour*. Damp *vigour*, being moisture, has a small amount of the *vigour* of warmness. In spite of that, this small amount of *vigour* of warmness is taken away by the coldness of soil. The combination of the coldness of soil with the plentifulness of

[898] Besides this sentence appearing in manuscript (i), it appears also in manuscript [A4].

[899] *Waki* 和気: serene atmosphere or air, warm *solar vigour*(「①のどかな気候。あたたかい陽気。」, Kojien).

the *vigour* of dampness becomes [a] headspring. The ceaseless[900] flow of the headspring means that, first, there is necessarily an abundance of damp *vigour* in the soil where the vital force of water circulates, and second, the *vigour* of warmness of this lower region remains always uninterrupted, because the blowing into and accumulation inside the crevices of soil is uninterrupted. Headsprings either exist in a place or, when completely[901] non existent, it is because element soil is extremely solid and dense, [and it is] a place without crevices where the *vigour* of warmness does not blow into or[, finally,] it is a place where the *vigour* of dampness does not come and [thus] is without headsprings.

Commentary. The above explanations by the Southern Barbarian scholar are like this. His reasons [are as follows]. He says that headsprings are the origin of element water. No matter how many times he says that [they are] the origin of element water, this is a silly view. Because he says[902] that the four elements earth, water, air and fire are the root of the production of the myriad things, why is it that the three elements earth, air and fire have no origin and that only element water alone should have origin? Seeing the discussion above, the warm *vigour* of air blows into the underground, being taken away by the coldness and dryness of soil, moisture alone remaining. [This] combines with the coldness of soil to become headsprings, &tc, &tc. However does element water originate from the combination of earth and air? What the combination generates can hardly be the root of the myriad things. Besides this, that moisture remains alone, [and that] the warm *vigour* of air is robed by the coldness and dryness of soil, is a theory that does not exhaust *principle*. In the first discussion[903], about the attributes of the four elements it is said that element air has the strongest dampness and the weakest warmness. It is also said that element earth has the strongest dryness and weakest coldness. Seeing [things] through this [theory], as dryness and dampness are reciprocally the strongest

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[900] *Danmetsu* 斷滅: cease, interrupted ("Danmet. Taye, messuru. *Destruição*." Vocabvlario, fl. 70v.;「絶え滅びること。また、絶やし滅ぼすこと。」, Kojien).

[901] *Ippen* 一偏: completely (「専らにすること。ひたすら」, Kojien).

[902] *Tokaya* とかや: [someone] says (「・・・とかいう。」, Kogo).

[903] I.e., in the First Paragraph.

attributes, [the fact] that only the moisture of the air remains[904] is an incomplete[905] exposition. However, as he does not say anything about the origin of element water, is [he] speaking about the dropping and flowing from headsprings? You are not far away from the place this is argued about. Nevertheless, concerning the running waters[906] of headsprings, when the *solar vigour* rises from the middle of the earth, the damp *vigour* of the water surface[907] rises together with it. As the damp *vigour* rises to and gathers in the upper levels of earth, it becomes the running waters of headsprings. Further, the damp *vigour* that rises above earth becomes dew. The

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[904] *Sonsuru* 存する: be, exist; remain (「㊀①在る。存在する。②ながらえる。生存する。③残留する。残る。㊁①存在させる。保存する。たもつ。②のこす。」, Kojien; 「(「そんずる」「ぞんする」「ぞんずる」とも)㊀①ある。そのままである。存在する。②生きながらえる。生存する。③残る。残存する。㊁①そのままであらしめる。存在させる。保つ。②残す。残しとどめる。」, Nikkoku). *Sonsuru* is used with the meaning of "to be" or "to exist" in Konjaku Monogatari (c. 1120),「然レバ、思一、遂ニ活ヌ。今見レバ存セリ。」, Komine Kazuaki 小峰和明 (ed.), "Konjaku Monogatari Shu"「今昔物語集二」, vol. 2, *Shin Nihon Koten Bungaku Taikei*『新日本文学大系』, vol. 34, Tokyo, Iwanami Shoten 岩波書店, 1999, p.157, and *Taiheiki*「大師、怪テ其故ヲ問給フニ、此舌答テ曰ク、「我古へ此山ニ住シテ、六萬部ノ法華經ヲ讀誦セシガ、壽命有レ限身已二雖レ壞、音聲無レ盡舌ハ尚存セリ。」トゾ申ケル。」, "Taiheiki"「太平記一」, Vol. 2, edited and annoted by Gotō Tanji 後藤丹治 and Kamada Kisaburō 釜田喜三郎, *Nihon Koten Bungaku*『日本古典文學体系』, Vol. 36, Tokyo, Iwanami Shoten 岩波書店, 1961, p. 268. It is used with the meaning "to survive" in *Tsurezurekusa*,「これを聞きて、かたはらなる者の言はく、「牛の主、まことに損ありといへども、又大なる利あり。其故は、生ある物死の近きことを知らざること、牛すでにしか也。人また同じ。測らざるに、牛は死に、測らざるに主は存ぜり。一日の命、万金よりも重し。牛の価、鵞毛よりも軽し。万金を得て、銭を失はん人、損ありといふべからず・と言ふに、人皆嘲りて、「其ことはりは午の主に限るべからず」と言ふ。」, "Hōjōki, Tsurezurekusa"「方丈記・徒然草」, edited and annotated by Satake Akihiro 佐竹明広 and Kubota Jun 久保田淳, *Shin Nihon Koten Bungaku Taikei*『新日本古典文学大系』, vol. 39, Tokyo, Iwanami Shoten 岩波書店, 1989, pp. 169-170, and in Konjaku Monogatari,「男命ノ存シヌル事ヲ喜テ、鹿二向テ手摺テ泣々ク云ク、「今日我ガ命ノ生ヌル事ハ、鹿ノ御徳也。何事ヲ以テカ此ノ恩ヲ可報申キヤ」ト。」, Konno Tōru 今野達 (ed.), "Konjaku Monogatari Shu"「今昔物語集一」, vol. 1, *Shin Nihon Koten Bungaku Taikei*『新日本文学大系』, vol. 33, Tokyo, Iwanami Shoten 岩波書店, 1999, pp. 438-439. It is used to signify "to remain" in *Konjaku Monogatari*「」, Tsurezuregusa「」, and *Taiheiki*「愚哉關東ノ勇士、久天下ヲ保チ、威ヲ遍海内ニ覆シカドモ、國ヲ治ル心無リシカバ、堅甲利兵、徒ニ梃楚ノ爲ニ被レ摧テ、滅亡ヲ瞬目ノ中ニ得タル事、驕レル者ハ失シ儉ナル者ハ存ス。古へヨリ今ニ至マデ是アリ。」, "Taiheiki"「太平記一」, Vol. 1, edited and annoted by Gotō Tanji 後藤丹治 and Kamada Kisaburō 釜田喜三郎, *Nihon Koten Bungaku*『日本古典文學体系』, Vol. 36, Tokyo, Iwanami Shoten 岩波書店, 1960, p. 388.

[905] *Tsukizu*: does not exhaust, therefore incomplete.

[906] *Kassui* 活水: running or living waters ("Casui. Cauano mizzu. *Agoa do rio, ou ribeira*", Vocabvlario, fl. 41v.;「流動する水。↔死水」, Kojien).

[907] *Suijō* 水上: water surface (「①水のうえ。水面。②水のほとり。水辺。」, Kojien; "aquatic; water-surface", Shinwaei).

abundance of water[908] inside craggy cliffs and caves[909], [is due to] this damp *vigour* rising and gathering in the back of caves, and being attached to the top of a cave dripping from it. Common people[910] think there is water inside the soil above the caves. As the *solar vigour* rises, the damp *vigour* of the water in the soil also rises. Its becoming dew and headsprings can be likened to the turning over of a lid of a pot with hot warm-water inside. It is as the dew that flows from the back of that lid. If the breath of a person is blown into something, that thing becomes wet for this reason[911]. It is not because air blows and enters into the crevices of the body of earth. It is not possible for air to blow into the crevices of earth, but air is blown out of the crevices of earth. It should be observed that from the inside of caves *vigour* is unceasingly blown out. Because *vigour* is blown out from all crevices of earth, air from the outside never blows in. For example, like in a house with windows and doors pointing to the four directions[912], if a door is wide opened for the length of a room[913] in the direction the wind blows to, even if the wind outside is strong it will

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[908] *Suikai* 水界: water; the world of water, the part of Earth's surface covered by water; the frontier between land and water (「①地球上の表面の水によって占められている部分。水圏(すいけん)。②水と陸との境界。」, Kokugo daijietn). It was held by Buddhists, as Dōgen, that there were Worlds in the world of water:「世界に水ありといふのみにあらず、水界に世界あり。水中のかくのごとくあるのみにあらず、雲中にも有情世界あり、風中にも有情世界あり、火中にも有情世界あり、地中にも有情世界あり。法界中にも有情世界あり、一茎草中にも有情世界あり、一拄杖中にも有情世界あり。有情世界あるがごときは、そのところかならず仏祖世界あり。かくのごとくの道理、よくよく参学すべし。」, *Shōhōgenzō*『正法眼蔵』, ed. by Ishii Kyōji 石井恭二, vol. 2, Tokyo, Kawade Shobo Shinsha 河出書房新社, 1996, p. 328.

[909] *Dōketsu* or *Hora-ana* 洞穴: caves (*Dōketsu*:「がけや岩などにあるほらあな。洞窟。」, Nikkoku. *Hora-ana*:「洞(ほら)①に同じ。」, Kojien; *Hora* 洞:「①崖(がけ)や大きな岩・大木などの、中がうつろな穴。はらあな。」, Kojien; "a cave; 〈大きな〉 a cavern", Shinwaei).

[910] *Heinin* 平人: common people (「普通の人民。ひらびと。」, Kojien; hirabito:「なみの人。普通の人」, Kojien).

[911] *Kokoro* 心: reason (「㊀㊃⑥事柄を成り立たせている根拠。物事の理由。また、謎ときなどの根拠。わけ。」, Nikkoku;「❷⑥わけ。なぞ解きの証拠。」, Kojien).

[912] Here Gensho uses *shihō* 四方 with the meaning of four directions.

[913] In the traditional Japanese houses the windows were hooden panels that could be removed for the full length of the room, from column to column. *Ikken* 一間: the space between two colums in a buiding (「①建築の柱と柱との間。ひとま。②(単位) ⇒けん(間)。」, Kojien). Akeru: to make clear by opening (the wooden panels of a room), opening, to clear a place by making it void ("Aqe, uru, eta. *Abrir*. *Vt*, Touo aquru. *Abrir a porta*. ¶ Michiuo aquru. *Dar, ou abrir o caminho*. ¶ Michiga aita. *Estar facil o caminho, ou modo pera algũa cousa*. ¶ Rachiuo aquru. *Aclarar, ou abrir caminho, modo, &c*. ¶ *Item*, Aquru. *Despejar, vazar, algũa cousa como casa, vazo, &c*. ¶ Fimauo aquru. *Desoccuparse*. ¶ Vtçuuamono uo aquru. *Despejar o vaso*. ¶ Futa uo aquru. *Abrir, ou tirar a cobertoura*. ¶ Anauo aquru. *Fazer buraco*",

not enter, because originally this house was filled with *vigour*. Though this *vigour* does not blow out [of the room], because the *vigour* accumulated inside it is not lacking, the air in the outside does not come in. Not to mention that in what concerns element earth it is known by the multitudes[914] that the *vigour* that produces the myriad things comes out of the middle of Earth, and from the mouth of caves and crevices of the mountains, the *vigour* of air always blows out. Hence people call this cave air[915]. When the outside wind blows strongly, though it can be said that it does not enter blowing strongly, if a little [wind] mistakenly blows into the mouth of the cave it will leave before long, being the unchanging experience that the dust at the mouth of caves leaves to the exterior. The law of Barbarian learning argues that, as the air from the outside blows fully into and accumulates in the crevices of element earth, it induces several types of changes and earthquakes happen and headsprings happen. It ignores the rises and falls, the changes and the wondrous[916] actions of the *telluric* and *solar vigours*. Thus, when discussing the Creation and changes of Heaven and Earth it argues that air blows into the crevices of element earth. When this theory is fully seen through[917], it should be known that the theories of Barbarian learning, all of them, are like seeing with the skin, they are theories that do not reach right reason.

Vocabvlario, fl. 10;「【明ける・開ける・空ける】(アカ(明・赤)と同源で、ものを明るみに出す意)①境・仕切り・おおいなどで内・外の通いを閉ざしているものを除き、通れるようにする。開く。②場所をふさいでいるものをどけて、はいる場所をつくる。そこをからにする。そこに隙間をつくる。間を離す。③器物の中の物をほかに移す。④留守にする。また、外泊する。⑤(仕事などの)禁制・束縛などを解き、何かに使える状態にする。暇な時間をつくる。⑥(閉ざした扉をあける意で)営業などを開始する。⑦包み隠しをなくす。打ち明けて話す。⑧(「らちをー・ける」の形で)事態解決の手順や方法を見つける。◊あかるくなる意に「明」、ひらく意では「開」、からにする意には「空」をふつう使う。」, Kojien).

[914] *Shonin* 諸人: multitudes (“Xonin. Moromorono fito. *Todos os homẽs*”, Vocabvlario, fl. 311v.;「もろもろの人。多くの人。しょじん。」, Kojien).

[915] *Fūketsu* 風穴: cave air, the cool breeze that blows out of caves in the Summer (「①山腹・渓間・崖脚などにあって、夏季、冷たい風を吹き出す洞穴。溶岩流中のもの(溶岩トンネル)は人穴(ひとあな)などともいう。かざあな。②寒風の吹く地。」, Kojien).

[916] *Myōyō* 妙用: wonderous (「不思議な作用」, Kojien).

[917] *Kanpa* 看破: to see through, to perceive what is hidden (「隠されていること、背後にあるものを見やぶること。見あらわすこと。」, Kojien).

第十六　地より湧湯之事

一、　右の如く下部の風大は、温煖潤澤の氣あり、此風氣土中へ吹入す、土は冷燥の氣ある故に、風の潤澤の氣土の燥性に奪却せられて、温煖の氣獨り存す、然るに風の煖氣と土の煖氣と和合して、ゑいさらさんとて熱燥の氣と成也、加レ之日輪の陽性と星の牛羊（イ吸揚）とに隨て、右の熱燥の氣土中に生ずるもの也、されば珠玉金銀抔土中に生ずる如く、硫黄の性は則炎熱にして燥也、然に硫黄の生ずる所に、右の熱燥の氣通ずるときには、ゑいさらさんの燥熱と硫黄の炎熱と同氣なる故に、硫黄の炎熱彌極熱して炎上する也、爰に水氣の流通する穴々の地あるときには、其水氣熱湯と成て湧出す也、故に彼の熱湯に必しも硫黄の色香有り、水氣の流通なき則は、或は烟或は灰抔湧出るもの也、伊豆のアタミの湯、攝津の有馬の湯、温泉山の熱湯、淺間岳の烟、硫黄が島の火炎など、根元は是なり、

辯説、右南蠻學士の説如レ此、凡温泉湯は必硫黄の氣に蒸されて熱湯出るもの也、流黄のむしなきときは、同所と云共不レ熱也、蠻説誤りなし、但し風の潤澤の氣土の（イ燥性に奪却せられて温煖の氣獨存す然るに風の暖氣と土のアリ）操氣と和合して、ゑいさらさんとて熱燥となる、又日輪の陽氣と星の牛羊（イ吸揚）とに随て、右の熱燥の氣土中に生ずと云ことは、南蠻學士根元造化生成の相火と云火有ることを不レ知也、此相火は空中地中遊行して、萬物を發生し温養するもの也、醫書にも火は天地の中に遊行すと云、又天非二此火一不レ能レ生レ物、人非二此火一不レ能二有一レ生と云り、此相火ふるヽ所の水土の性用和合によりて生ずるもの各別也、流黄は土石の精液あふれこつて、相火にむされて彌熱するもの也、此流黄の氣通ずる處に出る水は、温泉湯と成るもの也、

[Paragraph] 16— About Hot Springs from the Earth

As [said] above, the lower regions of the element air have the *vigour* of warmness and of moisture. This *vigour* of air blows into inside the soil. Because soil has the *vigour* of coldness and of dryness, the *vigour* of moisture in the air is taken away by the dryness of soil, remaining alone the *vigour* of warmness. However the warm *vigour* of air and the warm *vigour* of soil[918] combine and become *exalação* as the *vigour* of hot dryness. Adding to this, according to the *solar* nature of the Sun and suction by the stars, the above [mentioned] *vigour* of hot dryness is produced inside the soil. This being the case, as pearls and gems, gold and silver, &tc., are produced inside soil, the nature of sulphur is so intensely hot[919] that it is dry. This being so, the place where sulphur is produced when the *vigour* of hot dryness [referred to] above moves, because of the dry hotness of *exalação* and the intense heat of sulphur which become the same *vigour*, the intense heat of sulphur reaches the extreme of hotness and ignites. At this point, when in the earth there are crevices where the *vigour* of water circulates, the *vigour* of water becomes boiling water[920] that springs forth. Therefore this boiling water invariably has the colour and smell of sulphur. When the *vigour* of water does not circulate, either smoke or ash burst out. This is the root of the hot-springs of Atami in Izu, of the hot-springs of Arima in Setsu, of the boiling water of Mount Onsen[921], of the smoke of Asamadake, and of the flames of Iōgajima.

Commentary. The above explanations by the Southern Barbarian scholar are like this. Generally speaking, the warm water of hot springs invariably being steamed[922] up by the *vigour* of sulphur gets out as boiling water. When the heating done by sulphur is lacking, even though [it is] in the same place there is no heat.

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[918] Note that here warm *vigour* is attributed to element soil, even though element earth was said above to have the nature of coldness and dryness.

[919] *Ennetsu* 炎熱: intense heat (「夏のもえるような暑さ。」, Kojien).

[920] *Nettō* 熱湯: boiling water ("Nettǒ. *Agoa summamente quente, ou banhos dagoa feruente*", Vocabvlario, fl. 181;「煮えたっている湯。にえゆ。」, Kojien; "boiling water", Nelson).

[921] Possibly Mt. Unsen, in Nagasaki.

[922] *Musu* 蒸す: steam up (「㊀①湯気をとおして熱する。ふかす。㊁風がなく温度・湿度が高くて、暑さがこもるように感じられる。」, Kojien).

There is no error in the Barbarian theory with the exception in what concerns the *vigour* of moisture in the air being taken away by the dryness of soil, remaining alone the *vigour* of warmness. [Exception should also be made concerning] the warm *vigour* of air and the warm *vigour* of soil combining and becoming *exalação*, the *vigour* of warm dryness. Again when he says that according to the solar nature of the Sun and suction by the stars, the above [mentioned] *vigour* of hot dryness is produced inside the soil, the Southern Barbarian scholar ignores that there is a fire called *mutual fire* that is the root of creation and production. This *mutual fire* moves playfully[923] in the middle of air and in the middle of earth giving birth and warming and feeding the myriad things. In the books of the Medical [School] it is said that fire moves playfully inside Heaven and Earth and also that if in Heaven this fire did not exist then it would be impossible for things to come to life. It is [also] said that if this fire did not exist then people could not have life. Depending on the nature of water and soil of the place where this *mutual fire* twitches[924] and the combinations that take place due to this operation, what is produced is different. Sulphur is the stiffened overflow of humour[925] of soil and stone, which becomes hot[926] being steamed up by the *mutual fire*. The water that leaves from the place where the *vigour* of this sulphur moves becomes the warm-water of hot-springs.

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[923] *Yūkō*, *Yugyō* 遊行: to move playfully (*Yūkō*:「①あそび歩くこと。うかれ歩くこと。②⇒ゆぎょう。」, Kojien; "~suru v. make a tour; wander; [天体が] move; revolve; travel", Kenkyusha. *Yugyō*: "Yuguiŏ. *Andar recreandose*. ¶ *Item, Se toma pollo superior principal dos Iixùs*", Vocabvlario, fl. 326;「①出歩くこと。ぶらぶら歩くこと。②(仏)仏・僧が修業・説法のために諸国をめぐり歩くこと。③遊行上人の略。」, Kojien; "~suru v. travel about; make a pilgrimage", Kenkyusha).

[924] *Fururu*: twitch, tremble, shake ("Furui, rù, ùta. *Tremer com frio, ou medo*", Vocabvlario, fl.111).

[925] *Seieki* 精液: humor, semen ("Xeiyeqi. *Semente humana*. ¶ *Item, Humor, & gordura que se enxerga na superficie da carne de hum homem nedio, & gordo*", Vocabvlario, fl. 294v.; "Xei. l, xeiyeqi, l,in. *Semente humana: posto que não he muito vsado*", Vocabvlario, fl. 293v.; ,「①純粋な液。②雄性の生殖器から分泌する液。多数の精子を含む。精水。淫水。③太った人の皮膚に認められる体液あるいは脂肪。」, Kojien).

[926] *Nessuru* 熱する: to become hot (「㊀①熱が生ずる。あつくなる。②熱心になる。熱中する。㊁熱を加える。あつくする。」, Kojien).

第十七　海水鹹味之事

一、　夫海水鹹き味あるは、地水の二大より上騰するゑいさらさんは、熱燥にして浮輕なる故に、空中迄上騰すと云へども、清淨清潔の體なき時は、中部の風大迄升る事不レ能して、下部に滯留せしむるとき、日輪の陽氣土大にあつて、下部の風大を動升するが故に、彼のゑいさらさん熱燥の氣をねつせいす、又下部の風大迄升る所の濕氣は、住着順徒なるが故に、ゑいさらさんを抑抱して、海上に滯するが故に、海水は熱燥の氣に煎熱煮焦せられて、鹹き味生ずるなり、然れば海水はゑいさらさんの熱燥の性と、件の温氣の潤性欝熱焔蒸するが故に、本來ゑいさらさん鹹き性有て、海水に移すもの也、故に海水の鹹は三つの辨あり、一つはゑいさらさんの熱性、二には小燥の性、三には温（イ濕）氣の潤性、此三性欝積熱蒸するが故に鹹也、然るにゑいさらさんの鹹き性を、土にもうつさず海水のみあることは、土は其體硬堅至篤なるが故に、其味をうつす事なし、水は其體清浮淡薄なるが謂也、河水に鹹なき事は、其河水地大の中より出て、流暢して元源無きが故に、ゑいさらさん鹹き性をうつすことなし、然と雖も元來同性なるが故に、海に入ときんば差別なし、されば人の五體より出る水氣、尿溺、衣類のたぐい鹹き事も、五體の内熱濕燥の三性を具するが故に、件の水氣煎蒸して、終に鹹き味を生ずる也、

辨説、右南蠻學士の説如レ此、正論明理にあらず、人の身體より出る汗濕、尿溺の類の鹹を以て、海水の鹹をたとふること、甚非義の論也、夫人の身體に出る水氣の鹹きは二つの故あり、一には鹽を食する故也、二には五臟六腑骨肉にも、皆五味の性を具へて清濁あり、水は物の濁穢を洗て清からしむ、故に身體よりでる味は鹹く、肉味は鹹ゆからず、大凡天地の間に生ずる鳥獸草木皆五味の性あり、故に是を食する者は、皆其水氣鹹きもの也、但鹹味に淡厚のかわり有而已也、然るに河水鹹ゆからざる、三義有り、一には淡は水の本味なり、二には世界の穢濁を不レ受、三には陽氣日夜升上するに随て、陰氣も升上す、水土の精氣是也、升上の陰氣霧となり露となり、空中に積りてとなり雨と成て、降て水と成ゆへに、河水土中の水は鹹ゆからず、喩へば濁酒にて焼酎を煎ずるに、焼

酌は清く河水を汲て煎蒸して、蒸氣の水は鹹味無きが如し、又海水の鹹は三義あり、一には世界の汚穢皆海に流歸す、故に海中は汚泥尤も多し、二には世界の海は廣大無邊也といへども、只一大海也、風吹撃搏して波濤亂動す、開闢より以來海水日夜靜順專精なる時なし、故に水性も清淡靜專の徳を失ふて、煩瀆欝蒸の汚れ出て、終に鹹味と成、譬へば清水淡薄なるを一桶に入置て、物を以てひたものかきまぜ、波を成し漚をたて、久く水をなやみぬれば、此水後には清は滾となり、淡味は甘となるが如し、三には日光は上より照し、相火は内より蒸す、二火煎蒸して、水の清陽は日夜となく空中に升上して、濁る濕は水中に留りて彌汚し、温蒸沸欝して鹹味生ず、此三義によりて海水は鹹きもの也、南蠻學家の説も似たりといへども、彼のゑいさらさんといふ熱燥の氣に本來鹹味有と云は大なる誤り也、又土は堅硬なる故に、鹹をうけずと云も理くらき故也、地大は靜なる物の故に、鹹味の生ずべき謂れなし、總て南蠻學家は五味の生ずる理を不レ知、只私の工夫を付て説を立る故に、牽強附會の説多し、

[Paragraph] 17— About the Saltiness of Sea Water

Here [is presented] why sea water has a salty taste. The *exalação* that rises from the two elements earth and water, being hot and dry it becomes dry and fluctuating. Though it rises until the middle air, when its substance is not pure[927] and clean[928] it cannot rise up to the middle region of the element air. When it is made to stay[929] in the lower region, and the *solar vigour* of the Sun hits element soil [then], because [it] makes the element air of the lower region to move up, it warms[930] the hot and dry *vigour* of this *exalação*. Once again, when the damp *vigour* of the element air of the lower region rises, because it becomes attached[931] and obediently follows[932] *exalação* it constraints it.

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[927] *Seijō*, *shōjō*, 清淨: pure ("Xojõ. Qiyoqu qiyoxi. *Cousa limpa, & pura. Vt*, Xõjõ qeppacu. *Idem.*" Vocabvlario, fl. 311v.;「①清らかでけがれのないこと。また、そのさま。しょうじょう。」, Nikkoku;「清らかで汚れのないこと。しょうじょう。」, Kojien;「①清らかでけがれのないこと。また、邪念や私心のないこと。②(仏)煩悩を離れ、罪悪などがなく、心の清らかなこと。」, Kokanwa; "purity. [=*shōjō* 清浄]", Kenkyuusha. *Shōjō*:「①清くてけがれのないこと。②(仏)悪業の過失や煩悩のけがれを離れていること。」, Kojien; "purity; immaculateness; immaculacy", Kenkyusha).

[928] *Seiketsu* 清潔: clean ("Xeiqet. Isaguiyoi chi. *Sangue limpo, & puro.* Xeiqet. l, xeiqetna. Qiyoi isaguiyoi. *Limpeza & pureza, ou cousa pura, & limpa*." Vocabvlario, fl. 294;「よごれがなくきれいなこと。衛生的なこと。また、人格や品行がきよくいさぎよいこと。」, Kojien ; "cleanliness; neatness; purity", Kenkyusha).

[929] *Tairyū* 滞留: stay ("Tairiŭ. Todocouori, todomaru. *Detença*. ¶ Tairiŭsuru. *Deterse, ou não ir a diãte*." Vocabvlario, fl. 238;「①物事が進展せずに、同じ所にとどまっていること。停滞。②旅先などで長期間とどまっていること。逗留。滞在。」, Kojien; "= *tōryū* 逗留", Kenkyusha. *Tōryū*: "stay; sojourn", Kenkyusha).

[930] *Nessei* ねっせい: Vigour of hotness, to make hot ("Nexxei. Atatacanaru xei. *Vigor, ou força da quentura*", Vocabvlario, fl. 367v.;「【熱性】①熱しやすい性質。興奮しやすい気質。②高い熱を出す性質。特に、高熱を伴う病気の名などについて用いる。」, Nikkoku;「【熱誠】熱心に請願すること。」, Nikkoku. Also: *Nessuru* 熱する:「㊀①熱が生じる。あつくなる。発熱する。ねす。②物事に熱中してあつくなる。興奮する。夢中になる。㊁熱を加える。あつくする。あたためる。」, Nikkoku). In manuscript [A4] this passage is writen as「子ツセイ」.

[931] *Jūchaku* 住着: attached (「【住着・住著】(「じゅうぢゃく」とも)とどまって離れないこと。執着すること。」, Nikkoku).

[932] *Junto* 順徒: to obediently follow. No dictionary lists this word. The meaning of its component characters being "obedience" (「❶したがう。ルールや道すじどおりに進む。❷したがう。相手のいうことや意図にしたがう。道理に逆らわずに進む。❸道すじや次第。❹さからわずおとなしい。❺順序どおりの。さわりなく、つごうがよい。」, Kanjigen; "order; turn; right; docility, obedience; occasion", Nelson) and "follow" (「❶かちありきする。一歩一歩と歩く。❷かち。歩いて行く兵隊。歩兵。足軽。❸ともがら。下級の仲間。❹門下のでし。❺むなしい。何も物を持たないさま。❻いたずらに。何も得ることなしに。むだに。

Because [the *exalação*] remains above the sea, the sea water is heated and boiled by the *vigour* of hot dryness and the salty taste is produced. Hence, concerning sea water, because of the hot and dry nature of *exalação* and of the mentioned moisture of warm *vigour* accumulate heat[933] and [start] steaming, and as *exalação* has originally the nature of saltiness, [this] is transmitted to the sea water. Therefore there are three explanations to the saltiness of sea water. The first is the hot nature of *exalação*, the second is the nature of small[934] dryness, [and] the third is the moisture of warm (damp)[935] *vigour*. Because these three natures pent-up[936] and steam it becomes salty. However, the salty nature of *exalação* not being transmitted to the soil but only to the sea water is due to the substance of soil being extremely hard so that that taste is not transferred. [Concerning] water, it is said that its substance is pure, floating and light[937]. Why river water is not salty is because river water gets out from the inside of element earth and flows for long and without root, thus the salty nature of *exalação* is not transmitted. However, because it originally has the same nature, when it enters the sea there is no distinction. This being so, the *vigour* of water that comes out from the five constituents

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❼ただ。…だけ。」, Kanjigen; "secondary, incidental, subordinate, accessory, junior; retainer; follow", Nelson), "to obediently follow" seems to be a reasonable rendering. Words beginning with the same character and with similar pronounciation also yield similar meaning. For example *jundō* 順道 (「①したがいみちびく。②道理に従う。」, Nikkoku) and *juntoku* 順徳 (「①すなおな徳。柔順の徳。②徳に従う。」, Nikkoku).

[933] *Utsunetsu* 鬱熱: accumutated heat (utsu 鬱: 「❷こもる。ふさがる。煙、蒸気、ある気分などが、いっぱいなること。またそのさま。」, Kanjigen; netsu 熱: "Net. Atçui. *Quentura*." Vocabvlario, fl. 181; 「❶火や物体・身体などのあつさ。」, Kanjigen).

[934] *Shō* 小: small, minor ("Xô. Chijsai. *Cousa pequena*. ¶ *Itẽ, Mes de 29. dias*. ¶ Cono tçuqiua daica, xôca. *Este mes he de 30. ou de 29. dias?*" Vocabvlario, fl. 309; "smallness; minor; small. *Chii*(*sai*) small, little, diminutive, minute, fine, trivial", Nelson).

[935] Obviously the reading of manuscript (i) "damp *vigour*" is better that that of manuscript (a) "warm *vigour*".

[936] *Usseki* 鬱積: to pent-up, to accumulate not being able to escape; to smolder (*utsu* 鬱: 「鬱の俗字」, Kokanwa; *Usseki*: 「こもりふさがること。また、こもりつもること。鬱積。」, Kokanwa; 「ふさがりつもること。不平や不満のはけ口がなくて心にたまること。」, Kojien; 「(多く「－する」の形で用いる)①気などが外に出られないで、あたりがふさがるほどに満ち積もること。②不平、怒り、悩みなどの感情が、おさえつけられて心の中にこもり積もること。」, Nikkoku).

[937] *Tanpaku* 淡薄: light, fresh; detached (「【淡泊・淡薄・擔泊】(「たんぱく」とも)①物事の感じがあっさりしていること。さっぱりとしていること。また、そのさま。②執着心がうすいこと。執拗だないこと。貪欲だないこと。また、そのさま。」, Nikkoku).

of the body, [is shown in the] urine and also the salty kind [that gets to one's] clothing. [This happens] because they are endowed with the three natures of hot, damp and dry that are inside the five constituents of the body, the mentioned *vigour* of water is steamed and in the end the salty taste is produced.

Commentary. The above explanations by the Southern Barbarian scholar are like this. [It is] without right argument or clear reason [to say] that the damp perspiration which comes out of a person's body has the kind of salt of urine and can be likened to the salt of sea water. This is a dreadfully unrighteous argument. There are two reasons for this saltiness in the *vigour* of the water that comes out of a person's body. The first is because salt is eaten. As for the second, also in the five viscera[938], in the six entrails[939], and in the flesh and bones, all being provided with the nature of the five tastes[940], there is purity and impurity. Water washes away the

[938] *Gozō* 五臓: five organs, i.e. heart, liver, spleen, lungs, kidney ("Gozŏ. *Cinco partes que ha nas entranhas.* v.g. Can, l, cannozŏ. *Baço*. Xin, l, xinnozŏ. *Coração*. Fi, l, finozŏ, *Figado, & não estamago como por erro se pos na letra F*. Fai, l, fainozŏ. *Bofes*. lin, l, jinnozŏ. *Rins*." Vocabvlario, fl. 122v.;「①漢方で、心、肝、脾(ひ)・肺・腎(じん)の五つの内臓。②渾身(こんしん)。全身。」, Kojien; "the five viscera", Kenkyusha; *Gozō roppu*: "five viscera and six entrails; the bowels", Kenkyusha).

[939] *Roppu* 六腑: six entrails, i.e. large intestine, small intestine, gall bladder, stomach, the tubes of the digestive system, urinary bladder ("Roppu. *Seis partes, ou lugares nas entranhas & corpo do animal. S*. Daichŏ, Xôchŏ, Bŏquŏ, Sanxô, y Tan: *cuja significação se veja em seus lugares*. ¶ *Item, Se diz*, Daichŏno su. Xôchŏno su, &c." Vocabvlario, fl. 375v.;「漢方で6種の内臓、すなわち大腸・小腸・胆・胃・三焦(さんしょう)・膀胱(ぼうこう)の総称。」, Kojien; "the six internal organs", Kenkyusha. Also *sanshō* 三焦: the esophagus and other tubes of the digestive system「【三焦・三膲】①漢方で六腑(ろっぷ)の一つ。上・中・下の三つからなり、常焦は心臓の下、胃の上にあって飲食物を胃の中へ入れる器官、中焦は胃の中脘にあって消化器官、下焦は膀胱の上にあって排泄をつかさどる器官とされる。みのわた。②,(①の健全な馬は口角のあたりのつやがよいというところから)馬の口のあたりのつや。その状態により馬の良し悪しを見分けるもの。」, Nikkoku. *Sanshō* is used in the diary of Uwai Kakken 上井覚兼 (1545-1589), the elder councilor of Shimatsu Yoshihisa 島津義久 (1533-1611), in his entry for July 14, 1583 (Tenshō 11.5.26):「一、廿六目、拙者氣分悪候通　上聞候て、三官養性之爲とて御越なさる、添御事共也、然者此朝脉診候、先日於於鹿児嶋養性之時分ニ無相替事候、併三焦之脉少替候、蒐角脾胃之惱之由申候也、先ニ此朝より三日之服薬給候、軈ゐ、朝食拙者相伴にて三官へ寄合候、」, vol 13, fl. 1-1v.; this diary is printed in "Uwai Kakken Nikki"「上井覚兼」, ed. by Tokyo Daigaku Shiryō Hensanjo 東京大學史料編纂所編纂, 3 vols., *Dai-Nippon Kokiroku*『大日本古記録』, Tokyo, Iwanami shoten 岩波書店, 1954; the cited passage os in p. 242). Viscera ("the internal organs in the main cavities of the body, especially those in the abdomen, e.g. the intestines", Concise Oxford) might also be used.

[940] The relationship between the five tastes and the five organs, the five entrails and the five elements is schematicly explained in Tanazuna 田名綱絲子, "Yasei shoku no susume"「野生食のすすめ」, *Haishasan no machiai-shitsu*『歯医者さんの待合室』, vol. 6, no. 5, 2003, pp. 40-41: to sourness 酸 correspond the gall bladder 胆, the liver 肝臓, and wood 木, to biterness 苦 correspond the small intestine 小腸, the heart 心臓, and fire 火, to sweetness 甘 correspond the stomach 胃, the spleen 脾臓, and soil 土

dirt of things and makes them pure. Therefore the taste of that water that comes out of the body is salty, but the taste of meat is not salty. All birds and beasts, grasses and trees produced between Heaven and Earth have five tastes. Thus all those who eat these, every one of them have the salty *vigour* of water. However, depending on the individual, there is difference of light and deep in salty taste. Well then, there are three meanings to river water not being salty. The first is that light [taste] is the true taste of water. The second is that [water] did not receive the dirt of the World. The third is that as the *solar vigour* rises day and night, so does the *telluric vigour* rise, [both] becoming the vital spirits[941] of water and soil. The rising *telluric vigour* becomes mist and becomes dew, it accumulates in the middle heaven to become rain that falling becomes water and thus the water of rivers and inside the soil is not salty. For example, raw *sake*[942] is simmered to become refined *sake* by steaming it with pure water drawn from rivers. As the water of the *vigour* of steam has not a salty taste, so again there are three meanings to the saltiness of sea water. The first is that all the dirt of the World, all of it flows back into the sea. Thus slime[943] is abundant inside the sea. The second is that although the seas of the World are immense and boundless[944], they are just one ocean. The blows of the wind hit it violently into the disorderly movements of billows. Since the opening of the World there hasn't been day or night when the sea water stayed calm and pure. Thus the nature of water also has lost the virtue of purity and tranquillity, overflowing with smouldering and steaming dirt. If, for example, pure and light water is put into a pail

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, to hotness (spiciness) 辛 correspond the large intestine 大腸, the lungs 肺臟, and metal 金, and to saltyness 鹹 correspond the urinary blader 膀胱, the kidney 腎臟, and water 水.

[941] *Seiki* 精氣: vital spirits, the original vigour originator of life ("Xeiqi. *Espiritos vitaes, ou forças interiores*. ¶ Xeiqiga tçuquru. *Esgotarense as forças, & espiritos*", Vocabvlario, fl. 294;「①万物生成の元気。②生命の源泉たる元気。③物の純粋な気。精神。④精霊。霊鬼。」, Kojien).

[942] *Sake* 酒: rice wine. *Dokushu* 濁酒: raw *sake* ("Saqe. *Vinho*. ¶ Saqeuo nomasuru. *Dar de beber*. ¶ Saqeuo susumuru. *Persuadir a beber vinho*. ¶ Saqeni yô. *Estar tocado, ou tomado do vinho*. ¶ Saqeni chŏzuru. l, ficasu. *Estar ensopado no vinho*." Vocabvlario, fl. 219;「日本酒の 1 種。発酵後、醪(もろみ)をしぼらないもの。麹(こうじ)や米がまじって白濁している。にごりざけ。どぶろく。しろうま。」, Kojien; "raw (unrefined) *sake*", Kenkyusha).

[943] *Odei* 汚泥: slime ("Vodei. Doro, doro. *Lama*." Vocabvlario, fl. 277v.;「きたない泥。どろ。」, Kojien).

[944] *Muhen* 無邊: boundless ("Mufen. Fotori naxi. *Sem termino. Vt*, Mufen quŏdai nari. *He infinito, & sem termino*." Vocabvlario, fl. 169;「かぎりのないこと。広大ではてしのないこと。」, Kojien).

and mixed by dipping something [into it] and waves are made by the dipped[945] [thing] so that water is troubled for a long time, afterwards this water flows and clears and [its] light taste becomes sweet. The third is that, as the Sun light shines from above and the *mutual fire* heats up with steam from inside, two fires heat up, the *solar* purity of water rises into the middle of Heaven irrespectively of it being day or night, and the dampness with impurities stays inside the water polluting it all the more. Heating and making [water] boil produces its salty taste. From these three meanings sea water is salty. Though the theory of the Southern Barbarian scholars is also similar, that the *vigour* of hot dryness which they [call] *exalação* is originally salty is a great mistake. Also, that because soil is extremely hard it does not receive saltiness is dark [concerning] *principle*. Because element earth is at rest it cannot be said that salty taste should be produced [in it]. All Southern Barbarian scholars ignore the *principle* of production of the five tastes, and because they simply propose theories based on personal contrivances, theories based on twisted reasoning are many.

[945] *Hitasu* 漚: (「㊀①ひたす。㋐水につける。ながく水につける。㊁①あわ。水泡。②かもめ。」, Kokanwa.)

第十八　海潮の缺滿之事

一、　夫海潮の缺滿は月の所爲也、其故は月は水氣潤濕の氣を主り、水を吸引する性也、故に月輪其國の上に對向する時は、他方の潮水を月の正下に吸引するが故に、其國の海潮は涌溢し、他方の潮は缺少する也、又他國の上に對向する時は、此國の潮は缺少し、他方の潮は涌溢するものなり、論じて曰、月輪は東より西へ、常に日夜其國の上を運行し對向すと云ども、海潮の缺滿は或は厓弱なることは何ぞや、月輪は常に東より西へ、其國の上を運行して對向すと云ども、是は月輪の自己の性體にあらず、天の運轉に準じて、狂て以て對するが故に、自己の本體に齊しからず、月輪西より東へ環逆して、其國の上に正對する時は、自己の本體也、此本體に隨て潮の缺滿に強剛厓弱あり、夫をいかやうに有し（イろそ）と云に、月輪逆旋するに、逆道最上に有る時は、自己の對向の本性勇悍也、故に水を吸引する事も深甚也、逆道の最下に有る時は、自己の對向の本性勇悍ならず、故に吸引することも厓弱也、されば月は毎十五日朔日には、逆道の最上に有が故に、自己の對向の本性強剛なれば、吸引の性も勇悍也、故に前後五六日の間は、海潮の缺滿も深甚也、七日廿一日には、月輪逆道の最下にある故に、對向の本性も吸引の性も勇悍ならず、故に前後五六日の間は、海潮缺滿も厓弱也、毎日潮時の遲く應ずることあるは、月輪の逆旋するに毎日西より東へ十三度余りよるが故に、其國の上に對向すること遲き故也、

辨説、右南蠻學士の説如レ是、其曰、其國の上に對向する時は、他方の潮水を其月の正下に吸引するが故に、其國海潮涌溢し、他方の潮は缺少する也、又他國の上に對向する時は、此國の潮は缺少して、他方の潮は湧溢すと云こと正理に非ず、儒者にも如レ是云者あり、皆非也、若月其國の上に對向する時、他方の潮水迄其月の正下に吸引せば、一晝一夜の内月は一世界を一廻する故に、其國の上に對向して、潮水の月の正下に至ることは只一度可レ成、然ども今眼前潮水の缺滿を見るに、二滿二缺せり、是其云、其國の上に月の對向する時は、他方の潮水を其月の正下に吸引すと云は、正理に非る一の證據也、又眼前に潮水の缺

滿をみるに、十五日の頃は夕に月東に出る頃をひに、眼前の潮水は滿來る、夜半に月中天に至り、此界の眞上に有る時は、眼前の潮水は缺去り、又暁方に月西山に入頃には、又眼前の潮水は滿來る、又日中に月地下をめぐり、直下に有る頃には、眼前の潮水又缺去る、これ一日一夜に、潮水は二滿二缺なること顯然たり、是をみるに月の正下は、潮水吸引せずして、却て潮水退却する事分明也、是月の正下に潮水吸引すと云は、正理に非る二つの證據也、月と水とは同じ陰類にして、月は貴して上に位し、水は賤して下に有り、此故に月の正下には水恐て退く故に、月の對向する正下の潮水は、退て缺となるもの疑なし、たとへば光ある物は、日光の前には光を失る如し、

[Paragraph] 18— About the Low and High Sea Tides

The low and high sea tides depend on the place of the Moon. The reason for this is that the Moon is the master over the *vigour* of water and over the *vigour* of dampness and has the nature of attracting water. When the Moon is in opposition[946] to a country from above, because the Moon sucks the other tide water to [the place] directly below it, the sea tide of that country overflows[947] and the other [place's] tides are low. Again, when [the Moon] faces from above other countries, the tide of this country is low and the other [place's] tides overflow. It is argued [against this] that, if the Moon is always, day and night, moving from east to west above a country and facing it, how can there be low and high and strong and weak in sea tides? Though the Moon is always moving from east to west above that country and facing it, this is not the Moon's own nature and substance, but according to the movement of Heavens, because upset [in its course] it opposes, and it is not equal[948] to its own real substance. As the Moon makes an opposite rotation from west to east, when it faces directly from above that country it is its own real substance. According to this real substance there is strong[949] and weak in the low and high tides. Saying how this happens, as the Moon makes an inverse rotation, when it is at the highest of the retrograde motion, the real nature of its own opposition is fierce[950] and thus the suction of water is extremely strong[951]. When it is in

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[946] *Taikō* 對向: to oppose, to face (「互いにむきあうこと」, Kojien; 「互いにむきあうこと。さしむかいになること。対面。また、張り合うこと。対抗。」, Nikkoku; *taikō suru*: "counter; oppose; subtend", Kenkyusha).

[947] *Yōitsu, yūitsu* 涌溢; overflow (*yōitsu*: 「【湧溢・涌溢】(「よう」は「湧」「涌」の漢音)「ゆういつ(湧溢)」に同じ。」, Nikkoku; *yūitsu*: 「【湧溢・涌溢】水などが湧きあがって、あふれること。」, Nikkoku). The Nikkoku uses this passage 「其國の海潮は涌溢し、他方の潮は缺少する也」 as an ilustration usage example for this word.

[948] *Hitoshi* 齊し: equal ("Fitoxij. Cousa igual, uniforme, ou da mesma maneira. ¶ Vareto fitoxij mono. Homem comoeu,ou semelhante amim." Vocabvlario, fl. 97; 「㊀・ととのう。ひとしい。きちんとそろう。大小・長さ・行為などが、ちぐはぐすることなくそろう。・ととのえる。ひとしくする。きちんとそろえる。・過不足なくそろえて調和した状態。調和のとれた味。・ひとしく。そろって。みんな。・心身をきちんととととのえること。ものいみ。」, Kanjigen).

[949] *Kyōgō* 強剛: strong (「てごわいこと。剛強。」, Kojien; "strong man" Nelson).

[950] *Yūkan* 勇悍: fierce (「(古くはヨウカン)勇ましく果断なこと。」, Kojien).

[951] *Shinjin* 深甚: deep, large, strong ("Iinjin. Fucaqu fanafadaxij. *Cousa grande, ou profunda. Vt*, Iinjinno chijin. *Grãde amigo*. ¶ Iinjinno govon. *Grandes beneficios recebidos de pessoa alta*", Vocabvlario, fl.

the lowest of the retrograde motion, the real nature of its own opposition is not fierce and hence the suction is extremely weak. Consequently the Moon every fifteenth and first day of the month[952], because it is in the highest of the retrograde motion, if the real nature of its own opposition is strong, [then] the nature of suction is fierce, and thus for the space of five, six days around [the fifteenth and first day of the month], the low and high of sea tide are also very strong. In the seventh and twenty first day [of each month], because the Moon is in the lowest of the retrograde motion, both the real nature of opposition and the nature of suction are not fierce, and thus for the space of five, six days around [the seventh and twenty first day], the low and high of sea tides are extremely weak. Replying to what concerns the time of the tide getting later every day, because the inverse rotation of the Moon is of about thirteen degrees from west to east every day, the [time of the Moon's] opposition from above in that country gets latter.

Commentary. The above explanations by the Southern Barbarian scholar are like this. What he says is, that when the Moon is in opposition to a country from above, because the Moon sucks the other tide's water to [the place] directly below it, the sea tide of that country overflows and the other [place's] tides are low, and again, that when [the Moon] faces from above other countries, the tide of this country is low and the other [place's] tides overflow, and all of this is without right reason. There are also some Confucians who say the same, but all of them are wrong. When the Moon is in opposition above a country, if the Moon sucks even the other tide water to [the place] directly below it, because during one day and one night the Moon makes one round of the World, the tide water directly below the Moon when [the Moon] is in opposition above that country, should happen only once. However it is now in front of [our] eyes to see that in the low and high of tide water there are two highs and two lows. That is a proof that what is said, [namely] that when the Moon is in opposition above a country, the other tide water is sucked to [the place] directly below the Moon, is without right reason. Seeing the low and

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142v.;「(古くはジンジンとも)意味・気持などが非常に深いこと。甚深。」, Kojien;「(古くは「じんじん」)なみでないこと。奥深いこと。また、そのさま。甚深。」, Nikkoku).

[952] *Tsuitachi*, *sakujitsu* 朔日: first day of the lunar month, and actually, by extension, also the first day of the solar month. This is the day when, just after the Sun has set in the west, the Moon is first sighted. ("Tçuitachi. *Primeiro dia da lũa, ou mes*." Vocabvlario, fl. 247;「①西方の空に、日の入ったあと、月がほのかに見えはじめる日を初めとして、それから 10 日ばかりの間の称。②月の第 1 日。1 日。③特に、正月 1 日。元旦。」, Kojien).

high of tide water it is evident that around the fifteenth day [of a lunar month], at the point of night fall around when the Moon leaves from the east[953], that the tide water in front of [our] eyes is coming to an high. At the Moon reaching the middle of the Heaven at half night, at the time when it is directly above this border, the tide water in front of [our] eyes has just passed its low. Again, at day break about [the time] when the Moon enters in the western mountains, again the tide water in front of [our] eyes is coming to a high. Again, during the day the Moon circulates below Earth. About [the time] when it is directly below, the tide water in front of one's eyes is again leaving a low. These two highs and two lows in tide water in one day and one night are manifest. Seeing this it is obvious that the tide water is not sucked[. Instead,] driven back, the tide water retracts from [the place] directly below the Moon. These are two proofs that what is said concerning that tide water being sucked to [the place] directly below the Moon is without right reason. Though the Moon and water belong to the same telluric category, the Moon being noble has a high position, water being base has a low one. Because of this, since the water retreats fearfully from [the position] directly below the Moon there is no doubt that the tide water directly below the Moon retreats and becomes low. This is similar to bright things losing their brightness in front of the Sun.

[953] In manuscript [A4] it is writen that「十五日ノ比ハタニ月東山ニ出ル比ヲイニ」, or "at the point of night fall around when the Moon leaves from the east mountains".

第十九　夏の井の清澄にして冬の井の温煖なる子細之事

一、　夫冬は日輪南方へ移て運行傾く故に、陽氣斜にして正相ならず、故に冬の寒氣勇悍也、夏は日輪北方に移り、運行傾ぶかざる故に、陽氣斜めならずして甚し、故に夏の煖氣盛也、爰を以てみるに、夏の井は温煖にして、冬の井は清澄可レ成けれども、さはなくして、夏の井は清澄にして、冬の井は温煖なることをいかんと云に、總て寒熱濕燥の四氣を帯するものは、互に尅々敵をふせぎ身を全せんとて、其氣彌勇悍也、たとへば極冷の手足を熱湯の内に入る時は、寒氣熱湯に攻撃せられ彌嚴寒也、故に手足猶極冷して終には疼痛を發するもの也、又曰、熱氣甚きに冷温（イ濕）の水を用る時は、熱氣彌強亢なる故に、是熱氣水の寒氣に攻撃せられて、猶勇悍なる故也、炭火を起すに、少し水をふり掛るも此の云也、夏の井は清澄にして、冬の井は温煖なる根本は是也、故をいかんと云に、冬の日輪南方に移て、陽氣斜にして厓弱なる故に、北方の寒氣盛也、然るに冬の寒と大過成夏秋の煖氣と尅し、夏秋の煖氣冬の寒氣に抑抱せられて土中に伏藏す、爰に於て夏秋の煖氣、寒氣の爲に逼迫せられて彌勇悍也、故に土中に有る處の水は、此煖氣を受て以て温也、故に冬の井は温煖也、夏は日輪北方に移て陽氣甚し、故に北方の煖氣盛也、故に大過なる冬の寒氣と、夏の煖氣と尅するに依て、冬の寒氣煖氣の爲に抑抱せられて、土中に伏藏するが故に、水の冷温（イ濕）の氣、煖氣に逼迫せられて彌深甚也、故に夏の井は清冷なる物也、

辨説、右南蠻學士の説如レ此、其説似たりと雖も、但日輪の南行計を以て説を立るもの也、陰陽の道理を不レ知故也、日輪南方に行く時は、陽氣は地中に入り、日輪の北方に行く時は、陰氣は地中に入り、陰氣地中に入る時は、陽氣は地上に出る故に、夏は地上炎熱するに依て、地中は冷、井の水は冷也、陽氣地中に入る時は、陰氣は地上に出て、冬は地上嚴寒にして、地中は温かに、井水も温煖也、海水、河水も同じ、總て此理は易理に達する人能く之れを知る、南蠻學士は易理を不レ知、乾坤の説に暗し、

[Paragraph] 19— About Wells Being Cool[954] in Summer and of Wells Being Warm in Winter

Because in winter the Sun moves toward the south and its revolution becomes inclined, the *solar vigour* makes a slant and it is not at a perfect phase[955]. Therefore the cold *vigour* of winter is fierce. Because in summer the Sun moves into the North and its revolution has not deep inclination, the *solar vigour* does not make a slant and therefore it is extreme. Therefore the hot *vigour* of summer is at its peak. Seeing this, though wells in summer should be hot and wells in winter should be cold, [as] it is not like that, how is it that wells in summer are cool and wells in winter are warm? Generally, in the things that possess the four *vigours* of coldness, hotness, dampness and dryness, [as] these enter in conflict between them, repeal their enemies and keep their selves whole, the vigour that they have is increasingly fierce. For example, when extremely cold hands or feet are put inside hot water, the cold *vigour* is attacked by the hot water becoming all the more severely cold. Thus hands and feet become even more extremely cold and in the end they start hurting[956]. It can be added that when the hot *vigour* is intense [if] cold (cold damp) water is brought in, because the hot *vigour* becomes all the more extremely strong[957], this hot *vigour* attacks the cold *vigour* of water and becomes even more fierce. It is also like this if a small amount of water is sprinkled when one is starting a charcoal fire[958]. This is [also] the root of wells being cool in summer and of wells being warm in winter. The reason for this is that, as the Sun in winter moves southwards, because the slant of *solar vigour* is at the weakest, the cold *vigour* of the north is at its height. However, as the cold of winter and the enormous hot *vigour* of summer and autumn enter in conflict, the hot *vigour* of summer and autumn is

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[954] *Seichō* 清澄: cool (「きよくすんでいること。」, Kojien).

[955] *Seisō* 正相: this word is not listed in any consulted dictionary. From the meaning of its component characters (sei 正: "straight; straightforward; perfect", Nelson. *sō* 相: "phase, physiognomy", Nelson) it is reasonable to assume that its probable meaning is "perfect phase".

[956] *Tōtsū* 疼痛: hurt ("Tôtçu Xibiruru itami. *Doerse muito, ou arder, & escozer com dor.*" Vocabvlario, fl. 264v.;「ずきずき痛むこと。うずくこと。また、そのいたみ。」, Kojien).

[957] *Kyōkō* 強亢: extremely strong (「強過ぎること。自信が強過ぎること」, Nikkoku).

[958] *Sumibi* 炭火: charcoal fire ("Sumibi. *Fogo de caruão.*" Vocabulario, fl. 231;「炭でおこした火。」, Kojien). *Tanka* 炭火: charcoal fire (「すみの火。すみび。」, Nikkoku).

restrained by the cold *vigour* of winter and becomes hidden inside the soil. Therefore the hot *vigour* of summer and autumn, being strained by the cold *vigour* becomes all the more fierce. Thus the water inside soil receives this hot *vigour* and becomes warm. As a consequence wells are warm in winter. As the Sun in summer moves northwards the *solar vigour* becomes extreme. Therefore the hot *vigour* of the north reaches a peak. Consequently, as the enormous cold *vigour* of winter and the hot *vigour* of summer enter in conflict, the cold *vigour* of winter is restrained by the hot *vigour*. Because it becomes hidden inside the soil, the cold (cold damp) *vigour* of water is strained by the hot *vigour* and becomes increasingly deep and extreme. Therefore wells are cool in summer.

Commentary. The above explanations by the Southern Barbarian scholar are like this. Though its theory is presented, it simply sets up a theory with the southward movement of the Sun. This is because it does not know about the reason in the *telluric* and *solar* [*vigours*]. When the Sun moves southwards, the *solar vigour* enters inside the earth. When the Sun moves northwards, the *telluric vigour* enters inside the earth. Because when the *telluric vigour* enters inside the Earth, the *solar vigour* leaves to [the region] above the Earth. In summer, as [the region] above the Earth is scorching, inside the Earth is cool and the water of wells is cool. When the *solar vigour* enters inside the Earth the *telluric vigour* leaves to [the region] above the Earth. In winter the cold is severe [in the region] above the Earth, but inside the Earth is warm and well water is also warm. It is the same with sea water and river water. Generally those who are advanced concerning the *principle* of divination know this *principle* well. Southern Barbarian scholars do not know the *principle* of divination, [and their] theories on Heaven and Earth are dark.

風大之部

第二十　風大に三部有る事

一、　夫風大は其性潤濕にして温煖也、其體土水の二大よりも輕浮なる故に、二大の上を所在とする物也、風大は地大よりも小き也と雖ども、上中下の三部あり、此三部の氣を見るに、上部の風大は日輪の天に近ふして、其體以て火大に連り、火大と共に常に運轉するが故に、火大の如く炎熱する物也、、下部の風大は温煖成物也、夫日輪の陽氣土大に當りて、下部の風大に環當して煖氣を生ずる故也、中部（イ風大は嚴寒に凜冽なり、其故は日輪の天にも火大にも遠く、日輪の陽氣の環當も下部の風大に隔碍せられて中部アリ）の風大に至る事不レ能故也しかのみならず、上下の煖氣と、中部の寒風と尅するが故に、中部の寒氣上下の煖氣に逼塞せられて彌嚴寒也、風大に如レ此三部有と雖も、三部共に一部一部に、東西南北其厚薄有り、等分の筋（イ節）より南北に共に二十三度半宛、凡て四十七度の間は、日輪の陽氣甚しき故に、上下の風大は東西厚くして、中部は上下部の煖氣に逼迫せられて薄し、南北は日輪の行道傾く故に、陽氣斜にして性燥ならず、故に嚴寒なく、故に中部の風大は南北共に厚し、上下は中部の寒氣に逼迫せられて薄し、圖を以て顯す、

辨説、右南蠻學士の説如レ是、其説恣まゝに邪説をなせり、今爰に辨レ之、四大性を論ずる、第一に云、火大の性は熱にして燥也、風大の性は温にして濕也、水大の性は寒にして濕也、地大の性は燥にして寒也と云々、今此論に風大の上中下の三部を分て論じて曰、上部は火大の如く炎熱する物な也、下部は温煖なる物也、下部は日輪の陽氣土大に當て、下部の風大に煖氣生し、上部は日輪の天に近く、火大と連る故に炎熱すと云々、扨中部の風大は嚴寒凜烈也と云り、此論の如くば、中部の風大は他氣の侵凌なし、其嚴寒凜烈は風大自己の本性と云に似たり、第一論に風大は温にして濕也と云に違逆せり、又寒は水大と土大との性也と云々、此二大は風大の下に有と云、然るに寒氣風大の中部に有る事、其論も又矛盾せり、儒家醫家の説を以て云ば、天地の間に彌滿した

る氣を氤氳と云、是は陰陽五行の氣升降往來し、和合交密して萬物を化生する徳をなす氣也、故に寒熱温冷燥濕の氣非と云事なし、南蠻學士元より陰陽五行の氣を不レ知して、偏に外候の工夫をなす、其四大を論ずる時は、一大一大に其性を論じて、風大は温濕也と云ども、風大に上中下の三部を分ち、上部と下部と◎三字衍カ下部とには、火大と日輪の陽氣にて温熱す、中部は嚴寒也と云へば、風大の温は有る事なし、然れば風大の温性は寒と熱とに奪はれて、風大は其本性を失たる成べし、是其論説の迷深きの一つ也、扨寒は水大の性と云り、然れども風大中部の嚴寒は、下部の煖氣に間隔せられて、水大と離居す、下部の煖氣は日輪の陽氣地上に至り、地に當りたる故に、地上の風大は温煖也と云にはかはるべし、是實に理不盡の説、南蠻學技正論に非ず、正道を不レ知事分明也、君子よく詳レ之、

On Element Air

[Paragraph] 20— About the Three Regions of Element Air

The nature of element air is to be very damp and warm. Because its substance is lighter than that of the two elements soil and water, it is placed above these two elements. Though element air is smaller than element earth it has three regions, upper, middle and lower. Looking at the *vigour* of these three regions, the upper region of element air, because it is near the Heaven of the Sun, has its substance dragged along by element fire. Because it is always moving together with element fire, like element fire it is intensely hot. The lower region of element air is warm. Because the influence of the *solar vigour* of the Sun hits element soil, cyclically it reaches the lower region of element air and generates the *vigour* of hotness. The middle region (of element air is severely and bitingly cold. The reason is that both the Heaven of the Sun and element fire are distant and, as the lower region of element air interposes an obstacle, the cyclical hitting of the *solar vigour* of the Sun) cannot reach (the middle region of) element air.[959] Not only this but also because the warm upper and lower [regions] oppose the cold air of the middle region, the cold of the middle region is locked [between] the warm of the upper and lower [regions] becoming completely and severely cold. Though element air has three regions as explained, in each of the three regions there are [differences in] thickness and thinness in the east-west and south-north [directions]. From the Line (Season) of Equal [Duration of Day and Night][960] up to twenty third and a half degrees south and north, in all this distance of forty seven degrees, the *vigour* of the *solar vigour* of the Sun is extreme. Therefore the upper and lower [regions] of element air are thick in the east-west [direction], and the middle region, being locked [between] the warmness of the upper and lower region, is thin. In the south-north [direction], because the path of the Sun has an inclination, the *solar vigour* [also] has an inclination and it does not become dry. Therefore there is no severe cold. Consequently the middle region of element air is thick both in the south and in the

[959] According to Bunmei, most of this sentence appears only in manuscript (i). It appears also in manuscript [A4].

[960] This Line is the Equador.

north, [but where] the cold *vigour* of the middle region is held tight by the upper and lower [regions] it is thin. This is shown with a figure.[961]

Commentary. The above explanations by the Southern Barbarian scholar are as exposed. His theory is arbitrary and pernicious. Let us explain this now and in this place. When he argues about the nature of the four elements, first he says that the nature of element fire is hotness and dryness, the nature of element air is warmness and dampness, and the nature of element earth he says it is dryness and coldness. Now this argument asserts that the element air is divided into three regions, the upper, the middle and the lower; that the upper region is intensely hot just as element fire, and that the lower region is warm. The lower region, because the *solar vigour* of the Sun hits element soil gives rise to the hot *vigour* of the lower region of element air. The upper region, being near the Heaven of the Sun and being dragged by element fire, is said to be intensely hot. Well, the middle region of element air is said to be severely and bitingly cold. According to this theory the middle region of element air is not violated[962] by another *vigour*, its severe and biting coldness being the real self nature of element air. As a first argument it is a contradiction to make element air warm and to say that it is damp. Also, to say that the nature of element water and element earth is cold; and to say that these two elements are below element air; and that, in spite of all of this, that the *vigour* of cold is in the middle region of element air, this is again an inconsistency. According to the theory of the Confucians and of the Medical School, the *vigour* that fills the space between Heaven and Earth is called the *exalação*. This is the *telluric* and *solar* and the *five phases*' *vigour*, [the *vigour*] that ascends and descends, goes away and returns, the *vigour* that has the virtue of making the myriad things in harmony and interdependence. Therefore it cannot be said that it is not the *vigour* of coldness or hotness, warmness or coldness, dryness or dampness. The scholars of Southern Barbary, to begin with, do not know the *telluric* and the *solar* and the *vigour* of the *five phases*, and they are biased towards artifices of appearances, and when

[961] See Figure 13.

[962] *Shinryō* 侵凌: violate (「おかすこと。あなどりはずかしめること。」, Kojien).

discussing his four elements, they discuss the natures of each element one by one[963]. Though, they say that element air is warm and damp, [they] divide element air into three regions, the upper, middle and lower. The upper and lower and {three redundant characters} and in the lower region are warmed by the *solar vigour* of element fire and by the Sun. Speaking about the middle region being rigorously cold, element air has no warmness. Moreover, as the warmness of element air is taken away from cold and hot, element air should lose its nature. This explanation is one of those that are deeply mysterious. Now then, it said that the nature of element water is cold. However, the rigorous cold of the middle region of element air is separated and placed away from element water by an interval filled with the warm *vigour* of the lower region [of element air]. It should instead be said concerning the warm *vigour* of the lower region [of element air], that it is because the *solar vigour* of the Sun reaches and hits the upper level of the Earth that the air which is above the Earth becomes warm. This, truly, is a theory that does not exhaust *principle*. The scholarship of Southern Barbary has not the right reasoning, and it is evident that it does not know the right path. The sovereign is very well informed about this.

[963] Here Gensho criticizes the western tendency to discuss the nature of each element in isolation. This remark foreshadows the argument later developed by Richard E. Nisbett, *The Geography of Thought: How Asians and Westerners Think Differently…and Why*, New York, Free Press, 2003. See Chapter I

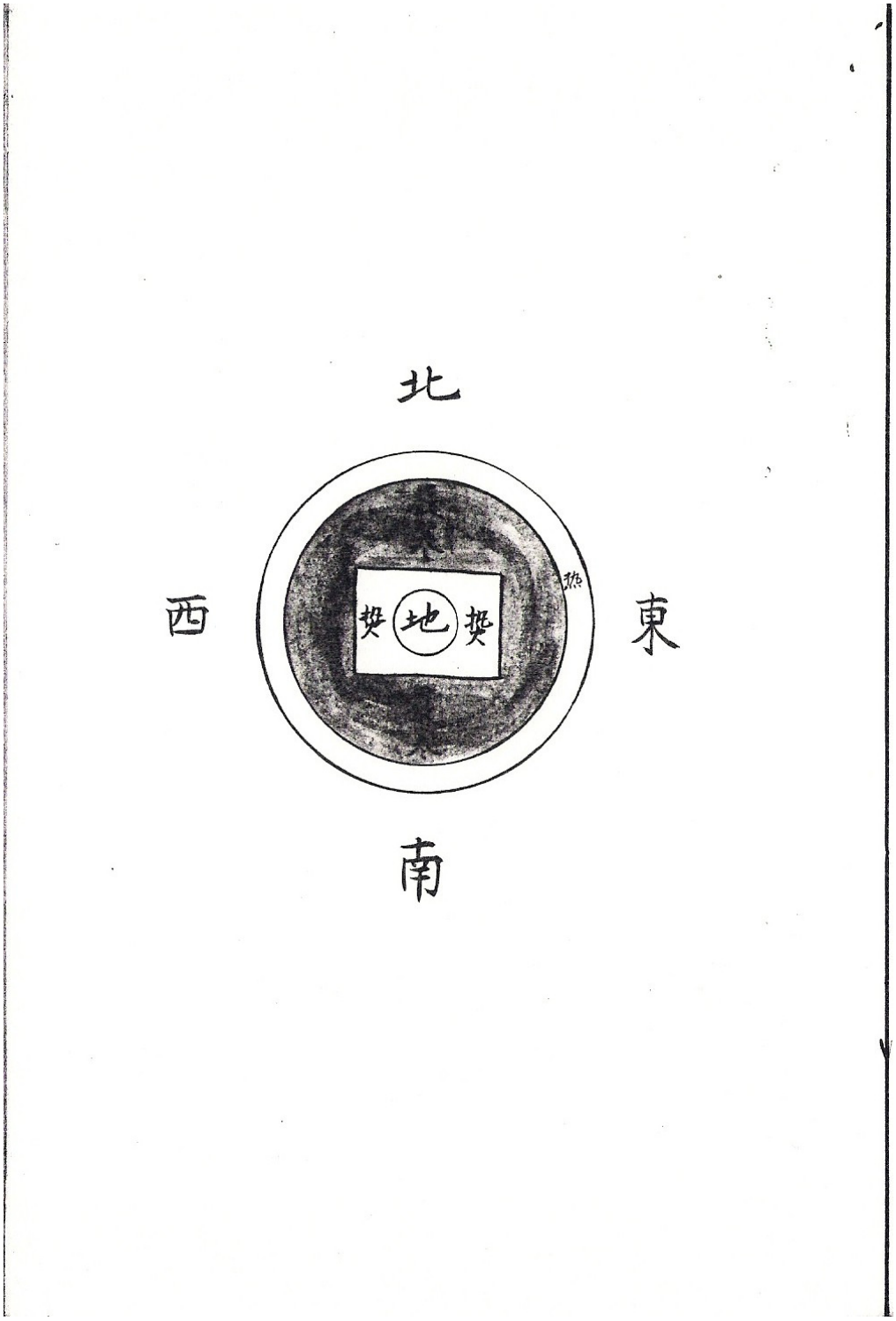

Figure 13 [No caption; The three regions of air]

Earth on the centre; East on the right, west on the left; north above and south below; hot on the region around the Earth; extreme cold in middle region; hot in the outer circle

第二十一　風大吹氣之事

一、　夫風大吹氣と云は、ゑいさらさんの所爲也、さればゑいさらさん自然に上騰積累して、其體剛堅燥熱也、此ゑいさらさん中部の風際迄上騰と云へども、其體剛健重著成が故に、中部の風中に上る事不レ能、又熱燥成が故に、中部の寒風是を不レ受して抑抱せしむる故に、彼のゑいさらさん寒風に抑抱せられて、邊所（イ取）數多の方より、横に飄（つむじかぜ）吹發起せしむる物也、吹風は是也、是吹風するときんば、向ひ來る方に風大を推すものなり、

辨説、右南蠻學士の説如レ是、此説は風の吹事を論ぜり、其ゑいさらさんと云は、上升する陽を指て云に似たり、然れども陽氣は本來自然の體にて、始終無もの也、ゑいさらさんの義は、右地震の部に蠻學の云、風の煖氣と土の燥氣と和合して、ゑいさらさんは陽氣に非ず、夫風の吹は上升する陽氣、空中の陽氣に抑抱せられて、直升すること不レ能して、横に走り、風と成也、譬へば湯釜に湯の沸上る時、蓋をせざれば陽氣立上り、蓋をして脇より少し氣の通ずる所の有時は、吹出す湯氣有り、又火吹玉と云物あり、内に水を入て火中にて焼く時、口より氣を吹出すが如し、蠻簫の口より氣を吹出すも此意也、吹風は天地の間の蠻簫、火吹玉の氣を吹出すが如し、蠻學の徒陰陽の理、升降の性を不レ知と云へども、其風吹を論辨することは、又外候一説の工夫を得たり、

[Paragraph] 21— On the Blowing *Vigour* of Element Air

The cause of the blowing *vigour* of element air is *exalação*. Therefore, *exalação* naturally goes up and accumulates, its substance being strongly dry and hot. Though this *exalação* rises up to the border of the middle region of air, because of the sturdiness of the substance [of this region] it cannot rise into the middle region of air. Also because it is hot and dry, the cold air of the middle region does not accept it and so it is squeezed. This *exalação* being squeezed by the cold air, from that place frequently makes a whirlwind blow sideways. This is wind. When this wind is blowing, it propels forward element air.

Commentary. The above explanations by the Southern Barbarian scholar are like this. This theory discusses the blowing of air. What it calls *exalação* looks like the rising *solar* [*vigour*]. However the *solar vigour*, as the original and the natural substance, has no beginning and no end. The meaning of *exalação*, according to barbarian learning expounded in the above heading about earthquakes, is the combination of the hot *vigour* of air with the dry *vigour* of soil and *exalação* is not the *solar vigour*. The blowing of air is the *solar vigour* that rises up and in the middle [region of air] is squeezed by the *telluric vigour*. As it cannot rise up, it runs sideways and becomes wind. For example, when the boiling water rises up in a cauldron, if a lid is not used the *solar vigour* rises up; when a lid is put [on it] and there is a place from where a bit of vigour can pass there is the *vigour* of warm-water that blows out. There are also bubbles that blow out fire: when water is put inside the middle of burning fire, from their mouth *vigour* blows out like the *vigour* that blows out from the mouth of a bellows. Blowing air is a bellows in the middle of Heaven and Earth like the vigour that blows out of bubbles that blow out fire. Though it can be said that the disciples of Barbarian Learning do not know the *principle* of the *telluric* and *solar* [*vigour*] their exposition [concerning] air blowing achieves a contrivance of an explanation about the outside aspect of phenomena.

第二十二　風大の中に生ずる物の事

一、　日輪の陽氣と星の牛羊とを以て、地水の二大よりする時、水氣の二品あり、一には温（イ濕）氣、二にはえいさらんとて濕性の氣是也、濕氣は其體重著浮輕にして微温の氣あり、ゑいさらんは其體清潔浮輕にして熱燥の氣あり、此熱燥の氣浮輕なる故に、上部の風中迄上騰す、濕氣は微弱なる時は、下部の風中に滞留して、勇悍なる時は中部の風中迄上騰すと雖も、其體重著潤濕なる故に、上部の風中には上騰すること不レ能、故に上部の風中に雲氣有ることなし、是雲は濕の濁氣甚き故也、然るに此二氣より合體假相して、風中に生ずるに十二品あり、一には下部の風中には露、霜、霧、霞生じ、中部の風中には雲、雨、雪、雹、虹、電光生じ、上部の風中には彗星生ずる物也、是皆元來温（イ濕）氣也と雖も、温煖潤澤の氣の強弱に隨ひ、風中の温冷の淺に隨て、春霞、秋霧、雨露、霜雪と變じて牽強る者也、

[Paragraph] 22— About the Things that are Generated in Element Air

Through the *solar vigour* of the Sun and the suction by the stars, when [this suction] is from the two elements earth and water[964], there are two natures of the *vigour* of water. One is the *vigour* of warmness (dampness); the second is the nature of dampness as *exalação*. The *vigour* of dampness, its substance [being too] heavy to fluctuate, has the *vigour* of a small degree of warmness. *Exalação*, its substance being pure and floating, has the *vigour* of hotness and dryness. Because this *vigour* of hot dryness floats, it goes up to the upper region of air. When the *vigour* of dampness becomes insignificant it stops in the lower region of air. Even though when it becomes fierce it rises up to the middle region of air, because its substance is heavy with moisture, it cannot rise up to the upper region of air. For this reason, in the upper region of air there isn't any *vigour* of cloud. The reason is that clouds are extreme *vigour* of turbid dampness. However, from the union of these two *vigours* phenomena occur, twelve of which originate in the air. First, in the lower region of air originate dew, frost, fog [and] mist; in the middle region of air originate clouds, rain, snow, hail, rainbow, [and] lightening; in the upper region of air originate comets.[965] Though all of these are of damp *vigour*, according to the strength of the *vigour* of the richness of heat [and] according to the shallowness of cold that there is in the air, they are made to change to spring mist, autumn fog, rain and dew, frost and snow.[966]

[964] Same sentence as in book 1, paragraph 6.

[965] Though it is said there are twelve phenomena only eleven are refered: four in the lower region, six in the middle region, and one in the upper region.

[966] Gensho did not add a comentary to this paragraph.

第二十三　下部の風中に生ずる物の事

一、　右に云如く、下部の風中に露、霜、霧、霞生ずる物也、夫露と云は温（イ濕）氣微弱なる物也、彼濕氣温煖（イ燥）の氣有りと雖ども、至て微なる故に、中部の風中に至ること不レ能して、下部に留滞す、されば下部の風大は、夜は微寒なる故に、温（イ濕）氣の微温（イ濕）氣の寒風に反碍せられて、霜と成て降下する物なり、春秋露の降る事は、其節温冷二氣和かなる故也、夏は日輪の陽氣甚く、彼温（イ濕）氣は至て微弱成る故に消失し、冬は寒氣勇悍なる故に、濕氣そくたいして霜と成物也、霜と露とは其根本同一也、下部の風大の温冷の淺深に隨て、霧と成り露となる物也、右の如く、下部の風大微寒なる時は露と成る、嚴寒成る時は彼濕氣そくたいして、霜と變じて降下する物也、霞と云も濕氣の微弱なる物也、霜と露とよりは少し剛也と云へども、濕氣強◎微カ弱成る故に、上騰の氣微少にてし、未だ雲に不レ足が故に、中部の風大まで上騰する事不レ能して、下部の風中に滞留す、下部の風大は夜は微寒成るが故に、彼濕氣或は寒氣に逼迫せられて、そくたいして霞と變じて、下部に横行周旋する者也、或は微温の氣寒氣反碍せられて霧となる、霧は則雨の微少白淡成物也、

[Paragraph] 23— About the Things That Are Originated in the Lower Region of Element Air

In the lower region of element air, as said above, dew, frost, fog and mist are produced. Dew is said to have *vigour* of warmness (dampness)[967] that is weak. Though there is *vigour* of warmness (dryness) in this *vigour* of dampness, because it is extremely small, it cannot reach the middle region of air and [therefore] stays in the lower [region]. Hence, the lower region of element air is slightly cold during the night. The *vigour* of warmness (dampness), being constrained by the small *vigour* of warmness (dampness) of the cold air, it becomes frost and descends. Concerning the dew of spring and autumn descending, this happens because in those seasons the two *vigours* of warmness and coldness are softened. In summer the *solar vigour* of the Sun is extreme and consequently the *vigour* of warmness (dampness) becomes utmost weak until extinction. In winter, because the *vigour* of cold is fierce, the *vigour* of dampness immediately becomes frost. The root of frost and dew is the same. According to the degree of warmness and coldness of the lower region of air it becomes dew [or] it becomes frost. As [explained] above, when the lower region of air becomes slightly cold [the *vigour* of dampness] becomes dew, but when it becomes extremely cold, the *vigour* of dampness immediately descends changed into frost. Mist is weak *vigour* of dampness, though somewhat stronger than [that of] dew and frost. As the *vigour* of dampness becomes strong and weak[968] [this] *vigour* rises a bit, and therefore it is not enough for a cloud [to form]. As it cannot ascend up to the middle region of air, it stays in the lower region of air. Because the lower region of air becomes somewhat cold during the night, the *vigour* of dampness becomes strained by the *vigour* of cold, and immediately turns into mist, and moves around in the lower region [of air]. Or, if a small *vigour* of warmness is obstructed by the *vigour* of coldness it becomes fog. Accordingly fog is light rain, whitish and fleeting.[969]

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[967] As before, inside parentheses are the readings of manuscript (i).

[968] The editor of Bunmei notes that in the manuscripts (a) and (i) it is not clear whether the character is for strong 強 or minute 微. Manuscript [A4] uses strong. The alternative reading would be: "As the *vigour* of danpness becomes weak…"

[969] Gensho did not add a comentary to this paragraph.

第二十四　中部の風中に生ずる物の事

一、　中部の風中には、雲、雨、雪、雹、虹、雷、電光生ずる物也、夫雲と云は、日輪の陽性と星の牛羊とに隨て、地水の二大より濕氣上騰して雲と成物也、されば、濕氣とは其體潤濕にして、雖レ有二微温の氣一、其體微弱なる時は、下部の風中に滞留して、右の如く霜、露、霞、霧と成也、勇悍成る時は、中部の風中迄上騰す、然るに中部の風大嚴寒成が故に、彼濕氣寒氣の爲に逼迫せられて、そくたいして雲と成て風中に鬚也、雲は中部の風中迄上騰すと雖も、其重濁の淺深に隨て上騰の高下あり、重かろき（イ重濁深）時は獨共上に有余する物也、又曰、雲の重濁濕潤により、黑雲と白雲と差別あり、重濁甚き時は黑雲と云、薄き時は白雲と云物也、且又雲は四方八方より風にもまれて、或は日性にて消へ、或は雨と成て降下するもの也、右の如く地水の二大より上騰する濕氣、中部の風大迄上騰して雲と成物也、然るに中部の風大は嚴寒成る故に、温（イ濕）氣の濕（イ温）氣と風の寒氣と尅するを以て、濕（イ温）氣微弱成故に寒風に反碍せられ、濕氣雨となり降下する物也、譬ば焼酎を煎ずるが如し、其いげは焼火の熱性にて、下より上るいげの温濕の氣、甑の上に置たる寒水に反碍せられて、水と成て降る物也、春夏に行雨繁多なる事は、其節は濕氣多き故也、春雨、五月雨是也、夫雪と云は、日輪の陽性に隨て、中部の風中迄上騰する濕氣、其體重濁なるが故に、上部の風大に至ること不レ能して、中部の風中に留滞する、中部の風は嚴寒成が故に、温（イ彼濕）氣（イの温）濕氣寒氣に反碍せられて、雨と成て降下するに、寒風強剛勇悍成時は、彼行雨側滞して、霜雪現行し降下する物也、山雪降て里に雨降る事は、日輪の陽氣土大に當て環當して、下部の風大を動升するが故に、里には環當の陽氣に雪反碍せられて、雨と成て降下す、山々は環當の陽氣微弱にして、寒氣勇悍なるが故に、雪を反碍する事なし、雹と云は、濕氣已に中部の風大に上騰して、雨と成て降下するに及で、嚴寒の風氣強剛勇悍成る時、温（イ濕）氣寒氣に窘迫せられて、固密重々にして雹と成て降る物也、或は炎天にも雹降することあるは、濕氣中部の寒風に逼迫せられて、忽然として降下する物也、雪と雹との根元は一同と云へども、中部の寒冷の淺深に隨て、雨と成、雪と成り、雹と成る物

也、右に云如く、日輪の陽性と星の牛羊とを以て、地水に（イの）二大よりゑいさらさんとて、濕の精氣上騰する也、是清濕の體は清潔浮輕にして、少熱碍燥の氣有るが故に、上部の風中に上騰せんと欲する、雖レ然中部の風大は寒氣甚しき故に、彼清濕熱燥寒氣に抱留せられて、上部の風中に至ること不レ能して、中部に留滞する時、寒濕の雲己が生所の物成が故に、件の清濕を放離せしむる也、是に於彼雲の寒濕と、清濕との熱燥と攻撃するが故に、熱燥の氣寒氣の爲に逼迫せられて、彌極熱して炎上す、故に寒雲の弱所を推破りくわいていす、其ていほつするに及んで、性熱の化を現にして鳴動する物也、今の電光、雷是也、地より見るときは、先は光りて後に鳴と雖ども、光りは鳴て後に光る物也、其故は眼は其見る處早し、耳は其聞こと遲き物也、されば彼雷何を以て鳴となれば、浮雲の寒濕と清濕の熱燥と攻撃して、以て寒雲ていほつして鳴動す、譬ば熱鐵を水中に沒するが如し、其熱湯と寒水と攻撃するに及んで、水中鳴動するものなり、雷の墮落することは、常に落る物は火也、是則冷濕の熱燥の氣寒風に逼迫せられて、其欝熱炎上して直下する也、雖レ然時により右の清濕、寒風に包裏せられ逼迫せられて、其體も固密欝熱する故に、輕浮飛揚の體變じて、以て鐵石よりも堅くして重し、故に彌上騰の今を失ふが故、右寒雲破損する時、終に墮落する物也、電光と云は今の稲妻也、是則ゑいさらさんとて清濕の所爲也、さればゑいさらさん、中部の風大迄上騰する時、其熱性中部の寒氣に逼迫せられて炎上す、故に熱火を煎灼混亂して、稲光を現ずる物也、電光是也、電光の秋冷を主る事は、春夏は地水の二大より上騰する濕氣多し、彼濕氣中部の風大迄上騰する時、濕氣微温の氣中部の寒氣に奪却せられて、潤濕の氣雨と成て降下する故に、春夏は潤濕の性深甚にして、ゑいさらさんの熱燥の氣少し、故に雷も少き物也、秋は燥氣甚ふして、雨と成濕氣少く、ゑいさらさん多し、故に雷も繁多也、春夏冬の三季に潤濕甚だ深くして、ゑいさらんの熱燥の氣少き故に、雷も少也、夫れ虹は黒雲と白雲との中間に現ずる物也、されば濕氣空中に彌綸する時、濕氣微温の氣寒風に奪却せられて、潤濕氣微少極て細雨と成て降する時、其降濕の所に日輪の映光、下の方より黒雲の濕中に當て、白雲に移らふて、以て虹と成て青紫赤の三色顕はす物也、雖レ然三色共に正色に非ず、日輪の耀光青紫赤の色を現ずる也、虹は日中に有ること稀也、早晨か夕晩か、二時共に日輪兩對の處に現ずる也、

故に晨は西方に現じ、晩には東方に現ず、若北方に現ずる時は、必ず日中に現ずる也、是日輪兩對の所に現ずる故也、故に虹を見るものは、其虹と日輪との中間にある者也、其故は右の如く、日輪の光耀雲に當て環當するを以て、青紫赤の色を現ずる物也、然れば虹の青色成ことは、日輪の光耀が兩温（イ雨濕）の濕中に當りて、白雲に移らふて以て、水の色を顯す故也、紫色成るは日輪の光耀が、雨濕の細雨の正中に當る故也、其故は日輪の色光は、黄金の色に見へて赤色也、赤色に濁濕の色相雜るが故に紫也、赤色成る事は、日輪の光耀土に當て、下部の風大を動升す、其日影が雨濕より内に在て、地大より見ること近が故に、本光の赤色を現ずる物也、夫流星と云は右に云如く、日輪の陽性と星の牛羊とに隨て、地水の二大より氤氳濕（ゑいさらさん）の精氣上騰する物也、彼清濕は其體清潔浮輕にして熱燥の氣あり、其氣微弱なる時は、上部の風中迄上騰すること不レ能して、中部の邊際迄上騰す、中部の風大は嚴寒凜冽成が故に、中部の寒氣と清濕の煖氣と攻撃して、清濕の氣に逼迫せられて彌極熱を生じ、炎上せられて横流するを、俗によばい星と云也、清濕の熱燥の氣強剛勇悍成る時は、中部の風中いはんして上部に至る也、上部の風大は其體以て火大に連なるが故に、火大の如く炎熱す、故に彼の熱燥の氣かしこに至て、彌極熱して火大の邊際に至る時、火大に炎上せられて横流する也、是星の流轉と號して、世俗にほうき星と云也、故にほうき星は天に備はる星辰に非ず、右の清濕上部の風中に至てもゆるをほうき星と云也、論じて曰、ほうき星は天に備はる星辰の如く諸星の如く、東より西へ運轉す、然る時は風中にもゆる清濕にては不レ可レ有、ほうき星は辰星の如く廻ると雖ども、天に備はる星辰に非ず、諸天東より西へ廻れる其運轉に隨て、火大も天と共に運轉す、火大と上部の風大とは、其體以て連るが故に、火大の運轉に隨て、上部の風大も常に運轉す、其運轉に順じてほうき星も、上部の風大と共に廻る物也、彼ほうき星は或は久見へ、或は消失ること也、是又ほうき星誠のほうきに非ざる證據也、其故は日月星は、天と共に地水風火の四大に異體成るが故に、寒熱濕燥の四氣を帶せず、故に昔より今に至る迄、朽腐することなく衰る色なし、然る時はほうき星、天に備はる誠の星辰ならば、消失る事有べからず、

辨説、右南蠻學士の説如レ是、其説詳也と雖も、少の誤りなきに非ず、今更に論レ之、陰陽の升降は、萬物化生する天道の政事也、陽氣升らざれ

ば陰氣も上に不レ達、故に地中の至清の陰氣は、陽氣の升る時に隨て共に升ると雖も、其體陰成る故に、其質本より重し、故に升る陰氣の清中の濁氣は、重くして地面を離るヽ事、纔か數仞にして降て露と成る、寒月には凝結して霜となる、露よりも清輕なる陰氣は、猶陽に隨て升りて、長空に彌滿して霞と成、霞は萬物を滋養する徳氣あり、故に春は霞の大空に靉て、花葉色を爭て、百千鳥も山に囀る、誠に霞は陰中の清氣、陽と共に大空に彌滿し、萬物を滋養する故也、秋は陽氣升るといへども、陰氣上より下る故に霞と成、清輕の氣高く升上せず、降て霧と成る、霜は草木を肅殺する物也、故に秋は草木黄落して諸蟲悲む、猶清輕の陰氣、陽に隨て升て空中に湛ふ、其氣集り群て雲となる、雲聚り凝て散せざれは、陰氣重疊して雨となりて降る、譬ば水さしに水を入れて、上に蓋をして一日夜置て見れば、蓋の裏に露あるが如し、器中の水天地の陽氣に隨て、器中に升ると雖も、水氣の清中の濁は、蓋の上に洩出ること不レ能して、蓋の裏面に取付て、露ありて久くもれば、又下の水中に降入物也、雨の空中より下て、又地中の中（イ水）に歸するも、此道理陰陽の性也、冬月に空中の雨、空にて嚴寒にあへば、凝て雪となり雹と成る、虹雨濕の水の月に映て形象あるもの也、蠻學の説もよし、雷は陽氣升上する時、本より空中に群聚したる陰氣に抱抑せられて、升達すること不レ易、陽氣は升らんとし、陰氣は降らんとして、上下互に推薄し、終に陰氣の薄き所より破れて、陽氣發出して升る、雷聲は陰氣破るヽ時の聲響也、電光は陽氣發して陰氣の内を出る時、陰氣と輾破るヽ時、火の出る光也、光は早く顯れ、聲は陰雲に隔られて遲く至る、故に先づ電光を見て、雷聲は後に聞く也、稻妻は秋七八月の間に顯るヽ物也、故に稻妻と云、此光り顯れて稻は能く實のる故也、秋は陽氣升る故に、陰氣早先立て降る、升る氣強からず、故に降陰の氣と爭て攻撃する物なし、但し夏中の炎熱の氣、空中に殘り滿てあり、是の陰氣に引れて降る故に、陰氣ふかき水上に至て、少し輾りて光り顯るヽ也、故に稻妻は山巓に顯るヽ物也、霹靂と云是なり、憤撃擘開する陰氣の爭ひなき故に、雷聲なし、ほうき星は、相火の氣と炎熱の氣と、陽性成に依て、升りて水中の微濕の氣に付て光顯る、高く大にもゆる時は彗星と云、高く小なる時は流星と云、卑く地上に數仞

の間に飛時は流火と云、海上烟霧の中に飛時は龍火と云也、其本は同じき物也、

右天地の間に、陰陽五行の氣、升降浮沈往來循環する事、是天地の政也、天道徳の化也、是に依て萬物の生成あり、霞、霧、霜、雨、虹蜺、氷凍、流火、流星等は、皆彼氣の時に隨て變じて現ずる物なり、南蠻學家の説稍正しからずと雖も、其理は甚だ不レ遠、學者詳にすべし、

右南蠻學家に天地萬物生成變化の義を論ずる、苟も牽強附會の工夫なる故に、凡俗愚昧の者は迷入といへども、君子は彼學教の正理、正論に非ることを知て、其教に迷ふ事なし、右の論辨に付て、彌工夫を加へ、考辨をなし、愚俗の彼の蠻教に惑はざるやうになし玉へとぞ、上の二巻終也、

乾坤辨説亨卷終

[Paragraph] 24— About the Things Produced in the Middle Region of Air

In the middle region of air, clouds, rain, snow hail, rainbows, and lightening are produced. Clouds are produced through the rising damp *vigour* that follows the *solar* nature of the Sun and the suction by the stars. Therefore, the damp *vigour* being a damp substance with a small amount of warm *vigour*, when its substance is weak it stays in the lower region of air and becomes frost, dew, mist and fog as [said] above. When it becomes fierce it rises up to the middle region of element air. However, because the middle region of element air is of a rigorous cold, this damp *vigour* is strained by the cold *vigour*, and it becomes clouds in the middle region of air. Even though the clouds rise to the middle region of air, depending on the degree[970] of their heavy impurities, they rise higher or lower. When heavy (heavy and deep with impurities), too many impurities are also [in the middle region] above. Depending on the heavy impurities of the dampness of the clouds, there is a difference between black clouds and white clouds. When the heavy impurities are extreme[ly numerous] there are black clouds, when [they are] light there are white clouds. Moreover the clouds are dispersed to the four and to the eight directions by the wind, or dissolved by the *solar* nature, or descend as rain. As said above, the damp *vigour* rises from the two elements earth and water; it rises up to the middle region to become clouds. However, the air of the middle region is of a rigorous cold. Therefore the warm (damp) *vigour* of the damp (warm) *vigour* and the cold *vigour* of air conquest each other, and from this the damp (warm) *vigour* becomes weak and is bounced back[971] by the cold air. The damp *vigour* becomes rain and descends. For example, as liquor[972] is simmered, its vapour, having the heat of the burning fire, rises from the bottom up as the warm *vigour* of dampness. [If it reaches a] bottle with cold water in it, it bounces back: it becomes water and falls down. That rains are frequent in spring and summer it is because in those seasons the damp *vigour* is abundant.[973] This is spring rain and Fifth Month[974] rain. Snow, depending on the *solar*

[970] Literally: shallowness or deepness.

[971] *Hangai* 反碍: bounce back.

[972] *Shōchū* 焼酎: liquor ("Xŏchŭ. *Vinho que se faz ao fogo como urraca, &c*. ¶ Xŏchŭ goxiqi. *Lambique de fazer o vrraca*." Vocabvlario, fl. 309v.; "shochu; a clear liquor (distilled from sweer potatoes, rice, buckwheat, etc)." Shinwaei; "a low-grade alcoholic drink," Nelson).

[973] In Japan rain is frequent in spring and early summer; note that this is not the case in Southern Europe.

nature of the Sun, is damp *vigour* that has risen up to the middle region of air. Because its substance is heavy with impurities, it cannot reach the upper region of air and stays in the middle region of air. Owing to the rigorous cold of the middle region of air, the warm *vigour* (this dampness of warmness) [of the] damp *vigour* is bounced back by the cold *vigour*, it becomes rain and descends. When the cold air is strongly fierce the rain descends as frost and snow. [The reason for having] snow falling down in the mountain and rain falling down in the village is because of the *solar vigour* of the Sun hitting element soil. Hence, because the element air of the lower region moves up, in the village the snow is bounced back by the *solar vigour* and descends as rain. Because in the mountains the *solar vigour* is weak, the cold *vigour* is fierce and the snow is not bounced back. Concerning hail, the damp *vigour* already in the middle region of element air rises, it becomes rain and descends. When the severely cold *vigour* of air becomes strongly fierce the warm (damp) *vigour* is squeezed[975] by the cold *vigour* and it becomes heavy and dense hail falls down. It also happens that with a scorching heaven hail descends. The damp *vigour* is squeezed by the cold air of the middle region and all of a sudden it descends. The root of snow and hail is the same: depending on the degree of the cold of the middle region, it rains, it snows or there is hail. As said above, from the solar nature of the Sun and the suction by the stars, the pure[976] *vigour* of dampness rises as the *exalação* of the two elements earth and water. The substance of this pure dampness, being pure and floating, because it has some *vigour* of heat and hard dryness[977], it wishes to rise up to the upper region of air. However, because the middle region of element air has cold *vigour* which is extreme, this pure dampness with hot dryness is stopped by the cold *vigour* and cannot reach the upper region of air. When it stays in the middle region, because this becomes the place of production of clouds of cold dampness the pure dampness is released. Concerning this [matter,]

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[974] *Satsuki* 五月: Fifth Month of the traditional luni-solar calendar; it falls on the rainy season in Japan.

[975] *Kinpaku* 窘迫: squeezed (「押されてちぢむこと。また、抑えつけられて苦しむこと。」, Kojien). The Kojien gives this sentence of the *Kenkon Bensetsu* as an example of usage of *kinpaku*.

[976] *Seiki* 精氣: pure vigour, the original vigour that produced the myriad things ("Xeiqi. *Espiritos vitaes, ou forças interiores*. ¶ Xeiqiga tçuquru. *Esgotaremse as forces, & espiritos*." Vocabvlario, fl. 294;「①万物生成の元気。②生命の源泉たる元気。精力。③物の純粋の気。たましい。精神。④精霊。霊鬼。」, Kojien」. It is evident from the context that by *seiki* it was not meant neither the original vigour that produced the myriad things, or spirit, soul, ghost, or god. Therefore: pure vigour.

[977] Here we follow manuscript [A4] which has 少熱硬燥 instead of 少熱碍燥, which appears in Bunmei.

because the cold dampness of the clouds attacks the hot dryness of the pure dampness, the *vigour* of hot dryness is strained by the cold *vigour* and upon reaching extreme hotness it inflames. Therefore, a weak spot in the cold cloud is broken and the natural change of heat occurs with a rumbling[978]. This is lightening[979] and thunder[980]. Although when it is seen from the Earth the light is [seen] before and the sound is [heard] later, the light flashes after the sound. The reason is that eyes are fast seeing a place and hears slow in hearing what there is to hear. Concerning how thunder makes a sound [it happens as follows:] The cold dampness of a fluctuating cloud attacks the hot dryness of pure dampness and the cold cloud rumbles. For example, if hot iron is sunk inside water, the hot warm-water attacks the cold water and there is a rumbling inside water. Similarly when a thunder[bolt] falls, it happens always that the thing where it falls is burned. The *vigour* of the hot dryness in the cold dampness is strained by the cold air and its accumulated heat inflames and [falls] directly below[981]. However, sometimes the above [mentioned] pure dampness is surrounded[982] and strained by the cold air and its substance becomes dense with accumulated heat. Its floating and rising substance changes and becomes harder and heavier than iron and stones[983]. Therefore it loses its strong urge to rise, and when breaking the above [mentioned] cold cloud it finally falls. Thunderbolt[984] is this lightening. This happens in the place of *exalação* as pure

[978] *Meidō* 鳴動: rumbling ("Meidô. Nari vgoqu. *O mouerse, ou tremer a terra. Vt*, Xifõni meidô su. *Tremer em todas as partes a terra. S*." Vocabvlario, fl. 155v. Notice, however, that *nari,* meaning "rumbling" has been left out untranslated; "rumbling," Nelson; 「鳴り動くこと。特に、地震の時に生ずる土地の震動音響。」, Kojien).

[979] *Denkō* 電光: lightening ("Denquõ. Inabicari. *Relampago*." Vocabvlario, fl 71v; "lightening", Nelson).

[980] *Kaminari* 雷: thunder ("Caminari. *Troução*. ¶Caminariga furu. *Soar o troução*. ¶ *Item, Curisco*. ¶ Caminariga votçuru. *Cair corisco*." Vocabvlario, fl. 34v; "Rai *itazuchi* thunder. *kaminari* thunder; thunderbolt," Nelson).

[981] *Chokka* 直下: directly below (「①すぐした。ました。目の下。②まっすぐに下ること。」, Kojien; "directly [just, right] under *sth*.", Dhinwaei).

[982] *Hōri* 包裏: surrounded ("Hõ. *tsutsu*(*mu*) wrap, pack up; cover with; dress in; conceal. *kuru*(*mu*) wrap up, tuck in." Nelson; "Ri inside."Nelson).

[983] *Tesseki* 鐵石: iron and stones (「①鉄と石。②きわめて堅固なこと。」, Kojien).

[984] *Inazuma* 稲妻: thunderbolt ("Inazzuma. *Relampago*. ¶ Inazzuma furu. *Relampeguar*." Vocabvlario, fl. 131). *Ina* means "rice-plant" (cf. Nelson) and *tsuma* or *zuma* means "wife." So *inazuma* means literally "wife of the rice-plant." As will be explained below in the commentary by Gensho this name arose because lightening was more frequent on the time of the rice harvest.

dampness. Therefore when *exalação* rises to the middle region of element air its hot nature is strained by the cold *vigour* of element air and it is set ablaze. Therefore the hot fire in the confusion[985] of the blaze appears as the luminosity of the thunderbolt. This is lightning. The reason lightning occurs mainly on the cool autumn is [the following.] In spring and summer the damp *vigour* ascends abundantly from the two elements earth and water. When this damp *vigour* ascends to the middle region of element air, the minute warmness of the damp *vigour* is taken away by the cold *vigour* of the middle region. Therefore the *vigour* of dampness becomes rain and descends. As the nature of dampness is deep and extreme in spring and summer, the *vigour* of hot dryness of *exalação* is small. Consequently thunder is also rare. In autumn the dry *vigour* becomes extreme, the damp *vigour* that becomes rain is rare, *exalação* is abundant and therefore thunder is also very frequent. In the three seasons of spring, summer and winter dampness is extreme, the *vigour* of hot dryness of *exalação* is rare and therefore thunder is also rare. Rainbow appears in the middle space between black clouds and white clouds. When the damp *vigour* is abundant in the middle region the minute *vigour* of warmness of the damp *vigour* is taken away by the cold air. When the damp *vigour* descends as extremely minute and light rain, and the light of the Sun [reaches] the place of the descending dampness it hits the dampness in the black clouds from below and, moving to the white clouds, it becomes a rainbow with the three colours of blue, purple and red. However, it should be said that the three colours are not primary colours[986], but the light of the Sun makes the colours blue, purple and red appear. Seldom there is a rainbow during the day. It is early in the morning or in the evening, during these two moments, that it appears in the places of opposition to the Sun. Therefore in the morning it appears in the west, in the evening it appears in the east, and when it appears slightly to the north it is always during the middle of the day. Therefore it appears in the place of opposition to the Sun. Therefore those who see the rainbow are those who are in between the rainbow and the Sun. The reason is [as explained] above. The light of the Sun hitting the clouds makes the colours blue, purple, and red appear. However, the

[985] *Konran* 混亂: confusion, chaos ("Conran. Midare majiuaru. *Mistura sem se diuisarem hũas cousas das outras*." Vocabvlario, fl. 57v).

[986] *Seishoku* 正色: primary colours, true colours (「①昔、中国で、まじりけなく正しいと定めた色。青・赤・黄・白・黒の5色。」, Kojien; "primary colours," Nelson). These were defined in ancient China as blue, red, yellow, white and black. It should be remembered that the Chinese had a bias towards groups of fives (see, Ronan, *op. cit.*, pp. 151-159).

blue colour of the rainbow is the light of the Sun hitting the dampness of the damp rain[987] and moving [then] to a white cloud and making manifest the colour of water. The purple colour occurs because the light of the Sun hits the centre of the dampness of the light rain. Therefore the colour of the light of the Sun is red and is seen as golden. Concerning it being red, this is thanks to the light of the Sun hitting soil and making the element air of the lower region move up. A shade of the Sun is [created] in the middle of the dampness of the rain. Because from the element earth it is seen as near, the red colour of the original light appears. Comets are, as said above, [the following:] Depending on the solar nature of the Sun and the suction by the stars the pure *vigour* of *exalação* rises from the two elements earth and water. Pure dampness, with its pure and floating substance has the *vigour* of hot dryness. When that *vigour* becomes minute and weak it can not reach the upper region of element air and rises [only] to the middle region. Because the middle region of element air is of a severe cold and frigid, the cold *vigour* of the middle region is attacked by the hot *vigour* of pure dampness. Being strained by the *vigour* of the pure dampness extreme hotness is produced and flares up to the sides, in what is vulgarly known as a comet. When the *vigour* of hot dryness of the pure dampness is hard and fierce, the air of the middle region makes a violation[988] and reaches the upper region. Because the substance of the element air in the upper region is pulled by the fire element, it is hot and flaming as element air. Hence this *vigour* of the hot dryness becomes extremely hot and when it reaches the border of fire it is flared up by the element fire and flows sideways. This is named the wandering[989] of a star and is vulgarly called a shooting star.[990] Therefore, shooting stars are not in the heaven where stars and constellations are, but what is called shooting star is the pure *vigour* reaching the upper region of air and burning. It is said that shooting stars drive

[987] We follow manuscript (i); the alternative reading would have "two warmness" instead of "damp rain."

[988] *Ihan* いはん: a violation ("(a) violation; an offense; (an) infringement; (a) transgression; (a breach; disobedience." Shinwaei).

[989] *Ruten* 流転: wander ("Ruten. *Rodeo, ou reuolução*. Vt, Xŏjini ruten suru. *Tornar a nascer, & morrer muitas vezes, como imaginão os gentios*." Vocabvlario, fl. 213v;「①流れ移ること。移り変わること。②(仏)生れかわり死に変わりして、きわまりないこと。輪廻(りんね)。」, Kojien; "perpetual motion; vicissitudes; wandering, vagrancy; transmigration," Nelson).

[990] *Hōki boshi* ほうき星: shooting star ("Fŏqiboxi. *Meliùs*, Quicuxei. *Cometa*." Vocabvlario, fl. 102;「彗星(すいせい)の異称。」, Kojien). *Hōki* 彗 means broom, as is read also as *sui* from where comes another, more formal designation, of *suisei* for comet.

from east to west as does the heaven of stars and constellations and consequently should not be pure *vigour* burning in the air. Though the shooting stars circle as do the constellations and stars, they are not in the Heaven of stars and constellations. The several Heavens circle from east to west and according to that driving the element fire is also driven. Therefore element fire and the upper region of element air have their substances carried along. Following the driving of element fire, the upper region of element air is also always driving and according to that driving the shooting stars also circle with the upper region of element air. Shooting stars are seen for long periods, and they also vanish. This is a proof that shooting stars are no real broom.[991] Besides [this, another reason is that] the Sun, the Moon, and the stars, because they are, together with the heaven [made] of a different substance than the four elements earth, water, air and fire, they do not possess the four *vigours* of cold, hot, damp and dry. Therefore, from old times to the present they have not decayed[992] nor lost colour. Hence, if shooting stars were in the Heavens, they would not vanish.

Commentary. The above explanations by the Southern Barbarian scholar are like this. Though the theory is detailed, it is not without a few errors. Arguing about it now [it can be said that] the rise and descent of the *telluric* and the *solar* governs the Way of Heaven that produces the myriad things. If the *solar vigour* were not to rise, the *telluric vigour* also would not stand above. Therefore the purity of the *telluric vigour* reaches the middle of the Earth. And though when the *solar vigour* rises it rises also, because its substance is *telluric*, its matter is heavy from the beginning. Hence the turbid *vigour* of the purity of the *telluric vigour* that ascends, because it is heavy, when it departs from the surface of the Earth it is just by a few *jin*[993] and [then] descends as dew. In the cold months it freezes and becomes frost. The *telluric vigour*, more pure and floating than dew rises following the *solar* [*vigour*], it increasingly fills the long sky and becomes mist. Mist has the *vigour* of

[991] This is a reference to the name *hōki boshi,* which literally means broom star. This observation seems to indicate that there were some people who believed that the name signified literally what it said about its object. This was not an isolated case: another well known example concerns the Milky Way, *Ama-no Gawa* 天の川, the River of Heaven.

[992] *Kyūhai* 朽腐: decay ("朽廃 *kyūhai* decay," Nelson)

[993] *Jin* 仞: an ancient length measure, probably equivalent to 2.1 meters (「中国古代の、高さ・深さの単位。8 尺・7 尺・・4 尺・5 尺 6 寸など諸説があるが、7 尺説が有力。」, Kojien; "fathom," Nelson).

the virtue that nourishes[994] the myriad things. Therefore the mist of spring hangs over the broad sky. The flowers and leaves fight over [their] colours, a hundred thousand birds chirp in the mountains and truly mist is the pure *vigour* of the *telluric* and therefore nourishes the myriad things. In autumn, though the *solar vigour* rises, because it stays below the top of the *telluric vigour* it becomes mist.[995] The pure floating *vigour* does not rise high, descending it becomes fog, as frost it burns[996] the grasses and trees. Therefore in the autumn grasses and trees become yellow and fall and all insects grieve. Further the pure and floating *telluric vigour*, following the *solar* [*vigour*] rises and fills the sky and the gathering of that *vigour* becomes the clouds. If clouds gather, assemble and do not disperse the *telluric vigour* accumulates and becoming rain descends. For example, when water is put inside a jug and a lid is put on the top of it, if after one day and night the back of the lid is observed it will have [water] like dew. The water inside the vase follows the *solar vigour* of Heaven and Earth. Though it rises inside the vase, the impurities of the pure water *vigour*, as they cannot leave and [rise] above the lid they get stuck in the back of the lid. If this dew leaks for a long time it will descend back into the water. The water descends from the sky and returns to the middle (water) of Earth[997]. This is the nature of the Way of *principle*, of the [Way of the] *telluric* and of the *solar*. The rain from the sky in the months of winter freeze and become snow and frost if the sky is of a rigorous cold. The rainbow is the figure of the projection in the Moon of the water of the rain's dampness. The Barbarian theory is also good. Thunder [occurs] when the *solar vigour* rises and is restrained[998] by the *telluric vigour* that had accumulated in the sky from the outset. Not being easy to ascend, the *solar vigour* does not rise and the *telluric vigour* does not descend. Up and down they rub on each other and in the end the *telluric vigour* tears in [its] thinnest place. The *solar*

[994] Jiyō 滋養: nourish (「身体の栄養となること。また、その食物。」, Kojien).

[995] However, Lu Jia says that "[…] yin forms frost and snow[.]" See Chapter VII "The Learning of the Four Countries."

[996] *Shukusatsu* 粛殺: burn through ice (「きびしい秋気が草木をそこない枯らすこと。」, Kojien).

[997] "to the water," according to manuscript (i).

[998] *Bōyoku* 抱抑: restrain.

vigour passes through and ascends, and the sound[999] of thunder is the noise of the *telluric vigour* when it is thorn. Lightening is the fire from where light leaves when the *solar vigour* leaves [through] the middle of the *telluric vigour*, and the *telluric vigour* creaks and is torn. The light appears suddenly, and the sound from the *telluric cloud* arrives after an interval. Therefore the lightening is seen first and the voice of thunder is heard later. Thunderbolts appear in autumn during the Seventh and Eight Months and therefore are called *inazuma*.[1000] This is because this light appears when rice ripens. In autumn, because the solar *vigour* rises, the *telluric vigour* descends faster and before it, and the rising *vigour* does not have to use force. Hence it does not attack the descending *telluric vigour*. However, during the scorching *vigour* of summer, it stays and fills the sky. Because the *telluric vigour* is pulled down, the *telluric vigour* fills the water surface, and there is a little creak and light appears. Therefore *inazuma* appears on the summit of mountains. It is called thunderclap[1001]. Because the furious and torn up *telluric vigour* does not fight there is no thunder sound. Shooting stars [occur] when the *vigour* of mutual fire and the *vigour* of scorching heat, according to their *solar* nature, attach [themselves] to the rising *vigour* of dampness and [as a consequence] light appears. When it burns greatly in a high [place] it is called a comet[1002]. When [it burns] a little in a high [place] it is called a shooting star. When it flies lowly a few *jin* above the Earth surface it is called a wandering fire. When it flies in the midst of fog above the sea, it is called dragon fire. Their essence is the same.

The space between Heaven and Earth is governed by the *vigour* of the *five phases* of *telluric* and *solar*, by their rising and descending, floating and sinking, going and returning. This is the natural change of virtue in the Way of Heaven. According to this the myriad things are produced. Mists, fog, frost, rain, rainbow, freezing[1003], wandering fire, shooting stars, all of them appear according to the

[999] *Koe* 聲: sound (「❸おと。音楽の響き。」, Kanjigen).

[1000] *Inazuma* is a name for thunderbolts. The Seventh and Eight Months are the time of the rice harvest. Thunderbolts, because they appear with the rice are called *inazuma*, literally, Mrs. Rice, or the Wife of Rice.

[1001] *Hekireki* 霹靂: thunderclap (「①急激な雷鳴。②はげしい音響の形容。」, Kojien).

[1002] *Suisei* 彗星: comet (「(comet)太陽系内の天体の一種。」, Kojien).

[1003] *Hyōtō* 氷凍: freezing. This word is not included in any consulted dictionary.

changes of their *vigours*. The theory of the Southern Barbarian Scholars is not right, its *principle* is extremely shallow, and scholars should have a detailed [knowledge] of this.

The Southern Barbarian scholar argues above about the meaning of production and change of the myriad things and of Heaven and Earth. Truly, because it is a contrivance of twisted reasoning the vulgar and ignorant wander into it. The sovereign knows that in those teachings there is no right principle or right reasoning. [I] have added to the above exposition, with all my skill, some thoughts so that the simple should not be deluded by this Barbarian teaching. Thus the above two volumes are finished.

End of the Second Volume of Explanations Concerning the Heavens and the Earth

乾坤辨説利巻（イ下巻の一）

天部

一、　地水風火の四大の性、春夏秋冬の氣、世界の萬物有情非情、共に四大を本として生ずる處、上巻にあら々々沙汰せし也、然りといへども、寒熱温冷の遲速、春夏秋冬の氣は、天の循環にあり、世界に生化する萬物は、四大和して生ずといへ共、天の生氣を受ずして、一物も生ずることなし、人物を始として、一切の胎生、たとひ生氣を受ると云ども、日耀の煖氣を不レ受して、其生を存する事なし、珠玉、金銀、草木等も、日輪の陽氣を受るを以て生ずるもの也、是を以て今天の循環、日月星の性徳を下巻に論ずるもの也、

辨説、右南蠻學士の説如レ此、蠻學の説に、萬物は地水風火の四大和合して生ずと云て、五行の説を離ずといへども、陰陽分れて五行そなはりたること、眼前の境界なれば、蠻學の士、其の一行をかくすこと不レ能、故に四大の外に天を論ず、然れ共天は萬物生化の根元行には非ずと云り、其學術の實は一行を隠すに非ず、五行の理を知ざる故なり、其天地兩間の氣令を論ずるには、寒熱濕燥の四氣を論ず、然れども天の徳眼前に明なる故に、是を隠すこと不レ能して、天は四大に異なる體也と云、たとひ異體なりとも、萬物は天の生氣を受て生ずと云ときんば、天も四大と和合して、萬物を生ずる根元と成ることうたがひなし、然るときは、天と四大と合て五行に非ずや、五行和合して萬物を生ずるに非ずや、蠻學の士の、陰陽の理を知ざる故に、天の天たる所以を知らず、其論偏僻也、

Third Volume

The Heavens

The nature of the four elements earth, water, air and fire, [as well as] the *vigour* of Spring, Summer, Autumn and Winter, the World of the myriad things, the sentient and the non sentient [beings], together with the place where they are produced having the four elements as origin, are dealt[1004] summarily[1005] in the first volume. However, the slowness and speed of cold and hot, warm[1006] and cool, and the *vigour* of spring, summer, autumn and winter are in the rotation of Heavens. The myriad things that live in the World, even though it can be said that they have their origin in the union of the four elements, not one of them would have been originated without receiving the vitality[1007] of Heavens. Beginning with men, all gestation[1008], though it can be said as a simile[1009] that [all of them] receive vital spirits, without receiving the *vigour* of warmness of sunshine that life [of men] would not exist. Pearls and jewels, gold and silver, and also grass and trees, etc., all are generated by receiving the *solar vigour* of the Sun. Based on this the rotations of Heavens and the attributes of Sun, Moon and stars are discussed in the second book.

Commentary. The above explanations by the Southern Barbarian scholar are like this. The theory of Barbarian learning says that the myriad things are produced

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[1004] *Sata* 沙汰: deal, discourse ("Sata. *Pratica, ou rumor. Vt*, Fitono vyeuo sata suru. *Falar, ou tratar sobre alguẽ*. ¶ Satauo caguitta coto. l, satano caguiri. *Cousa que muito se estranha, & he muito mal feita, &c*. ¶ *Item*, Sata. *Pratica, ou exame sobre algũademanda*. ¶ Satanin . *Juiz, ou homem q ouue as partes nas demandas*." Vocabvlario, fl. 220;「②理非をろんじきわめること。評定。裁断。訴訟。」, Kojien).

[1005] *Ara-ara*: summarily ("Ara ara. *Aduer. Breuemente compediariamente, ou engrosso, & totalmente*." Vocabvlario, fl. 11;「①ざっと。大略。②荒々しいさま。」, Kojien).

[1006] 湿 or dampness in manuscript [A4].

[1007] *Seiki* 生氣: vital spirits, vitality ("Xeiqi. *Espiritos vitaes, ou forças interiores*. ¶ Xeiqiga tçuquru. *Esgotarense as forças, & espiritos*.", Vocabvlario, fl. 294;「いきいきした気力。活気」, Kojien).

[1008] *Taisei* 胎生: gestation.

[1009] *Tatohi* たとひ: a simile, a metaphor ("Tatoye. *Comparação*. ¶ Tatoyeuo fiqu. *Trazer algũa comparação*. ¶ Tatoyeuo toru. *Idem*." Vocabvlario, fl. 243).

by the combination of the four elements, earth, water, air and fire. Even though it is not far from the theory of the *five phases*, it is extremely evident that the scholars of Barbarian learning provided with *five phases* split away from the *telluric* and *solar vigours*, cannot hide one of those *phases*, because besides the four elements they discuss about Heaven. However they say that Heaven is not an agent at the root of the life of the myriad things. The truth about that scholarship is not that it hides one agent, but because not knowing the principle of the five phases, when it argues about the laws of the *vigour* of both Heaven and Earth, it argues about the four *vigours* of cold, hot, damp and dry, and in arguing about the characteristic form it argues about the four elements of earth, water, air and soil.[1010] However, because Heaven is clearly in front of [their] eyes, they cannot hide this. Thus they say that Heaven has a substance that is different from the four elements, being like a different[1011] substance. When saying that the myriad things are produced by receiving the vitality of Heaven, Heaven is also being combined with the four elements to become the root that produces the myriad things. However when they deny that Heaven together with the four elements is not [part of] the *five phases* and that from the combination of the *five phases* the myriad things are not produced, the scholars of Barbarian learning, besides not knowing the principle of the *telluric* and *solar* [theory] do not know about the place where Heaven is and their discussions are biased.

[1010] Manuscript [A4] includes the sentence「形質ヲ論スルニハ地水風火ノ四大ヲ論ス、」translated above as "in arguing about the characteristic form it argues about the four elements of earth, water, air and soil". *Keishitsu* 形質: characteristic form ("characteristic form and quality." Shiwaei).

[1011] Manuscript [A4] does not include *I* 異, or the word "different".

第一　天の體之事

一、　天の體は五番の體と號して、地水風火の異なる體也、故に寒熱濕燥の四氣を蔕せず、其故は此の四氣を蔕するものは、互に尅するが故に、必ず重過せる者あり、人倫を始として、四大和の（イして）物、有情、非情の物、皆以て重過することは、此四氣を蔕する故也、雖ㇾ然天は古より今に至るまで、朽腐することなく、衰る色なし、是れ互に尅する寒熱濕燥の氣を蔕せざる故也、四氣を蔕せざるときんば、四大に異體成こと分明也、難じて曰、日輪に陽氣あるときんば、天にも寒熱濕燥の氣なきに非ず、寒熱濕燥の氣天にあるときんば、天の體地水風火の四大に異體なると云ことなし、日輪の體に熱の氣なしといへども、萬物を温養する性徳あり、此あたゝむる性徳は、火大に熱性あるが如くに非して、勝れて日輪に具はる異徳也、たとへば黄金は諸金の位を期するが如し、若し日輪の體熱也といはゞ、たとへば火邊には近付ほどあたゝか成るが如く、日輪に近き程あたゝか成べし、然れば麓よりも峯は猶あつく、下部の風大よりも中部の風大は、彌あたゝか成べし、然りといへ共、日輪に近き高山はひややかにして、日輪に遠き渓谷はあたゝか也、下部の風大は、日輪に遠しといへども温煖也、中部の風大は、日輪に近しといへども却て嚴寒也、是日輪の體熱の氣なしと云へども、物に當てあたゝむる性徳あるが故に、土に當るときんば、あたゝまりたる土の煖氣環當して、中部の風大より日輪に遠き下部の風大は温煖也、高山よりも遠き渓谷はあたゝか也、又曰、いかなる炎天にも、日に當りて焼もゆることはなしといへども、日輪石に當るときは、手もあてられず熱く覚ゆ、水上に當る時は、猶あつくなる、是を以て日輪の體は、熱燥の氣なしといへども、あたりてあたゝむる異徳ありと知べし、月輪も濕氣を生ずると云ことも此理なり、且又天の體は清淨潔白にして、透徹長勝の體也、故に此の理より見るときんば、下なる（イ天を見とをして上なるアリ）、天に備はる星辰を殘りなく見るもの也、故に天に光耀なく、日月星に光明あり、其の故は、其體透徹長勝成るが故に、日輪の光耀透貫す、たとへば長勝なる水晶、數重りて光を受くるが如し、月輪形向して、以て光明を含んで照すもの也、たとへば、日光鏡に移て、鏡光貫透して照すが如し、論じて曰、天の體透徹長勝なる體ならば、青色に見ゆ

べからず、青色に見ゆるときは、透徹長勝に有べからず、天の青色は日輪の映光うつりて青し、然といへども、天の正色青きに非ず、天と地との間遙遠懸隔成が故に、青色に見る、譬へば深淵を臨み見るに、其水色綠碧に見るといへども、水色青きに非ず、其水底深成るが故也、水底淺き時は、其色青く見ることなし、又曰、天の體は水晶の如く、透わたる體也といへ共、其堅密成ことは、金銀鐵石の性にすぐれたり、是天は常に循環する體なれば、或は水の如く流れ、或は土石草木の如く折れ碎くる體ならば、長くあるべからざる故也、

辨説、右南蠻學士の説如レ是、天には寒熱濕燥の四氣を蓄せずとて、四大に異なる體也と云こと、誠に笑ふべし、其故は地大、水大、風大、火大、各同様にあらず、異體なること分明也、然るときは天體の異なる勿論の義也、五行の體各別なる時は、五行の氣も各別也、故に天には寒熱濕燥の四氣なし、其氣淸乾也、淸乾とは淸冷乾燥を云に非ず、淸爽乾和の義也、たとへば玉の如し、不熱、不寒、不濕、不燥にして、淸麗爽快也、天の氣最淸潔なるもの也、此の氣は物の妄發浮動を、安靜化淳ならしむるものなり、故に寒熱濕燥の和合ありとも、此氣なき時は物を生成することなし、又蠻學士の云、地水風火の四大は、寒熱濕燥の四氣を蓄する故に、互に尅して重過するもの也、人倫より有情、非情の物の、皆以て重過することは、此の四氣を蓄する故也、然りと云へども、天は古より今に至まで、朽腐することなく、衰る色なし、是れ互に尅する、寒熱濕燥の氣を蓄せざる故也と云こと、尤も笑ふべし、獨り天ばかり朽腐せざるに非ず、夫生じて榮へ、榮て衰て死し、天地開けしより此方、寒熱濕燥を蓄せる土水風火も、今に至て朽腐することなく、衰る色なし、死して朽腐するものは、五行の和合して、天地の間に生ずる萬物のみ也、五行は元々より生盛、衰死、朽腐の變なし、不變の徳を以て、萬物の變化生成の功をなす、此の義至理あり、蠻學士の及ぶ工夫に非ず、難じて曰、地水風火の四大も各體なるときは、其氣も各別なること分明也といへども、、其の本體を論ずる時は、皆一體一氣也、異體異氣と云べからず、曰、此論よし、其本原を論ずる時は、天も異體に非ず、同體也、天地未分、陰陽未判の以て前は、只理と氣とのみ也、此氣一度別れて陰陽の性情あり、陰陽變化し、五行具はりて、天地始て分て、萬物生成の化あり、蠻學士此義を

不レ知して、天は地水風火の四大に異なる體也と云事、其の工夫の鄙愚なることを可レ知、たとへば鄙愚なるものは、氷を見て水と同體に非ず、異體也と云が如し、夫學問の道には心迹の工夫あり、君子は其心を觀る、小人は其迹を見る、其心を觀る人は、其心を得て其迹ともに通達す、故に天地萬物道義性徳の理致、皆通照せずと云ふことなし、其迹を見るものは、纔に迹に就て工夫をなす、故に眞心の理を曉し得ず、道義の致を知ず、是より異岐に迷入て反復を知ず、終に異路に走り異説をなす、蠻學尤迹に拘る深きもの也、其邪見偏僻なること可レ知也、

[Paragraph] 1— About the Substance of Heavens

The substance of Heavens is called the fifth substance. It is a substance different from earth, water, air and fire and thus doesn't have the four *vigours* of cold, hot, damp and dry. The reason for this is that the things which have these four *vigours*, because they mutually conquest [one another], necessarily there is the one that commits a capital crime[1012]. Beginning with humanity, taking that all the things composed by the four elements, either sentient or non-sentient beings, commit capital crimes it is because they possess these four elements. Heavens, however, from old until the present, have not decayed, their beauty has not faded. This is because they do not possess the *vigours* of cold, hot, damp and dry which do conquest among themselves. When [something] does not possess the four *vigours*, it is evident that it is made from a substance different from the four elements. Against this it is said that when in the Sun there is *solar vigour* it is not true that there aren't in the Heavens the *vigours* of cold, hot, wet and dry. But if in the Heavens there are the *vigours* of cold, hot, wet and dry, it could not be said that the substance of the Heavens is different from that of the four elements earth, water, air and

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[1012] *Jūka* 重過 grave error, capital crime, grave sin (「重大なあやまち。重科。重罪。」, Nikkoku; "⇒*jūzai* 重罪; a felony; a grave [capital, major] offense [crime]; an infamous crime", Kenkyusha). A good example of usage of this word can be found in *Gonki* 權記, in the entry for Chōtoku 4.3.5 (or 998.4.4) where it is written「亥四剋忠親朝臣來腋陣、傳別當相公消息云、經犯未斷囚人所在只三人也、依恩原免、其數非幾歟、觸強竊嫌疑并鬪亂事等、所召禁者十三人也、相加被免如何、亦清水寺僧忠蓮連内記史生國珍偽作位記之事、所令召候、事旨非重過、殊可原放歟、可候御氣色、但至于注載嫌疑之輩者、又候案内随仰可進止也、」, Watanabe Naohiko 渡辺直彦 (ed.), *Gonki*「權記」, vol. 1, *Shiryō Henshū*『史料纂集』, Tokyo, Zoku Gunsho Ruijū Kansikai 続群書類従完成会, 1978, p.66. *Jūka* is a word used basically in criminal law, and means always a major offense. Its use in this context is strange and may be explained by the inability of Chūan to find the appropriate word. He might thus have borrowed a word which he must have heard dozens of times during his legal process applied to his own actions as a missionary. The line of thought in this sentence is that as "the things which have these four vigours […] mutually conquest [one another]" they "commit a capital crime." Notice that *koku suru* 尅する, here translated as "to conquest" also has as its meaning "to win over an adversary," and "to overcome" (it is used in the well known expression *gekokujō* 下剋上). Capital crimes are also frequently associated with murder (ie., to destroy another human live). Thus "capital crime" probably was used here and in the following sentence with the meaning of "to destroy" or even "to annihilate". In Paragraph 2 of the First Book the synonimous and homophonous word *jūka* 重科 was also used in the following sentence: "Concerning the element air and the element water, though they have the different vigours of warm and cold and thus they conquest [each other], because the dampness of element air and the dampness of element water is the same vigour, there is no capital crime [between them]." Finally notice that the scribe who chose the caracters for *jūka*, Genshō in all probability, seems to have been unsure of the best combination to use: here he uses 重過 while in the above mentioned paragraph he used 重科.

fire. To this it can be replied that although in the substance of the Sun there isn't the *vigour* of hotness, it has the attribute of warming and nurturing the myriad things. This warming attribute isn't like that of the hot nature of element fire, but a different virtue that adorns the winning Sun. For example, as gold stands for metals, so does the substance of the Sun [stand] for hotness. For example, as it becomes hotter in the vicinity of fire, it should become hotter as one approaches the Sun. Therefore, it should be even hotter in the top than in the foot of a mountain, and the middle region of element air should be much warmer than the lower region of element air. However, as the high mountains nearer the Sun are cold[1013], so the valleys far away from the Sun are warm. Even though the lower region of the element air is far away from the Sun it is warm. The middle region of element air, though nearer the Sun is extremely cold. Though the substance of the Sun has not the *vigour* of hotness, because it has the attribute of warming by shinning on things, when it shines on the soil, the warm *vigour* of the warmed up soil circulates, and the lower region of element air, which is farther from the Sun than the middle region of element air, becomes warm. Valleys, farther away than the [top of] high mountains, are warmer. It can be added that every time the Heavens are scorching, though nothing burns by being shone by the Sun, when the Sun shines on a stone the hand can feel its hotness even if does not touch it. When it shines on the top of water, it becomes even hotter. With this it should be known that the substance of the Sun, though not having the *vigour* of hotness and dryness has the distinct virtue of warming by shinning. The Moon, which gives origin to the wet *vigour,* follows also this principle. Furthermore, the substance of Heavens being pure and clean[1014] is a transparent[1015] and long lasting[1016] substance. Consequently, when [this

[1013] *Hiyayaka*: the state of being cold; without sympathy, compassion or consideration; calm; poor, without money ("Fiyayacana. *Cousa fria, & fresca*." Vocabvlario, fl. 98;「①つめたく感じられるさま。ひえているさま。②扱い方や態度に思いやりのないさま。つめたい態度であるさま。冷淡さま。③落ち着いて物に動じないさま。冷静なさま。④(③から転じて比喩的に)豊かでないさま。金の持合せが少ないさま。懐がさみしいさま。」, Nikkoku). An example of this word to express the state of being cold is found in Book 13 of *Taiheiki*:「月冷ク風秋ナル小夜深方二、翠簾ヲ高ク捲上サセテ、玉樹三女ノ序ヲ彈ジ給フ」, "Taiheiki"「太平記二」, Vol. 2, edited and with notes by Gotō Tanji 後藤丹治 and Kamada Kisaburō 釜田喜三郎, *Nihon Koten Bungaku*『日本古典文學体系』, vol. 35, Tokyo, Iwanami Shoten 岩波書店, 1961, pp. 28-29.

[1014] *Keppaku* 潔白: clean ("Qeppacu. Isaguiyoi coto. *Pureza*. ¶ Xŏjŏ qeppacuna cocoro. *Coração limpo, & puro*." Vocabvlario,fl. 193;「①清くて白いこと。清潔でよごれのないこと。また、そのさま。②心が汚れていないこと。また、心にうしろ暗いところがない様子。」, Nikkoku;「①清潔で純白なこと。②いさぎよく心のけがれていないこと。後ろ暗いところのないこと。」, Kojien). This word cam be found in the opening

matter is] seen from this *principle*, as the lower (Heavens are observed, the) stars and constellations of the (higher) Heavens can all be seen without exception. Therefore Heavens do not shine but the Sun, the Moon and the stars do shine. The reason is that, because their substance is transparent and long lasting, the light of the Sun passes through it. For example, as several long lasting crystals pilled upon each other receive light, so does the shape of the Moon over there shine with light. This is similar to sunlight being reflected and shinning in a mirror. It is argued against this that if the substance of Heavens is a transparent and a long lasting substance then it should not be seen with the colour blue. When it is seen as blue it should not be transparent or long lasting. The blue colour of Heaven is the [result from] the reflection[1017] of the light of the Sun which becomes blue. Moreover, the true colour of Heaven is not blue but because there is so great a distance between Heaven and Earth it is seen as blue. For example, when one looks at an abyss, though the colour of its water is seen as deep blue, the colour of the water is not blue but because of the profundity of that water [it is seen as blue]. When the bottom of the water is shallow its colour is not seen as blue. It can also be argued that although the substance of Heavens is, like a crystal, a transparent substance, its hardness is superior to the nature of gold, silver, iron or stone. The reason is that as Heavens are a substance that is constantly rotating, either they should flow like water or if they should be pliable or breakable like soil, stone, grass or trees they should not last long.

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sentences of "Ōmo"「王茂」, in Book 45 of *Nanshi retsuden* 南史列傳, Book 55 of *Nanshi*『南史』:「郎司馬。父天生宋末爲列将。尉司徒袁粲。以勳歷位郡守。封上黄縣男。茂年數歳。爲大父深所異。常曰。此吾家千里駒。成門戸者。必此兒也。及長。好讀兵書。究其大指。性隱不交游身長八尺。潔白美容儀。齊武帝布衣時。嘗見之歎曰。王茂先年少な堂堂如此。」, Koten Kenkyu-kai 古典研究會 (ed.), *Nanshi*『南史』, Vol. 2, Retsuden 列傳(下), Tokyo, Kyūko Shoin 汲古書院, 1972, p. 740. It is also found in the chinese poem of Emperor Heizei 平城 (774-824), colected in Book 13 of *Keikokushū* 経国集, a collection of poems edited by Shigeno no Sadanushi 滋野貞主, Yoshimine no Yasuyo 吉岑安世 and Sugawara no Kiyokimi 菅原清公 in Tencho 天長 4 (827) in twenty books:「始メ靄ク穹隆ノ閣。紛紛タリ寂莫ノ庭。如花ノ梅下亂ル。似テレ絮ニ柳前ニ縈ル。潔白因ツテレ逢フニ立チ。汗玄以テレ染ヲ成ル。驟歌猶寡クレ和スルコト。何ノ處カ暢ベンニ幽聲ヲ一。」, , *Chūkō Nihon Bungaku Taikei* 註校日本文學体系, vo. 24, , p. 325.

[1015] *Sukitōru* 透徹: transparent ("Suqitouori, u, otta. *Ser transparente*." Vocabvlario, fl., 231v; "be transparent, be clear, be seen thru." Nelson).

[1016] *Chōshō* 長勝: long lasting; long winning. This word is not listed in any consulted dictionary. Probably it was intended to express "hardness".

[1017] *Eikō* 映光: reflection. This word does not appear in any consulted dictionary. It might be a miswriting of *eiki* 映輝 defined in Kokanwa as「うつりかがやく」, or "reflection".

Commentary. The above explanations by the Southern Barbarian scholar are like this. Heaven does not possess the four *vigours* of cold, hot, damp and dry, but it is of a substance different from the four elements. Truly laughable! The reason is that it has not element earth, nor element water, nor element air, nor element fire nor anything similar but it is evident that it is a different substance. Therefore this is without doubt the meaning of a different heavenly substance. The particular substance of the *five phases* corresponds to a particular *vigour* of the *five phases*. Therefore in Heaven there aren't the four *vigours* of cold, hot, wet and dry, its *vigour* is pure dryness. Pure dryness does not mean cold and dry pureness[1018] but it is the meaning of uncontaminated dryness. Like a ball[1019] is not hot, nor cold, nor wet, nor dry but pure and clear. The *vigour* of Heavens is absolute pureness. This *vigour* causes[1020] the random movements[1021] and floating of things to become repose and straightforwardness. Therefore, besides the existence of the combination of cold, hot wet and dry, when this *vigour* is lacking things cannot be produced. Again, what the Barbarian scholar says, that the four elements earth, water, air, and fire, because they possess the four *vigours* of cold, hot, damp and dry, they commit capital crimes through the conquest of each other. Why sentient [beings], starting with humans, [as well as] non-sentient beings, why all of them commit capital crime is because they possess these four *vigours*. However, Heavens from old times to the present have not decayed[1022] nor lost colour. This is because [Heaven] does not possess the mutually opposing *vigours* of cold, hot, wet and dry is truly laughable. Since the opening of the World, soil, water, air, and fire despite possessing cold, hot, damp, and dry haven't decayed until the present nor lost their colour. It isn't true that Heaven alone does not decay. Plenitude follows birth, and death follows the passing of plenitude. That which decays with death, through the combination of the *five phases* becomes the myriad things that are generated between Heaven and Earth. By nature the *five*

[1018] *Seirei* 清冷: coldly pure, pure without a spot (「きよくひややかなこと。清らかでけがれのないこと。」, Kojien).

[1019] *Tama* 玉: ball ("Tama. *Pilouro, ou bola*. ¶ Qinno tama. *Grãos dos testiculos*." Vocabvlario, fl.238v.).

[1020] *Narashimuru* ならしむる: have, or cause, or allow something or somebody do.

[1021] *Mōhatsu* 妄發: random movements ("妄りに〈むやみに〉 at random, recklessly", Shinwaei).

[1022] *Kyūhai* 朽腐: decay (「くちて役に立たなくなること」, Kojien; "decay. ~ suru decay; be [become] dilapidated; be ruined" Kenkyusha).

phases do not suffer birth or growth, decline or death, nor do they decay. Having the virtue of un-changeability, [they] succeed in the production and change of the myriad things. This meaning has the extreme of *principle* to which the contrivances of the Barbarian scholars cannot reach. The criticism is advanced that it is evident that the four elements earth, water, air and fire, when considered individually as substances, the *vigour* of each one is also differentiated. When it is argued about the true substance[1023], in every case each substance [corresponds] to one *vigour*. It should be said that different substances have different *vigours*. [I] say this argument is good. When its origin[1024] is argued, Heaven is not a different substance, but a similar substance. [When] Heaven and Earth were not separated[1025], or before the *telluric* and *solar* [*vigours*] were differentiated, it existed only *principle* and *vigour*. Once this *vigour* split, the nature and feeling[1026] of the *telluric* and *solar* [*vigours*] appeared. [As the] *telluric* and *solar* [*vigours*] changed they became adorned with the *five phases*. Heaven and Earth were separated and there was the change of production of the myriad things. Because Barbarian scholars do not know this meaning, they say that Heaven is a different substance from the four elements earth, water, air and fire. It should be known that their contrivances are foolish[1027]. A foolish thing is, for example, upon seeing ice to say that it is not of the same substance as water, or that it is of a different substance. In the way of scholarship there are the means of heart and footprints[1028]. The Master observes the heart, the disciple sees the footprints. The one who observes the heart has got the heart and followed the footprints and thus has reached the Principle of the attributes and morals of Heaven and Earth and of the myriad things. He who looks at the

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[1023] *Hontai* 本體: true substance ("Fontai. Fonnotai. *Verdadeira, ou propria sustancia*", Vocabvlario, fl. 101v.).

[1024] *Hongen* 本源: origin ("Fonguen. Moto, minamoto. *Pincipio*." Vocabvlario, fl. 101;「おおもと。みなもと。根源」, Kojien).

[1025] *Mibun* 未分: not separated, undiferentiated ("Mibun. Imada vacarezu. *O não estar ainda feito, ou tirado a lume*. Vt, Tenchi mibunno ijen. *Antes de ser feito o ceo, & a terra*." Vocabvlario, fl. 158;「まだ分かれていないこと。未分化。」, Kojien).

[1026] *Seijō* 性情: nature and feelings (「性質と心情」, Kojien).

[1027] *Higu* 鄙愚: foolish.

[1028] *Shinseki* 心迹: heart and footprints, discipleship.

footprints, even if he makes a small contrivance concerning the footprints he will not reach the dawn of *principle* of a true heart. Not knowing the purpose of morality, getting lost in an unknown forking road and not knowing how to get back, he becomes deeply enmeshed in the disastrous Barbarian Learning, not being able to know its bias and wickedness.

第二　天の形之事

一、　天のなりかたちは、いかやうに有ぞと云に、剛圓也、其故は一には諸天常に循環するに、四角、八角の形よりも、圓相の形は猶相應したる形也、二には天は透間なく數重りて各々に廻る、若し四角、八角、三角、六角の形ならば、各々に廻る時、其かどかどは上に重る天を破らずと云ことあるべからず、然と云ども、右に云如く、天の體は朽腐する體に非ず、鐵石よりも堅密也、故に破れ碎ると云ことなし、此道理を以てしる時は、天の圓なる内にも、長く圓相も成がたし、達して圓相ならずしてならざる義なり、其故は上なる十番の一天は、内の九天を引つれ、東より西へ日夜循環すといへども、内の九天は同時に西より東へ逆回す、此逆回の軸と、十番の一天の軸とは各別なり、然るときは諸天の軸を各別にして、同時に前後を回るときは、何れも達して圓相ならずして不レ可レ叶、又九天の逆回を見るに、九天ともに西より東へ各別に廻り、南北へも各別に寄除くもの也、たとへば二萬七千年の間に一回し、月天は一ヶ月に一回す、日輪の天北へよるときは、月輪の天は南へより、太白星の天南へ寄る時は、辰星の天北へよることあり、他準レ之、然るときは、諸天いづれも達して圓相にあらずんば、互いに破れずして、如レ是各々に循環すること叶ふべからず、三にはいづくよりみても、星辰を同じ遠さに見、同じ大小に見る也、是又諸天圓相なる證據也、難じて曰、日輪東天に出る時、其體大に見へ、頭上に立上る時は小に見ゆる也、是れ天に遠近ありて、大小に見るに非ずや、天に遠近あらば、達したる圓相と云ふべからず、日月の形を大小に見ることは、天に遠近あるに非ず、朝夕には地水の二天より立上る土水の濕氣、風中に滿々てあり、然るに日輪東天に出るとき、彼の濕の濁氣日輪と見る者との中間に有て、眼精をちらすが故に、日輪の體を近く大きに見るもの也、たとへば水中の木石を見るに、其中間に水あるが故に、直に見るよりも其の木石大に見へ、波の立つ程猶大相に見るが如し、是の中間の水眼精をちらす故に、目鏡をさして物を見るに、其體を近く大に見るも此謂也、日輪已に頭上に立上るときんば、陽氣清爽なる故に、彼濕氣略消へ薄くなるが故に、日輪の體をありていに見るもの也、

辨説、右南蠻學士の説如レ是、天形至圓の説誤りなし、然れも蠻學の術は、器形に就いて論辨工夫する故に、例を引き證據をとり、彼れと是れとを較べ、彼方此方と比ぶるに非れば、工夫を付て理を論じ、人に示すことあたはざるもの也、其法凡鄙にして、偏に迹を見る工夫の故也、然りといへども、天形至圓の説誤まりなし、儒書醫書に、天形至圓の義を論ずること、易簡にして分明也、凡そ物の形體至圓なるは極則の形也、故に圓也は陽に屬す、陽は滿て無レ不レ足、方なるは陰に屬す、陰は虧て不足あり、天地は眞に形あるものの至極にして、萬物造化の功用不足なきもの也、不足なき功用をなすものは、不足の體のなし及ぶ義に非ず、是故に天地は至極の體を以て、至極の形あるものなり、故に天地は至極の形ありて圓なるもの也、其内地は陰に屬して、山海峰谷の高下あり、然れども其大容大形は圓也、天は陽に屬して至圓なる事疑いなし、右蠻學の説も論辨誤りなきもの也、

[Paragraph] 2— The Shape of Heavens

Concerning the shape of Heavens, how[1029] is [the shape] they have, [the answer is that it] is a solid sphere. The reasons for this are, first, that as the several Heavens are always rotating, instead of quadrilateral or octagonal shapes, spherical shapes are rather more suitable shapes. Second, each of the Heavens rotate and they overlap one another in their numbers without any space between them. If their shapes were otherwise quadrangular, octagonal, triangular or hexagonal, as each and every one rotates, it could not be said that their corners would not tear the Heaven lying above. However, as said above, the substance of Heavens is not a corruptible substance, [but] is even harder than iron and stone, and so cannot be said to suffer from tear or to be broken. When one brings one's reason to bear on this matter, the spherical inside of the Heavens cannot be oval, and this is also a reason for them not to be non spherical. Besides, the Tenth Heaven above, taking along the Ninth Heaven inside it, rotates night and day from east to west. At the same time the Ninth Heaven inside makes an inverse rotation from east to west, and [therefore] the axis of this inverse rotation and the axis of the Tenth Heaven are different[1030]. The axes of the [other] several Heavens are different, as they turn forward and backward at the same time, it would not be suitable that any one of them would not be spherical. Moreover, observing the inverse rotation of the Ninth Heaven, the Ninth Heaven has a different rotation [being instead] from west to east, it removes the different south-north movement. For example it rotates once in twenty seven thousand years, while the Heaven of the Moon rotates [only] once in one month. When the Heaven of the Sun draws towards the north, the Heaven of the Moon draws to the south; when the Heaven of Venus draws to the south, the heaven of Mercury draws to the north, and the same happens to the others. However, if the several heavens were not spherical, there could be no rotation of each of them without one tearing the other. Third, from whatever place they are seen, the constellations are seen at the same distance and with the same size, and this constitutes proof that the several Heavens are

[1029] *Ikayau*: how (「いかよう【如何様】①物事の状態、程度などを疑い問う意を表わす。いかなるさま。どのよう。どんなこと。どのくらい。どれほど。」, Nikkoku).

[1030] *Kakubetsu* 各別: different ("Cacu. i. Vonovono, l, caccacuno cocoro l, cocorogocoro. *Diuersos pareceres*." Vocabvlario, fl. 30v.; 「①それぞれ別々にすること、なること 。②格段の差があること。格段。特別。 ③例外であること。」, Kojien).

spherical. The [following] criticism is advanced: when the Sun gets out in the eastern heaven, its substance is seen large, but when it is above the head it is seen as small, and this [shows that] there is far and near to the Heavens. Or isn't it seen as large and small? If there are different distances to the Heavens, then they cannot be said to be spherical. [To this it can be replied that] observing the shapes of the Sun and the Moon with different sizes, does not result in the Heavens being nearer or farther. In the morning and in the evening the *vigour* of dampness from the soil and water rises from the two Heavens[1031] of earth and water, and the air is filled with it. For this reason when the Sun gets out in the eastern Heaven, the turbid *vigour* of this dampness gets in between the Sun and him who observes it. This causes the *vigour* of sight[1032] to spread, and the body of the Sun is seen nearer and larger. For example, when seeing wood or stones inside water, because there is water in between, that wood and stones are seen larger than when observed directly, because the water in between spreads the sight. When something is seen using spectacles[1033], then it can be said that that body is seen nearer and larger. When the Sun is already above one's head, the influence of the *solar vigour* is clear and refreshing, and this causes the *vigour* of dampness to fade out and grow thinner, and the body of the Sun to be seen as it really is[1034].

Commentary. The above explanations by the Southern Barbarian scholar are like this. There is no error in the theory that the shape of Heaven is a perfect sphere, but the techniques of Barbarian Learning, because they use artifices in their expository reasoning about the formal aspect of phenomena[1035], and use

[1031] The word *Heavens*, *ten* 天, is here being used for the spheres of earth and water.

[1032] *Gansei* 眼精: sight ("Ganxei. Manacono xeiriqi. *Força ou vigor dos olhos*. ¶ Ganxeiga tçuqita. *Ter perdido a vista, ou o vigor da vista*. ¶Ganxeiga tçuyoi, l, youai. *Ser a vista boa, ou fraca dos olhos*." Vocabvlario, fl.114v).

[1033] *Megane* 目鏡: spectacles ("Megane. *Oculos*." Vocabvlario, fl. 361v.). Already before the *Kenkon Bensetsu* was written the Jesuits of the Japanese Mission had used this word in the Vocabvlario. However the word only appeared in the 1604 Svpplemento to the Vocabvlario, not in main part of 1603. In any case the word was already in use by the early seventeenth century, much earlier than the entry in Terajima Ryōan's 寺島良安 (fl. early eighteenth century) famous encyclopedia *Wakan Sansai Zue*『和漢三才図会』of 1712.

[1034] *Aritei* 有り体: as it is (「①ありのまま。いつわりのないこと。ありよう。②ありきたり。」, Kojien).

[1035] *Ki* 器: phenomenon (「❺朱子学や陽明学では、現実の物象を器といい、その根原を道という。」 Kanjien).

examples as proofs, comparing this to that, and if there isn't this to compare to that, then they argue about *principle* using artifices, therefore this is not something that should be given to the people. That Law is entirely lowliness and with a single mind[1036] it seeks confirmation by devices of the sight. However, the theory that the shape of Heaven is perfectly spherical has no error in it. In the books of the School of Confucius and in those of the Medical School, the meaning of the shape of Heaven being a perfect sphere is discussed, [and the explanation there] is easy and evident. As a rule the perfect shape for a thing is to be a perfect sphere. The reason is that circles belong to the *solar*, and the *solar* is fullness and lacks nothing. Squares belong to the *telluric*, and the *telluric* is insufficiency and in it there is lack. Heaven and Earth have the true shape of the Supremely Limited[1037], and they lack nothing in the efficacy in the creation of the myriad things. That lacking no efficacy [they] create, it is not [because] there is no lacking of substance or meaning. Therefore Heaven and Earth take the substance of the Supremely Limited, and take the shape of the Supremely Limited. As consequence Heaven and Earth have the shape of the Supremely Limited which is spherical. The Earth belongs to the *telluric*, and although it has mountains and seas, peaks and valleys with highs and lows, its general form is spherical. As Heaven belongs to the *solar* there is no doubt concerning it being perfectly spherical. In the Barbarian Learning above there is no error either in the theory or in its exposition.

[1036] *Hitoeni* 偏: single mind ("Fitoye. *Cousa singella*. Fitoyena. *Cousa singella, ou que não he dobrada*. ¶ Item, petma. *Homem singello & sem resoibo*." Vocabvlario, fl. 97).

[1037] The expression *Supremely Finite*, also frequently translated by "Supreme Ultimate," is usually used for *taikyoku* 太極; here we translate *shigoku* 至極 also as "Supremely Finite" because from the context that is obviously the intended meaning (see Chapter VII for the presentation of the concept of *taikyoku* in the Chinese classics). Furthermore *shi* 至 means "the utmost, the height of, climax" (cf. Nelson, 3845) what makes the two ideograms *shigoku* 至極 equivalent in meaning to *taikyoku* 太極. It should be noted also that Genshō does not use *Taikyoku*, one of the most fundamental of all the neo-Confucian concepts, in the whole of the *Kenkon Bensetsu*.

第三 天の循環之事

一、　抑天の循環を見るに、其の品三つあり、一には諸天東より西へ、日夜十二時の間に一回せしむること、二には西より東へ逆旋すること、三には南北へ少しゆること是也、一番の循環は目前に是を知るもの也、其故は日輪毎日朝には東より出で、夕には西山に入、諸星は宵に東より出で、曉に西に入ること目前也、されば諸天東より西へ循環するに、南北に兩軸あり、此兩軸は扇子の要の如く、諸天を始として四大の中穴を要貫す、但鐵石の如く其の體あつて、貫通流布するに非ず、其氣を以て要貫すと知るべし、其軸の兩さきは則南北の極め也、諸天常に東西へ運轉する故に、南北の軸とする也、此兩軸の辺りに、南斗、北斗ありといへども、見る處の南斗、北斗は軸には非ず、北斗は軸より三度半かたよりて、諸星の如く廻るといへども、其の三度半の間、天の廣大に比しては、僅の事なるが故に、世界より見るに北斗廻るとは見へずして、凡そ軸かと見る也、南斗は軸より三十度隔りたる也、二番の循環は西より東への逆旋也、されば此逆旋を徹するに、諸星互に其遠近も所在の形も、古より今に至て替ることなしといへども、日月五星は東より西へ廻るに、七星共に諸星にも互に漸々にをくれ、東の方へ退くこと目前に見へたり、日月は日は上へ月は日光を不レ受、夫より次第に東に退き、日にをくれ遠のくに隨て、西方より日光をうけ、三日四日の酉戌の刻に西天に、十五日十六日には圓滿して、同酉戌の刻に東天より出る、日輪は熒惑星にをくれ、熒惑星は歳星にをくれ、歳星は鎭星にをくれ、七星ともに諸星にをくれ、漸々に東に退くこと常の例也、是日月星上の十番の一天に隨順して、毎日東より西へ廻るといへども、西より東へ身をぬすみて、逆旋する一つの證據也、又曰、日月星東より西へ運轉する内に、南北へよりのくことあり、是も目前に可レ見、日輪春分の比より北方に移て、北方の為に日近き故に、日長くして春夏也、南方の為には日短くして秋冬也、秋分の比より南方へ移て、南方の為に近き故に春夏也、北方の為には日遠き故に、日短くして秋冬也、故に春夏秋冬の四氣は、日輪の南北へよりのく遠近にあるもの也、月輪も毎月如レ是南北へよりのくもの也、是れ又日月星西より東へ逆旋する證據也、其故は右に云如く、諸天日夜十二時の間に、東より西へ一回

する軸は南北の兩軸也、此兩軸替らざる故に、日夜一廻して道筋もかはると云ことなし、此れ一廻ばかりにては、南北へよりのくと云こと不レ可レ有、然りといへども日月星南北へよりのくこと目前也、故に東より西へ運轉する内に、西より逆旋すること分明也、此逆旋の道筋の軸は、南北の軸より凡二十三度半かたよりたるが故に、日月星南北へよりのくとても、二十三度半より外よりのくと云ことなし、右二品の循環は、いかやうに同時に前後に有ぞと云こと、下に至て論ずべし、第三の循環は、日月星常に東西を一回せしむるに、南北へ少ゆること也、此ゆりは數百年の例しを以て見立たるゆること也、此ゆりの軸は等分の筋の内、卯と酉との兩宿の頭也、

辨説、右南蠻學士の説如レ是、其曰、三品の循環、一には諸天東より西へ、日夜十二時の間に一回せしむること、二には七曜西より東へ逆旋すること、逆旋の内に南へ行き、北へ行こと有と云、此論辨詳にして誤りなし、聖人の書と其旨合せり、其云、第三の循環は、日月星東西一回せしむろに、南北へ少しゆることあり、數百年の例しを以て見立ると云こと學束なし、夫れ天道は日月運行、地道靜守、陰陽升降、一として萬物生成の為ならずと云ことなし、此南北へ少しづゝゆると云こと、萬物生成のためにあづかることなし、日月星の廻り、日々夜々秒忽の差あり、積て久しき時は、或は南により、或は北による、是を以て南北へ少しゆる一天ありと云て、十天と定ること愚なる見解なるべし、學者詳レ之、

[Paragraph] 3— On the Heavenly Cycles

Then[1038] when it comes to observing the Heavenly cycles, there are three categories of them. The first [is the movement of the] several Heavens from east to west, which makes one turn during the twelve hours of the day and night. The second is the inverse rotation from west to east, and the third is the small north-south trepidation[1039]. The knowledge about the first rotation is in front of the eyes. The reason is that every day the Sun, in the morning, comes out in the east, and at night it enters in the western mountains. It is in front of the eyes that the several stars in the early night hours get out in the east, [and] at dawn[1040] enter in the west[1041]. Incidentally, for the several heavens to rotate from east to west, in the south and in the north there are two axes, and these two axes are like the pivot of a fan. The pivot, beginning with the several heavens[1042], goes through a hole inside the four elements, but as there are substances as iron and stone, it does not penetrate nor spread. It should be known that by the means of its *vigour* the pivot goes through, and the two extremities of that axis are precisely the extreme of south and north. Because the several heavens run always from east to west, [their] is a south-north axis. Near these two axes, there are the

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[1038] *Yoku* 抑: then (「❶おさえる。上から下へとおしつけて止めるまた、あばれたり起きたりするものをおさえつける。❷そもそも。話をいったんおさえて、反対の見方をだして選ばせる感じをあらわすことば。それとも。3. そもそも。話をおさえて、別の見方を示して尋ねるときのことば。それでは。さて、ところで。」, Kanjigen).

[1039] *Yuri* ゆり: trepidation ("Yuri, ru, utta. *Joeirar arroz, trigo, &c*. ¶ *Itẽ, Tremer a terra. Vt*, Chigayuru. Nayega yuru. *Idem.* ¶ Miuo yuru. l, yusuru. *Bulir o corpo como sacudindeo*. ¶ *Itẽ.* Yuru. *Bulir cõ algũa cousa de hũa parte pera outra pero q esteja bem assentada, &c*." Vocabvlario, fl. 326v.; "Yurugi, gu. uida. *Abalarse, ou tremer como terra, ou casas com tremor da terra*."). Compare with: "Tria genera motuun observantur in coelis, primus diurnus ab oriente in occidens, qui dicitur motus raptus, 2^{us} ab occidente in oriens, qui dicitur naturalis, 3^{us} trepidationis." De Sphaera, fl.4.

[1040] In pre-modern times the night period was divided in three parts, early night hours, *yoi* 宵, middle of the night, *yonaka* 夜中, and dawn, *akatsuki* 曉. This last period had its beginning when still dark light started to appear in the sky and finished at daybreak.

[1041] "Primus manifestus est; nam 24 horarum spatio coeli omnes et astra moventur ab oriente in occidens." De Sphaera, fl. 4.

[1042] *Shoten* 諸天: the Heavens, the several Heavens. In Buddhism it means a deity that protects the Buddha in the Heavens: 「(仏)①天上介に住して、仏・仏法を守護するという神々。もとインドのバラモンの神々が仏教に取り入れられたもの。密教では天部に属する諸神。」 Kojien.

Southern dipper[1043] and the Northern Dipper[1044]. Looking at this matter there is no axis in the place of Southern Dipper or of the Northern Dipper. The Great Bear is three and a half minutes[1045] to the side and so do the several stars rotate likewise. That space of three and a half minutes is a very small thing in relation to the immensity of the Heavens. Therefore, when it is seen from the World the rotation of Great Bear cannot be observed and is seen approximately as the axis. The distance of Southern Dipper to the axis is thirty degrees.[1046] The second rotation is an inverse revolution from west to east. Incidentally, while this inverse revolution is being completed, the stars have changed neither their relative distances nor the shape of the places where they are, from the antiquity to the present. When the Sun, the Moon and the Five Stars rotate from east to west, the Seven Stars[1047] together gradually fall behind the other stars. Thus it is evident that [they] retreat backward to the east. [Concerning the] Sun and the Moon, [as] the Sun [goes] up, the Moon does not receive the light of the Sun, and from this [point] it gradually retreats to the east, falling behind the Sun it descends in a far away country, and from the west it receives the light of the Sun during the third or fourth day [of the lunar month] at the hour of the Hen[1048] or of the Dog[1049] in the western heaven. It becomes fully round in the fifteenth or sixteenth, and at the same hour of the Hen or the Dog it leaves from the eastern Heaven. The sun falls behind Mars[1050], Mars falls behind Jupiter, and Jupiter falls behind Saturn, the seven stars together fall behind the several stars, being the constant case that they gradually retreat to the east. Therefore the Sun,

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[1043] *Nanshaku* 南斗: this is a group of six stars located in Sagittarius. Imai Itaru gives it as 南十字星 α. The entry for *nanshaku* in Tenmongaku, p. 507, is 「斗に同じ.いて座 ζ･τ･σ･ψ･λ･μ の 6 星が北斗七星のような形に並んでいるので、北斗七星に対して南斗六星とよぶこともある」.

[1044] *Hokushaku* 北斗: the Northen Dipper, Great Bear or Ursa Kokumaza (小熊座 α).

[1045] This is the same value as in *Genna Koakai-sho*.

[1046] This is the same value that is presented in the *Genna Koakai-sho*.

[1047] *Shichisei* or *shichishō* 七星: the Seven Stars, whose names in Chinese astronomy were *Tanrōsei* 貪狼星, *Kyōmonsei* 巨門星, *Rokuzonsei* 禄存星, *Monkyokusei* 文曲星, *Renteisei* 廉貞星, *Bukyokusei* 武曲星, *Hagun* 破軍星. *Cf.* Kojien.

[1048] 5 p.m.— 7 p.m.

[1049] 7 p.m.— 9 p.m.

[1050] *Keiwakusei* 熒惑星: Mars. One example of usage of this word is in the *Book of History*, *Shiki* 史記: 「熒惑出則有兵入則兵散」.

the Moon, and the stars follow the order of the Tenth Heaven. Although it rotates everyday from east to west, it steals the body moving from west to east, this being one proof of the inverse rotation. It can also be said that the Sun, the Moon and the stars as they drive from east to west, they approach and get away[1051] from south and north, this can be seen in front of one's eyes. From the spring equinox the Sun moves northwards. For the northern regions the days are long [and it] is spring and summer. For the southern regions the days are short [and it] is autumn and winter. From the autumn equinox [the Sun] moves to the south, and for the southern regions it is spring and summer. For the northern regions, the days are short [and it] is autumn and winter. Therefore the four *vigours* of spring, summer, autumn and winter are due to the Sun being more to the south or to the north, being farther away or nearer. The Moon also moves more to the South or more to the North every month. This is also a proof that the Sun, the Moon and the stars make an inverse rotation from west to east. The reason, as said above, is that the axis of the rotation from east to west that the several Heavens make during the twelve hours of [one] day and night is an axis from south to north. Because the two axes do not change, the path of the turn of day and night does not change. During just one of these rotations there should exist no movement leaning to or getting away from south or north. However, the movement leaning to and getting away from south and north by the Sun, the Moon and the stars is in front of one's eyes. Therefore during the drive from east to west, it is evident the [existence of an] inverse rotation from the west. Because the axis of the path of this inverse rotation is inclined about twenty three degrees and a half from the axis from south to north, the Sun, the Moon and the stars, although leaning to and getting away from south and north, do not move more than twenty three degrees and a half outside of it. Concerning how the two types of rotation [exposed] above can occur at the same time or sequentially, this should be argued below. The third rotation is that of the Sun, Moon and stars making a small south-north trepidation while making one round from east to west. This trepidation can only be observed during the course of several hundred years. These axes are in the Line of Equal [Duration of Day and Night] above the head of the two Mansions of Hare and Hen.

[1051] *Yorinoku* よりのく(寄り退く): approach and get away ("Yori, u, otta. *Chegarse*." Vocabvlario, fl. 324; "Noqi, u, oita. *Afastarse*." Vocabvlario, fl. 185v).

Commentary. The above explanations by the Southern Barbarian scholar are like this. What he says is that there are three types of cycles. The first is that of the several heavens from east to west. During the twelve hours of one day and night they make one rotation. The second is the inverse rotation from west to east of the seven stars. In the inverse rotation it can be said that there is movement to the south and there is movement to the north. These theories are detailed and without error, their principles being the same as those in the books of the [Chinese] sages. What he says is that the third cycle is the small movement in the south-north direction the Sun, Moon and stars make in their east-west circling. This is supposed to happen each several hundred years, and for this there is no scholarly support. The Way of Heaven is the movement of the Sun and the Moon, the Way of Earth is stillness, [and that of the] *telluric* and *solar* [*vigours*] is the strengthening and the weakening; and they cannot be said that they are not for the production of the myriad things. This gradual movement south-north has nothing to do with the production of the myriad things. In the circling of the Sun, the Moon, and the stars, days and nights have differences of seconds and instants, what can accumulate for long spans of time, towards the south or towards the north. But to bring in these small movements towards the south and the north and postulate a Tenth Heaven! Scholars know well that this is a foolish opinion.

第四　天の廻るや日月星獨廻るや否之事

一、　右に云、東西の一回は目前也といへども、天の廻らずして、日月星獨り廻るや、又は天廻るに、日月星廻らずして、天に隨順して運轉する問あり、日月星ひとり廻らずして、天の循環するに隨順して、日月星廻るもの也、其の故は、一には一ヶの物同時に前後へ自己に行ことあたはず、譬へば右を投打に、行と返ると二つは、同時にあたはざる也、若同時に前後へ行時は、其の往還は二つ共に自己の動に非ず、一つは他に隨順して、一つは自己の動也、譬へば廻る車輪に、螻蟻の逆走するが如し、螻蟻は車めぐるに隨順してまわるといへども、己が動は逆走也、故に車輪めぐらずんば、自己の逆旋より外別の動あるべからず、然るに天めぐらずして日月星獨廻らば、譬ば西より東へ自己に廻るといふとも、天回らずんば何に隨て、東より西へ同時にめぐるべきや、故に日月星ひとり廻らずして、天の廻るに隨順して廻るもの也、諸天は東より西へ常に廻るに、同時西より東へめぐるといへども、此二つの環環同じ一天の爲に、自己の循環に非ず、上十番の一天、東より西へ自己に廻れり、九天は此の天に隨順して、共に廻るといへども、此循環は九天の爲に自己に非ず、自己には西より東へ廻るもの也、故に上十番の一天循環せずんば、内の九天は西より東へ廻ると云ども、東より西へは回ること不レ可レ有、是一ヶの物自己には前後へ同時に行こと不レ能也、二には天めぐらずして、日月星獨り回らば、譬へば鳥の風中を翔けり、魚の水中に遊ぶがごとくなるべし、然れば諸天の循環も、諸星の所在も變易すべし、然といへども、日月星の循環は、昔より今に至るまで、定りたる遲速を違へずして、同じ道を同じ時節に行り、諸星の所在は七星の外に、皆其遠近宿々の形、古今不變不易也、天の川とて天の内に、いかにも細さき無數星の相聚りて別て耀く也、此星辰十二時の間に、東西を一回して、本の所在へ帰るもの也、若し天動かずして、無數の星辰いづれもひとり行れば、其所在互の遠近、宿々の形、循環の遲速、爭か不易不變ならんや、知べし星辰ひとり回らずして、天に隨て行ると云ふことを、

辨説、右南蠻學士の説如レ是、其理誤りなし、但天は左旋し、日月星は右旋することを詳説せんとて、其辭煩瑣也、其辭反て困窮の辭あり、南

蠻學術は正理を知らず、只形器の上に就て論辨する故に、其工夫辨説、皆形に付て述たり、然れども能工夫を付け論ずる故に、天道左、旋右旋の説あやまりなし、如レ右、

[Paragraph] 4— On the Rotations of the Heavens and Whether the Sun, Moon and Stars Move by Themselves or Not

Although, as we said above, the east-west rotation is evident, there is still the question whether either the Heavens do not rotate and it is the Sun, Moon and Stars rotate that by themselves, or Heavens rotate and the Sun, the Moon and Stars do not rotate but in faithful order follow the Heavens in their driving. The Sun, the Moon, and the Stars do not rotate alone but rotate in faithful order following the driving of the Heavens of the Sun, the Moon and the stars. The reasons are [the following.] First, one body cannot move itself forwards and backwards at the same time. For example, throwing a stone, it cannot go [away] and come [back] at the same time. If it went forwards and backwards at the same time, the two [movements] of going and returning [simultaneously] are not its own movement, one being following [the movement of] another [thing], [the other] one being its own movement. For example if in a wheel rotating there is an insect like an ant or a cricket running backwards, although the insect follows the turning wheel its own movement is backwards. Therefore if the wheel does not rotate, besides its own backward movement there shouldn't be any other movement.[1052] Therefore, if Heavens do not revolve but the Sun, the Moon and the stars rotate by themselves, even though, for example, they rotate from west to east by themselves, how can they simultaneously rotate from east to west if they do not follow a Heaven? Consequently the Sun, the Moon and the stars do not rotate alone but follow the rotation of the Heavens. The Heavens always rotate from east to west, but at the same time there is rotation from west to east. These two circular movements in the same single Heaven are not its own circular movements. [Instead] the Tenth Heaven rotates

[1052] This comparison had already be made by the proponents of the *Gai Tian* cosmogony (see Chapter VII), notably by Wang Ch'ung in the *Lun-hêng* (see Forke, p. 18), and also by Marcus Vitruvius Pollio (c.70-80 B.C.—c. 15 A.D.) in the West: "Quemadmodum si in rota, qua figuli utuntur, impositae fuerint septem formicae, canalesque totidem in rota facti sint circum centrum in imo accrescentes ad extremum, in quibus hae cogantur circinationem facere, verseturque rota in alteram partem, necesse erit eas contra rotae versationem nihilominus adversus itinera perficere, et quae proximum centrum habuerit celerius pervagari, quaeque extremum orbem rotae peraget, etiamsi aeque celeriter ambulet, propter magnitudinem circinationis, multo tardius perficere cursum : similiter astra nitentia contra mundi cursum, suis itineribus perficiunt circumitum, sed caeli versatione redundationibus referuntur quotidiana temporis circumlatione." *Vitruvii de Architectura Libri Decem*, Valentinis Rose and Kerman Müler-Strübing, Lipsiae, Aedibus B. G. Teubneri, 1867, p. 223.

itself from east to west and the Nine Heavens[1053] follow this Heaven. And although they rotate together, this rotation is not for the nine Heavens their own circular movement, as each one of them rotates from west to east. Because of this, if the upper tenth single Heaven did not make its circular movement, even if the interior nine Heavens rotated from west to east, they couldn't rotate from east to west. This [shows that] one body cannot move itself at the same time forwards and backwards. Second, if Heavens did not rotate, but the Sun, the Moon and the Stars rotated by themselves, then they would become like, for example, birds flying in the air, or like fish playing in the water.[1054] Therefore, the circular movement of Heavens and the places where stars are would be extremely changeable. However, the circular movement of the Sun, the Moon, and the stars, from old times until now, has not changed from the determined speed, but has followed the same way at the same seasons. The place where stars are, except for the Seven Stars, all have kept their distances and the shapes of their constellations, unchangeable and immutable from old times until now. The Milky Way[1055] inside Heaven, although very thin, has innumerable stars gathering together [and] with differing luminosities. These stars and constellations make one turn from east to west during twelve hours, coming back to their original place. If Heaven did not move and the innumerable stars and constellations, all of them, did move by themselves, their place in relation to one another would change, getting away and approaching [from one another]. And the shapes of constellations, depending on the speed of their circular movements, how could they remain unchangeable and immutable? It should be known that stars and constellations do not rotate alone but follow [their] Heaven.

Commentary. The above explanations by the Southern Barbarian scholar are as exposed, and in its principles there are no errors. Despite, saying that he would not make a detailed explanation about the several Heavens turning to the left while

[1053] *Kyūten* 九天: Nine Heavens, nine directions in Heaven (「①中国で天を九つの方位に分けた称。いくつかの呼び方があるが、「淮南子」天文訓によれば、鈞天(中央)蒼天(東方)、昊天(こうてん=西方)、炎天(南方)、玄天(北方)、変天(東北方)、幽天(西北方)、朱天(西南方)、陽天(東南方)をいう。九野(きゅうや)。②高い天。天上。大空。③宮中。九重（ここのえ）。④九個の天体。すなわち大地を中心として回転すると考えられていた日天、月天、水星天、金星天、火星天、木星天、土星天、恒星天、宗動天をいう。くてん。」, Nikkoku).

[1054] Compare with: “nec etiam dici potest coelo quiescente stellas ipsas movere, sicut aves in aere, vel piscis in aqua”, De Sphaera, fl. 3.

[1055] *Amanogawa* 天の川: the Milky Way (“Amanogaua. *Vialactea*.” Vocabvlario, fl. 7v.).

the Sun, the Moon, and the stars turn to the right, he uses complicated words. However, contrary to those words there are words of puzzlement. Because the scholarship of Southern Barbary does not know the right principles it argues about appearances, its explanations are contrivances, and all of them are about appearances. However because he argues with good contrivances there is no error in the theory of the Way of Heaven being to the left and the other movements to the right as explained above.

第五　天の數之事

一、　夫天を見るに、其數さだかに辨へがたし、其の故は、天は其體透徹長上なるが故に、此地より見るときは、一天とも衆天とも見分ず、星辰は光耀ありといへども、是を見るに一天ありや否や見分がたし、故に天の數を知んと欲せば、正に異なる自己の循環を辨別するより外の道なし、故いかんとなれば、一天にては異なる自己の循環あるべからず、異なる自己の循環あるときは、其天も又格別ならずと云ことなし、是同體の自己に格別の道を同時に行こと不レ能也、されば天の異成自己の循環を見るに、其數十あり、故に天の數も十天と定る成、何を以て十の循環を知るぞと云に、先七星と申は、辰星、太白星、炎惑星、歳星、鎭星、日、月、此七つを七星と云なり、此七星上十番の一天に廻て、日夜十二時の間に、東西一回せしむといへども、西より東へ逆旋するに、互に或は先だち、或はをくれ、或は近より、或は遠のき、七星共に格別に逆旋すること常の例し也、たとへば月は辰星に後れ、辰星は太白星に後れ、太白星は日に後れ、日輪は炎惑星に後れ、炎惑星は歳星に後れ、歳星は鎭星に後るゝ也、南北によりのくにも、格別によりのく也、たとへば日輪の北へよるに、月輪南へよる、他準レ之、然るに七星共に、各如レ此自己に廻るときは、各々なる自己の循環は七つあり、自己の循環七つある時は、七天あること分明也、諸星は古も互に近より遠のくと云ことなし、常に一様に廻るが故に、諸星は一天に備るもの也、然といへども、諸星は西より東へ自己に逆旋するに、七星に後るゝ也、故に諸星の自己の循環と、七星の自己の循環とは、格別なること分明也、循環各別なれば、天も各別也、故に七星と諸星備はる天は總て八天也、此八天の外に一星もなしといへども、又異なる循環二つあり、一には右に云如く、日月星東西一回せしむるに、南北へ少しゆること、二には日月星日々東より西へ一回すること是也、此二つの循環は、右八天の循環に異なるが故に、此異なる二つの運行の本とらる、各別の天なくして不レ可レ叶、然るに此異なる十の循環を以て、天の數十天と徹するもの也、右異なる循環は十也といへども、其循環の品を見るに、右に云如く三より外なし、一には東より西への循環、二には西より東への

逆旋、三には南北へゆること是也、然るに十天の内何れの天が、此三品の循環の本と成て、全天を引まはすと云に、上第十番の一天は、東より西へ日夜十二時の間に一回す、此天の餘勢に準じて、内の九天も共に西へ行る也、たとへば九つ入子の針を廻すに、外の大なる鉢がまわれば、内のちいさき八つの鉢も皆付て回るが如し、此循環上十番の一天の爲に、自己の循環也といへども、九天の爲には自己の循環に非ず、上十番の一天に隨順しての運轉也、第九番の一天は、上十番の一天に隨順して、東より西へ回るといへども、第九番の一天の自己の行りは、西より東へ逆旋也、たとへばめぐる車輪に、螻蟻の逆走するが如し、此逆旋に隨て、内八天共に西より東へ同く逆回するもの也、第八番の一天は、下なる七天共に、九番の一天に隨逐して、東へ廻るといへども、第八番の一天の自己の動は、南北へゆること也、此ゆるに隨て、内の七天共にゆるもの也、右三品の循環の本は是也、右を以て見るに、上なる天は下なる天を引回し、下なる天は上なる天に隨逐して行る也、是天の透間なく互に重る故也、

辨説、右南蠻學士の説如レ是、其數十天と云こと、南北へ少しゆること有と云を立て一天とする故也、此ゆりの義は、第三に云如く、正説、正理に非ず、天只九重あり、一には月曜天、二には水曜天、辰星天也、三には金曜天、太白星天也、四には日曜天、五には火曜天、熒惑星天也、六には木曜天、歳星天也、七には土曜天、鎮鎭星天也、八には廿八宮天、諸星有此天、九には宗動天、此九天の運行皆不二一律一、或は左旋或は右行、或は疾或は遲し、如レ是運行各別なる時は、九天あること分明也、儒家に九重天と云是也、後世學者天九重の所以てを知らず、誤り解して、四方、四隅、中央を指を九重天と云ものあり、天の北斗一環の内を紫微宮と云、北極の一星を帝座と號す、夫より八方に分て共に九生、是を九重天と云ものあり、帝都を九重と云こと、是に法ると云へり、又易の乾卦を天とす、其爻を九と云、初爻より上爻迄六爻、皆九を用ゆ、乾は九の重りにて、天に象るときは、天は老陽の重りにて、九重天と云ふともいへり、皆天の九行あることを證せず、故に後世の儒家、九重天の義を失せり、南蠻説は一天の看過りて、十天と云といへども、反て其工夫は理を得たり、但し無星の一天、

南北へ少しゆると云こと、理氣を知らざる誤りより出たり、又下なる天は、上なる天に隨逐して行ると云こと過論也、

[Paragraph] 5— About the Number of Heavens

Looking at the Heavens it is indeed difficult to discourse about their number. The reason is that their substance is crystalline and superior, so that when they are seen from this Earth it is not possible to distinguish between one Heaven and all Heavens. Though stars and constellations have brightness, it is not possible to distinguish if what is seen is in one Heaven or not. Therefore, if it is desired to know the number of Heavens, there is no right way other than distinguish the different rotations of each one. Hence, if this is so, in each Heaven there isn't any rotation other than its own, and when there is other rotation that isn't its own, it cannot be said that that Heaven is not different [from another], because it is impossible to the same substance to tread different paths at the same time. Accordingly, seeing the different rotations that there are in the Heavens, their number is ten, and consequently the number of Heavens is determined to be ten Heavens. Regarding how it can be known that the rotations are ten, first the Seven Stars can be mentioned: Mercury, Venus, Mars, Jupiter, Saturn, Sun and Moon. These seven are called the Seven Stars. Above these Seven Stars revolves the Tenth Heaven, which during the twelve hours of [one] day and night makes one turn from east to west. The west to east inverse rotation either is advancement, or lagging behind, or an approaching, or a getting away, that the Seven Stars always make in distinct inverse rotations. For example, the Moon lags behind Mercury, Mercury lags behind Venus, Venus lags behind the Sun, the Sun lags behind Mars, Mars lags behind Jupiter, and Jupiter lags behind Saturn. There are also differences in their approaching and getting away [movement] south north. For example, as the Sun moves north the Moon moves south, and likewise [the same happens] with the other [stars]. However, concerning the Seven Stars, when each of them performs its own circle, there are seven rotations proper to each one of them. When there are seven proper rotations, it becomes clear that there are seven Heavens. [Concerning the] several stars, it cannot be said that from ancient times stars have approached or got away from one another. Because they always circle together, the several stars are placed in one same Heaven. However, as stars make their own inverse rotation from west to east, they lag behind the Seven Stars. For this reason it is evident that the own rotation of the several stars and the own rotation of the Seven Stars is different. If the rotation is different the Heavens are also different. Therefore the Heavens of the Seven Stars and of the several stars altogether are eight. Besides these

eight Heavens, though there is no other star, there are two other different rotations. The first is, as said above, the small south north trepidation that occurs in the circling from east to west of the Sun, the Moon, and the stars. The second is the circling from east to west that the Sun, the Moon and the stars make every day. This second rotation is different from the rotation of the eight Heavens referred above. It is not possible that different Heavens are not the origin of these two movements. Therefore these ten different rotations make clear that the number of Heavens is ten. Though there are ten different rotations as referred above, the types of rotations that can be seen are no more than three as mentioned before. First, there is the rotation from east to west. Second, there is the inverse rotation from west to east. Third, there is the trepidation south north. However, amongst the ten Heavens [just] some Heavens are the origin of these three types of rotations. The Tenth Heaven, which pulls all Heavens, makes one turn from east to west during the twelve hours of day and night. With the remaining force[1056] of this Heaven, the nine interior Heavens also move to the west. For example, this is like when nine nested bowls are spun; if the largest outside bowl is spun, the interior smaller eight bowls all turn together. As the superior tenth Heaven makes this rotation, which is its own rotation, but not the own rotation made by the [other] nine Heavens, [the other nine] are moving following the driving [movement] of the superior Tenth Heaven. Though the Ninth Heaven follows the superior Tenth Heaven and turns from east to west, the own drive of the Ninth Heaven is the inverse rotation from west to east. This is like, for example, as if in a wheel rotating there was an insect like an ant or a cricket running backwards, following this inverse rotation. The interior eight Heavens together make the same inverse turn from west to east. Although the Eight Heaven, together with the inferior seven Heavens, follows the Ninth Heaven turning towards the east, the Eight Heaven moves with its own movement, shaking in the south north [direction]. Following this shaking, the seven interior Heavens shake together. The source of the three types of rotations referred above is such. As seen above, the Heaven above pulls and makes the Heavens below turn and the Heavens that are below follow the drive of

[1056] *Yosei* 餘勢: remaining force ("Yoxei: Amaru iqiuoi. *Efficacia, mouimento, & vigor que se mostra no exterior, & meneos*. ¶ Yoxeino yoi fito. *Homem de seuara, & viueza, ou vigor*. ¶ Yoxeino nai dangui. *Pregação que não tem neruo, nẽ vigor, nem meneos*." Vocabvlario, fl. 325; 「①あふれるような気力。日葡辞書「ヨセイノヨイヒト」②ある物事をしたあとで余っている勢い。はずみ。③残りの勢力。」, Kojien).

the Heavens that are above. This is because the Heavens are nested one into another without any space [in between] them.

Commentary. The above explanations by the Southern Barbarian scholar are like this. Concerning the number of Heavens being ten, this is due to the small south north trepidation that he says exists and requires one Heaven. The meaning of this trepidation, the third [movement] is no valid explanation or right principle. In Heaven there are only nine layers nested, the first being the Heaven of the Moon, the second being the Heaven of Mercury, {this is [called] *Shinseiten* [in China]}, the third being the Heaven of Venus, {this is [called] *Hakuseiten* [in China]}, the fourth being the Heaven of the Sun, the fourth being the Heaven of Mars, {this is [called] *Enwakuten* [in China]}, the six being the Heaven of Jupiter, {this is [called] the *Saiseiten* [in China]}, the seventh being the Heaven of Saturn, {this is [called] *Shinseiten* [in China]}, the eight is the Heaven of the twenty eight constellations, {this is the Heaven of the stars}, the ninth is the Original Heaven. The movement of these nine Heavens is not equal, either in the circulation to the left or in the journey to the right, either fast or slow. Given this, when there is difference in the movements it becomes clear that there are nine Heavens. This is what Confucians call the Nine Nested Heavens. Later generations of scholars did not know this point concerning the Nine Nested Heavens and making a wrong interpretation said that the meaning of the Nine Nested Heavens was the four directions, the four corners and the centre [of the World]. To the [space] inside the circle made in Heaven by the Polar Star they called Celestial Imperial Palace and to the star of the North Pole they called Imperial Throne. From this [point,] eight directions are divided and together they make nine, and to these they called Nine Nested Heavens. To the Imperial Capital City they called Nine Nested and said that it is a model. Also to the trigram *ken*[1057] of divination[1058] [they] made it *Heaven*, saying that it has nine associations, and that from the first association to the superior association there are six associations, all nine being used, *ken* being the nesting of nine. When representing Heaven, Heaven is made of the nesting of the odd numbers to their utmost [of

[1057] This trigram is ☰ and means Heaven as explained by Genshō.

[1058] Genshō is referring to the *Book of Changes* 『易経』.

nine].[1059] Because everyone was speaking of Nine Nested Heavens, and no one was proving that there are nine paths in Heaven, later generations of Confucians lost the meaning of Nine Nested Heavens. The Southern Barbarian theory connives with one [more] Heaven and although it says that there are ten Heavens, surprisingly its contrivance has attained Principle. However, the one Heaven without stars, that is said to shake a little [in the direction] south north, is a mistake that comes out of not knowing *principle* or *vigour*. Also, that a lower Heaven follows a higher heaven is a mistake.[1060]

[1059] This is expounded in the *Book of Master Rō* 『老子』.

[1060] This is one example of Genshō reinterpreting a Chinese classical concept to match the Southern Barbarian theories. He accepts that the foreign theory is right overall and that there are multiple Heavens. He settles for nine Heavens because he is skeptical of existence of the small vibration movement. But probably even more important is the possibility to invoke the theory of the *Nine Nested Heavens*, which presents him with the possibility of invoking a Chinese precedent for the idea. The *Nine Nested Heavens*, whatever its original meaning, had come to signify the five directions, as is explained by Genshō. Curiously, in the last sentence of this commentary, he rejects the idea that the lower Heaven follows the Heaven above it, therefore emasculating the theory of its explanatory power.

第六　天の次第の事

一、　右に十天の互に重る次第を云に、下より一番の天は、月輪の備る天也、二番の天は辰星備り、三番の天は太白星備り、是則明星也、四番の天は日輪備り、五番の天は熒惑星備り、六番の天は歳星備り、七番の天は鎮鎭星備る也、此七天には、一天々々に一星々々、總て七星より外備はる星なし、八番の天は諸星備る天也、九番、十番の天は星なき天也、然れば何を以て此次第を知ぞと云に、一には日月星運旋會合して重るときは、上にあるは隠るゝが故に、何れは上何れは下と云こと明に知れたり、然るに日月五星は諸星を隠すか故に、諸星は七星の上にあり、故に下より八番の天に具る也、同歳星は鎮鎭星を隠し、熒惑星は歳星を隠し、太白星は熒惑星を隠し、辰星は太白星を隠し、月は辰星を隠す、其例しあり、月をば何の星も隠す例しなければ、下より一番の天にあり、二には上十番の一天に順じて、内の九天共に西より東へ旋回するに、十番の天遠き天程、其の一回速か也、たとへば下より一番の月の天は、十番の天に遠き故に、二十七日に一回す、四番の天は遠き故に、一年に一回す、他準レ之、是を以ても十天の次第、何れは上何れは下と云ことを知るもの也、中にも日輪は月星に光耀を旋し、世界を照し萬物を温養するが故に、中部の天に備ること最も理也、其の故は、若し下部の天にあるに於ては、至て近き故に、下界の萬物炎爍すべし、故に下部にあることなし、又上部の天にあるに於ては、下界並に五星月輪、其光耀を受ること天薄にして、萬物温養し難し、故に上部の天にもなく、下部の天もなく、中部の天にあるもの也、右十天互に重複するに間なく重るや、又は一天一天の間すくやと云不審あり、十天ともに透間なく重複するもの也、其の故は、右に云如く、上なる天廻るに、下なる天も付て廻る也、若し一天々々の間すかば、下なる天は上なる天に隨順することあるべからず、

辨説、右南蠻學士の説如レ是、天重なる次第を知ること、日月星運行會合薄蝕の例を以て、其の上下を辨ずること、蠻學士の心を盡し精を研く、尤誤りなきもの也、又日輪は中部の天にあると云論、説得て好し、

[Paragraph] 6— About the Order of Heavens

As it was presented above, the ten Heavens are nested in order, one into another. [Enumerating them] from below, the First Heaven is the Heaven where the Moon is placed, the Second Heaven is where Mercury is placed, the Third Heaven is where Venus is placed, {this being *Meisei* or *Ming Xīng*}, the Fourth Heaven is where the Sun is placed, the Fifth Heaven is where Mars is placed, the Sixth Heaven is where Jupiter is placed, the Seventh Heaven is where Saturn is placed. In these seven Heavens, in each Heaven there is just one star. Besides the total of seven stars there is no other star placed [in Heaven but] in the Eight Heaven the many stars are placed. The Ninth and Tenth Heavens are Heavens without stars. However, how is one to know that this is so? Firstly, it is because when the Sun, the Moon, and the stars in their rotation[1061] overlap in conjunction[1062] the one above is hidden. Which one is above and which one is below can be clearly known. Moreover, as the Sun, the Moon and the Five Stars conceal the many [other] stars, the many [other] stars are above the Seven Stars and therefore are placed in the Eighth Heaven from below. In the same way, Jupiter conceals Saturn, Mars conceals Jupiter, Venus conceals Mars, Mercury conceals Venus, and the Moon conceals Mercury. There are examples of this and as there is no example of a star concealing the Moon, [the Moon] is in the First Heaven from below. Secondly, following the superior Tenth Heaven the nine inferior Heavens circle together from west to east. The farthest away a Heaven is from the Tenth Heaven, the fastest it makes one turn. For example, because the First Heaven from below is far from the Tenth Heaven, it makes one turn in twenty seven days. Because the Fourth Heaven is far away it makes one turn in one year, and the others likewise. Using this, the ordering of the ten Heavens, which one is higher and which one is lower, can be known. Among other [things] the Sun bestows shining light on the Moon, and because it illuminates the World and warms and supports the myriad things, its being placed in the Middle

[1061] *Unsen* 運旋: rotation (「巡ること。巡らすこと」, Nikkoku). This sentence is used by the Nikkoku as an example of usage of *unsen*.

[1062] *Kaigō* 會合: conjunction ("Quaigŏ. Meguriuŏ. *O encontrarse com alguem que vem de longe*. ¶ Quaigŏ suru. *Fazer este encontro, &c*. ¶ *Item*, Quaigŏ. *Ajuntamento que se faz de muitos pera tartar, & consultar algũa cousa*." Vocabvlario, fl. 202v (the second of two fl. 202v.); 「①寄りあうこと。あつまり。寄りあい。③(天)合(ごう)」, Kojien).

Heaven is the utmost of *principle*.[1063] The reason for this is that, if it was in the lower region of Heaven, it would be exceedingly close and the myriad things in the lower World would blaze. Therefore it is not in the lower region. Also, concerning it being in the higher region of Heaven, the lower World together with the Five Stars and the Moon would receive its light faintly, what would be insufficient to warm and feed the myriad things. Hence it is not in the upper region of Heaven, and also it is not in the lower region of Heaven, but it is in the middle region of Heaven. These doubts are presented: concerning the overlapping of the ten Heavens referred above is there a nesting without any interval? Also, is there any space in between one Heaven and another Heaven? In each and all of the ten Heavens the overlapping is without any aperture. The reason is, as said above, as the upper Heaven turns, the Heaven below also jointly turns. If there was a space between one Heaven and another Heaven, the Heaven below would not follow the Heaven above.

Commentary. The above explanations by the Southern Barbarian scholar are like this. The ordering by which Heavens nest can be known from the example of the eclipses during the conjugations of Sun, Moon, and Stars, [and which] one is above and [which] one is below is discussed. The Southern Barbarian scholar, exhausting his heart cultivates his spirit. Moreover there is no error here.[1064] Also, the theory that the Sun is in the middle of Heavens is a good explanation.

[1063] This is one of the few times Chūan uses the word *principle*. However we may doubt if he had in mind the meaning neo-Confucians associated it with. Most probably he just meant *reason*.

[1064] Chinese astronomy never had a planetary model and never inquired whether the Sun, the Moon and the five planets could be at different distances from the Earth, and this is one of its main differences from Western astronomy. This lack of a planetary system has been attributed to the conception of Heaven being pure and boundless *vigour* (*ki* 氣, matter-energy) and the Universe broad and unlimited; see Yamada Keiji 山田慶児, *Shushi no shizen-gaku*『朱子の自然学』, Tokyo, Iwanami Shoten 岩波書店, 1978, p. 140. João Rodrigues described it thus: "considerão o Ceo quanto a sua substancia, e corpo, e emquanto tal o chamão propriamente Ten, e o China Tien que quer dizer, Ceo, o qual elles fazem hum só numero, sem multidão de cascos, ou Orbes distinctos, cuja material fazem ser o mesmo Ar, ou Ether, fluido sem corpolencia, e por isso o chamão incorporeo, ou sem figura, com partes distinctas, e chamão corpo, ou figura do Ceo, o Sol, Lua, planetas, e estrellas, que tem corpolencia, e figura globoza apparente. E posto que tem que o Ar, ou Ceo está em continuo movimento, esse não é regular, como tãobem o não he o do vento, e o movimento regular attribuem ao corpo solar, lunar, dos planetas, e estrellas, as quaes tem que estão no mesmo Ar, e se movem nelle com certo e limitado movimento, o por determinado caminho, como se move o peixe na agoa; e tem que se move todos de Oriente para poente assim como o movimento rapto, como com e natural por modo de espiras; porque como tenhão que os Corpos dos Astros se movem por sy, e não com o movimento do Ceo, não poderão entender no mesmo dous movimentos contrarios entre sy no mesmo tempo". Historia da Igreja do Japão, fl. 163.

第七　九天逆旋の年月の事

一、　されば右九天の、西より東へ逆旋せしむる年月を考るに、下より一番の月の天は、二十七日三時半四十三分の間に一回す、但一時をば百廿分に割る也、二番三番の天は、凡そ四番の日輪天に同く一回する也、四番の日輪天は、三百六十五日二時半四十九分の間に一回す、五番の天は、一年三百二十一日十一時に、六番の天は、十一年三百十三日八時半、七番の天は、二十九年百五十五日四時、八番の天は七千年、九番の天は、二萬五千七百九十八年に一回する物也、十番の天は西より東へ逆旋することなし、其故は、外の天は内の天を引回すと云へども、内なる天は外の天を引旋すと云ことなし、爰に可二心得一は、日月五星の備る七天は、何れも一天々々上中下の三重有るなり、日月五星は中の重に具する物也、此段下に至て論ずべし、然るに月の天は二十七日、日天は一年に逆旋を一回せしむと云時は、此中の重の逆回の間の義也、五星の年月の間とも、各備る中の重の一回の義也、三重を一天にしては、日月五星備る、總天七天も九番の天に隨逐して、二萬五千七百九十八年に一回す、八番の天七千年に廻ると云ども、南北へ一ゆりの間也、西より東へは是も九番の天に隨て、二萬五千七百九十八年に逆回するもの也、天の數次第の圖、

辨説、右南蠻學士の説如レ是、其日月五星運行の年月日數は、儒家、醫家、暦家の論ずると同じ、あやまりなし、但八番の天は七千年に回る、南北へ少しゆるのこと誣説也、此天の本より有ことなし、故に此回もなし、夫れ日月五星運行は、西より東へ逆旋すと云へども、正面より正東に運行するにあらず、假令戌の方より辰の方に行回りて、辰の方より戌の方にめぐる、其道直行也といへども、東西南北の正直を以て云時は、日月の行道斜倚す、三百六十五度四分度の一を、三百六十五日四分日の一に行といへども、一日の行一度の分際、界限の極處を不レ盡こと有て、秒忽の差有ること、或は界限の内に有り、或は界限の外に有て、前年の春分に日球の正中、卯の正中に、赤道正中に至ると云へども、今年の春分卯の正中に、赤道の

正中に至ること能はず、猶秒忽の差有ること有り、秒忽積りて一日の度に及ぶ時は、或は申酉の間に赤道に至り、或は亥子の間に赤道に至ることあり、秒忽漸次の間、赤道に至るの差、遲速あること如レ此、十二時の間皆然也、秒忽の差なる故に、一日の行度と云へども、數百年にして其差あらはる、蠻學家之説を立て、別に一天を論ず、但學者量天考度に便する爲に、設たる名目なるべし、蠻學士若し辰實に此天有と云ば誣説也、又天運を能く知ると云ふべからず、

[Paragraph] 7— On the Period of the Inverse Rotation of the Nine Heavens

According to the [exposed] above, when considering the years and months of the inverse rotation from west to east of the nine Heavens, the Heaven of the Moon, the first from below, makes one rotation in the space of 27 days, 3 and half hours, and 43 minutes, with the qualification that 1 hour is divided in 120 minutes. The Second and Third Heavens, as well as the Fourth, the Heaven of the Sun, make the same rotation. The Fourth, the Heaven of the Sun, makes one rotation in the space of 365 days, 2 and half hours, and 49 minutes. The Fifth Heaven makes one rotation in 1 year, 321 days, 11 hours; the Sixth Heaven in 11 years 313 days, 8 and a half hour; the Seventh Heaven in 29 years, 155 days, 4 hours; the Eight Heaven in 7,000 years; the Ninth Heaven in 25,798 years. The Tenth Heaven does not make an inverse rotation from west to east. The reason is that, although the outer Heaven draws the inner Heavens, the inner Heavens do not pull the outer Heaven. Here it should be paid careful attention that the seven Heavens furnished with the Sun, the Moon, and the Five Stars, each one of them has three layers[1065], the Upper, the Middle and the Lower [Layer]. The Sun, Moon and Five Stars are placed[1066] in the Middle Layer. It is in this layer [in each Heaven] that discussion should focus. Thus when it is said that the Heaven of the Moon [in] 27 days, and the Heaven of the Sun in one year make one inverse rotation, the meaning is the interval [of time] of the inverse circular movement of the Middle Layer of these [Heavens]. The meaning of the interval of time of the Five Stars is also that of [their] Middle Layer. The three layers are one Heaven, furnished with Sun, Moon [or one of the] Five Stars. All seven Heavens follow[1067] the Ninth Heaven, making one turn in 25,798 years. The Eight Heaven is said to rotate in 7,000 years, being one trepidation south north. The [movement] from west to east follows the Ninth Heaven, making an inverse circular movement in 25,798 years. The figure of the number of heavens.[1068]

[1065] *Dan* 段: layer, step ("Dan. *Altar. ou degrao*." Vocabvlario, fl. 70)

[1066] See note for *gu suru* in the *Introduction: About The Heavens and The Earth* in *First Book*, where the following example from the Vocabvlario is presented: "¶ De' tẽni tçuqi, fi, foxiuo sonaye tamo. *De' pos nos ceos a lŭa, sol, & estrelas por ordẽ, &c*."

[1067] *Zuichiku* 隨逐: follow ("Zuichicu. *O obedecer, ou conformarse com o parecer de outro*." Vocabvlario, fl. 329v.;「あとを追ってつき従うこと。」, Kojien).

[1068] See Figure 14.

Commentary. The above explanations by the Southern Barbarian scholar are like this. Concerning the number of years, months and days of the revolutions of the Sun, Moon and Five Stars, it is the same as that of the Confucians, Medical School, and Calendar Makers. There are no errors [in it]. However that the Eight Heaven rotates in 7,000 years, making a small trepidation from south to north, this is a false theory. This Heaven does not exist nor is there such a rotation. The movement of the Sun, Moon, and Five Stars, is said to be an inverse rotation from west to east. However it is not a direct movement to the east. If it turns from the direction of the Dog[1069] to that of the Dragon[1070], it goes round from the Dragon to the Dog, this being a direct route. When referring to the direct directions to east and west, south and north, the route travelled by the Sun and Moon makes an inclination, being said that it goes one fourth of 365 degrees in one fourth of 365 days. The extent of degrees to which it goes during one day, the limit of the circle is not exhausted [by the measurements made]. There is a difference of seconds, either inside the limits of the World, or outside the limits of the World. In the vernal equinox of the previous year the centre of the solar sphere was in the centre of the Hare[1071] and reached the centre of the Red Way[1072]. In the vernal equinox of this year the centre of the Hare did not reach the centre of the Red Way, there being a difference of some seconds. When the accumulation of seconds reaches the degree of one day, either the [Sun in the] space between the Monkey[1073] and the Hen[1074] reaches the Red Way, or in the space between the Boar[1075] and the Rat,[1076] it reaches the Red Way. The becoming late or earlier is the gradual [accumulation] of seconds, the difference to reach the Red Way, all taking place in the space of 12 hours. Because there is a difference of seconds, what is called the advance in degrees of one day, is a difference that

[1069] The eleventh duodenary sign, indicating here west-northwest.

[1070] The fifth duodenary sign, indicating here east-southeast.

[1071] The fourth duodenary sign.

[1072] It should be remembered that Red Way is the Japanese and Chinese classical expression for Equator.

[1073] The ninth duodenary sign.

[1074] The tenth duodenary sign.

[1075] The twelfth duodenary sign.

[1076] The first duodenary sign.

appears after several hundred years. The Southern Barbarian scholar builds a theory, discusses one other Heaven but this is a convenience of the scholar to measure the Heavens[1077], being a nominal creation. If the Southern Barbarian scholar says that this Heaven really exists, [then this] is a false theory and it should not be said that [he] knows well the celestial movements.

[1077] *Ryōten* 量天: to measure the Heavens (「天体を測量すること」, Nikkoku). The Nikkoku uses this sentence of the Kenkon Bensetsu as an example of usage of this word.

Figure 14 [No caption; The thirteen spheres]

Element earth and element water in the centre; element air above this followed by element fire

第八　天圖の事

一、　天地の形體、天の循環、日月五星の逆旋の道、日月の蝕、日夜の長短、晝夜の差別、四節の移り替りなどを知しめんが爲に學士の巧み出したる天の圖あり、此圖南北の極を兩軸にして、十の軸（イ輪）あり、六つは大にして、四つは小也、六つの内、一つは天地を南北へ等分に分つが故に、南北の界を知しめん爲也、是則日夜の等分の筋と云也、二には日月五星、西より東へ逆旋する道筋也、故に逆道と云也、三には日輪逆回せしむるに、何れの處に至て春秋の初め、又日夜等分なる天の岐を知しむる輪也、是卯酉の頭に當るが故に、卯酉の筋と云也、四には日輪いづれの所に運行して、夏冬の冬至夏至となる、天の一點を見する輪也、子午の頭に當るが故に、子午の筋と云ふ、五つには其の國に頭上を知しむる輪也、日輪頭上の通に立上るとき、日中なるが故に、是を日中の筋と云也、六には見ゆると見へざるとの半天の界の輪、是れ半天の見際とも、晝夜の界とも云也、此六つの其正中は、則天の正中なるが故に、何れも天地を等分に分つ也、故に大（筋脱カ）と云也、其輪の一回いづれも三百六十度に分つ也、小なる四つの輪の内二つは、日輪南北へよる界を知しむる輪也、北天にある輪を夏至の筋と云、南天にある輪を冬至の筋と云也、此兩は日輪南北へよる界を知しめん爲也、今二筋は逆道の兩軸、上十番の一天に隨順せしむる、一回の界を知しむる爲の輪也、北天にある輪を北筋と云、南天にある輪を南筋と云なり、右四の輪いづれも天地を等分に分つことなし、故に小筋と云也、

辨説、右南蠻學士の説如レ是、今詳レ之、尚書に璇璣玉衡の圖あり、凡そ天地の圖を立て、其の形容と日月星運行を明むるに四つあり、一には璇璣玉衡、二には專夜、三には周髀、四には渾天儀是也、皆儒家の説也、璇璣玉衡第一とす、專夜と周髀とは其制不足也、渾天儀は璇璣玉衡に本て、益々備に詳レ之、古昔堯瞬の道四夷八蠻に及ぶ、南蠻人其の學術を轉傳して、只だ形の上の學を得たり、故に天度運行、日月星辰の行度、能く聖人の法と叶へり、然ども理氣

の説を知らず、故に道徳暗く、理に迷ふ、然れ共此の圖學者の工夫に便あり、

[Paragraph] 8— About the Representations of the Heavens

To make known the shape of Heaven and Earth, the circling of Heavens, the way of inverse rotation of the Sun, the Moon and the Five Stars, the eclipses of the Sun and the Moon, the duration of day and night, the differentiation between day and night, the succession of the four seasons, and other things, there is a figure made by the ingenuity of scholars. In this figure with the two poles of south and north there are ten axes (circles)[1078], six large and four small. Among the six, because one divides the universe south and north in equal parts, it makes known the frontier between south and north. This is what is called the Line of Equal [Duration of] Day and Night[1079]. A second [circle] is the line of the way of the Sun, the Moon and the Five Stars make the inverse rotation from west to east, and therefore is called the Inverse Way. In a third, the Sun makes its inverse circling. When [the Sun] is in both places that is the beginning of spring and autumn. And it is also that circle that allows knowing the crossroads in Heaven of Equal Day and Night. Because this falls on the beginning of Hare and Hen, it is called the Line of Hare and Hen.[1080] Fourth, there is the circle along which the Sun makes its revolution [and where] in the summer and in the winter the points of the summer solstice and winter solstice can be seen. Because it falls at the beginning of the Rat and the Horse it is called the Line of the Rat and Horse. Fifth, there is the circle that makes known the above of one's head in that country [where one is]. When the Sun in its way raises above [one's] head, because it is high-noon this is called the High-Noon Line. Sixth, there is the circle that makes the border between the hemisphere that is seen and the one that is not seen. This horizon of the hemisphere is also called the Border of Day and Night. Because the true centre of these six [circles] is the true centre of Heavens any of them divides the Universe in [two] equal parts. Therefore [they] are called large. One turn in all these circles is divided into three hundred sixty degrees.[1081]

[1078] Manuscript [A4] has, like manuscript (a), *axis* instead of *circles* in this place.

[1079] The Equator.

[1080] Respectively the second and eight duodenary signs, which correspond also the Second and Eight Months of the Japanese calendar.

[1081] The sexagesimal numerical system, the number system based of sixty and its subdivisions, was developed in Babylon around 500 B.C. and has ever since been applied aplied to the visible sky by the astronomers in the western tradition. See Edward Grant, *A History of Natural Philosophy: From the Ancient World to the Nineteenth Century*, Cambridge, Cambridge University Press, 2007, p. 5. The

Of the four small circles two of them are circles that make known the border of the south north movement of the Sun. The circle in the North Heaven is called the Line of the Summer Solstice, the circle in the South Heaven is called the Line of Winter Solstice. These two exist to make known the border of the south north movement of the Sun. The two lines are the two axis of the inverse way that make the action of following the upper Tenth Heaven, the circle to make known the limit of one turn. The circle in the Northern Heaven is called the Northern Line, the circle in the Southern Heaven is called the Southern Line. Because none of the above four circles divides the universe in equal parts they are called Small Lines.

Commentary. The above explanations by the Southern Barbarian scholar are like this. This is detailed and there is a figure of a Scaled Globe. Broadly speaking there are four ways of making clear, through a figure of the universe, its shape and the revolution of the Sun, the Moon and the Stars. One is the Scaled Globe, a second is the *senya*, the third is the gnomon, and the fourth is the armillary sphere.[1082] All of them are [considered] in the theories of Confucians, mainly the scaled globe, whereas the control of *senya* and of the gnomon are insufficient. The armillary sphere is based in the scaled globe, being much more detailed. From old times the Way of *Gyō Shun*[1083] has reached the Four Savages and the Eight Barbarians and the Southern Barbarians have received those scholarly techniques but got proficiency only of the learning concerning the forms, concerning the degrees of celestial revolutions, and concerning the degrees of movements of Sun, Moon, and stars, having being granted the law of the able sages but not knowing the theory of *principle* and *vigour*. Therefore [they] are in the dark concerning morality, and are perplexed by [the theory of] *principle*. However, in this figure there is a reliance in the devices of scholars.

Chinese divided the circumferences of Heaven in 365 degrees. See Genshō's commentary to paragraph 10 of this Book.

[1082] The first refers to the figure reproduced, the fourth to the armillary sphere, a three dimensional version of the first. The third the *shūhi,* must refer to central instrument presented in the classical Chinese treatise on astronomy, the *Shūhisankyō* 周髀算經 (*Zhou-bi suan-jing*), the gnomon (see Ronan, *op. cit*., vol. 2, pp. 128-138). I have no clue for what the second stands, but a guess is that it may be the sighting tube described in Ronan, *op. cit*., vol. 2, pp. 159.

[1083] *Yaoshun* in Chinese, the Emperor Yao 堯 and the Emperor Shun 瞬, two classical prototypes of sage and virtuous government.

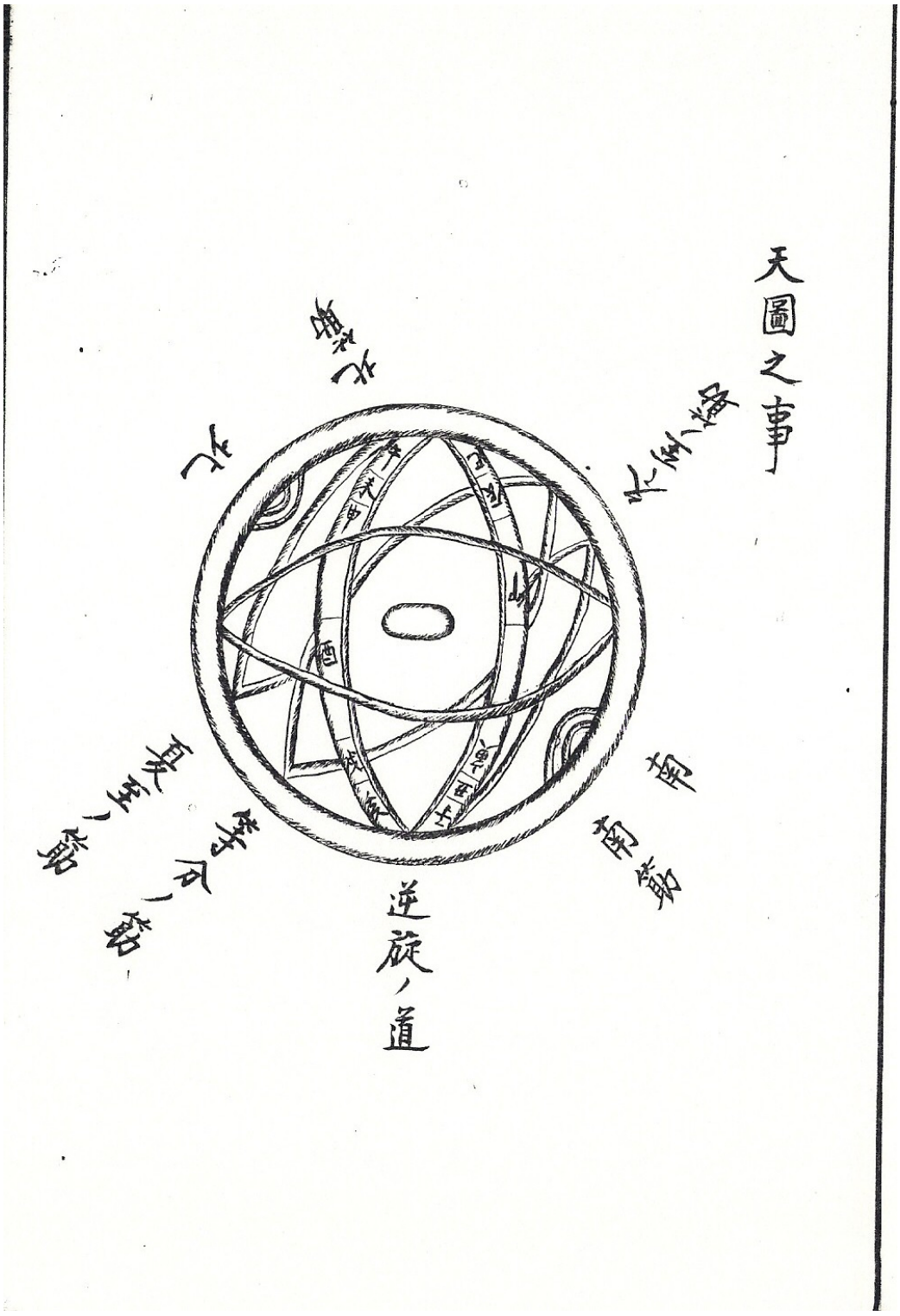

Figure 15 The diagram of the Heavens

Counter-clock wise from the above left corner: north, the Line of the Summer Solstice; the Line of Equal [Duration]; the Inverse Rotation Path; the Southern Line; south; the Line of the Winter Solstice; the Northern Line

第九　日夜等分の筋之事

一、　右に云如く諸天東より西へ、日夜十二時の間に一回せしむるに、南北に兩輪あり、是れ則南北の極也、然るに上十番の一天より、下の地大に至る迄、天地を南北に等分に列張して、天の分境一筋あり、是南北の境にして、日夜等分の筋と云也、其故は日輪南北へよりのくに、一年に二度必此の筋に至る也、是凡そ春分と秋分との時節也、其時いづくも日夜等分也、其故は半天の見際等分の筋を、上下に等分に分つ故に、日輪彼筋に至るとき、上の半天を回る間は、六時にして晝也、見へざる下の半天を運轉する間も、六時にして夜なれば、いづくも日夜等分也、是日輪の一回は、十二時の間なれば也、但いづくも日夜等分也と云は、南北の北筋と云兩筋までの義也、其故は十二時の一日一夜は此兩筋までなり、是より南北へは晝も長くつゞき、夜も長くつゞく也、故に彼國々には、南北共に日夜等分と云ことなし、右等分の筋より南北兩軸迄、九十度づゝの間なれば、此筋を境にして、天を南方、北方に分ちて、何れの國は南北へ幾度より、又日輪の夏冬南北へ幾度よると云ことを計り知る也、

辨説、右南蠻學士の説如レ此、其云、日夜等分の筋と云は儒家に赤道と云もの也、此赤道天の南北の中分に當る也、日此赤道に回り來る時は晝夜等分也、此日より日輪次第に南に行の時は秋也、南へ二十四度行たる處は冬至の道也、冬至の節也、此の時は夜長く晝短し、是より又次第に北へ向て行ときは、春に成行て又赤道に來る、此の時晝夜等分にして春分の筋と云、二月中の節也、是より又北へ向て行て、赤道より二十四度行所を夏至道と云也、夏至の節に此筋を回る、此時は晝長く夜短く、是より又南へ向行て、赤道に至りぬれば、晝夜等分にして秋分の節と云、八月中也、儒家の節と南蠻節と相違なし、

[Paragraph] 9— About the Line of Equal [Duration] of Day and Night

As said above the several Heavens make one turn during the space of the 12 hours of day and night. In the south and in the north there are two circles, that is to say, these are the extremes of south and north. However, from the Tenth Heaven above, down to the element earth, dividing the Heavens and the Earth in equal parts south and north, there is a line that is the dividing line of Heavens. This is the frontier between south and north, said to be the Line of Equal [Duration] of Day and Night. As the Sun approaches south or north, twice during one year it reaches this line. These are the times of the vernal equinox and the autumnal equinox. At these times the days and the nights always have an equal duration. Because the line of the horizon of the hemisphere is divided from upside down, at the time the Sun reaches this line the interval of rotation in the hemisphere above, is the six hours of the day. The interval of the movement of the hemisphere below which cannot be seen, is the six hours of the night, and in all places the day and the night have an equal duration. This rotation of the Sun is in the interval of 12 hours. However when it is said that the day and the night have equal duration, this is meant only up to the two lines in the south and in the north, the Northern Line.[1084] The reason is that one day and one night of twelve hours [occur] only up to these two lines. From these [two lines, respectively] to the south or to the north the day lasts for longer and the night also lasts for longer. For this reason in these countries, both in the south and in the north there is no equal [duration] of day and night. As [referred] above, from the Line of Equal [Duration of Day and Night] to the two axes south and north, there is the space of 90 degrees to each side. Making this line the border, Heaven can be divided to the south and to the north, [and from this line] it can be measured and made known to all countries how many degrees south or north [they are], and also how many degrees to the south or to the north the Sun is in Winter and in Summer.[1085]

[1084] Manuscript [A4] presents a more complete version of this sentence, which reads thus: 「南北ノ北筋南筋ト云兩筋ま迄ノ義ナリ」. This may be translated as: "However when it is said that the day and the night have equal duration, this is meant only up to the two lines in the south and in the north, the Southern Line and the Northern Line."

[1085] Ronan, *op. cit.*, vol. 2, p. 164, speaking of the armillary sphere in China and Europe points to the fundamental difference between them to be that in China angle measurements were made in relation to the equator while in Europe it was in relation to the ecliptic.

Commentary. The above explanations by the Southern Barbarian scholar are like this. Here is what he says. The Line of Equal [Duration of] Day and Night is what Confucians call Red Way. This Red Way corresponds to the middle of south and north in Heaven. The day and night are of equal duration when the Sun in its circling comes to this Red Way. From this day, as the Sun gradually approaches south, it becomes autumn. Going south twenty four degrees it [reaches the] place of the Way of the Winter Solstice, and it becomes the season of the Winter Solstice. At this time the nights are long and the days are short. From here when, again gradually, it moves north, it becomes spring and again it comes to the Red Way. At this time the day and the night are equal [in duration], and it is called the Line of the Vernal Equinox. It is the season of the Second Month. From here again moving toward the north, to the place twenty four degrees from the Red Way [it reaches] what is called the Way of the Summer Solstice. In the season of the summer solstice [the Sun] goes around this line. At this time the days are long and the nights are short. From here turning again to the south, upon reaching the Red Way, days and nights become [of] equal [duration] being this season called the equinox of Autumn, that happens during the Eight Month. There is no difference between the seasons of Confucians and those of Southern Barbarians.

第`十　逆道の事

一、　右逆道と云は、右に云如く、諸天は上十番の一天に隨順して、日夜十二時の間に、東より西へ一回せしむるといへども、内の九天何れも身をぬすみて、西より東へ逆旋するもの也、此逆旋の道筋を則逆道と云也、然れば彼逆道は、等分の筋を二つに等分に分ち、一方は等分の筋より二十三度半北へ傾き、一方は廿三度半南へ傾き、筋違たる道筋也、此の道筋の軸は、南筋北筋と云筋に當て、南北の軸より二十三度半隔りたるが故に、日月五星の逆道も、二十三度半南北へ傾き、日月五星も逆旋するに、二十三度南北へよるもの也、此兩軸は自己には西より東へ運轉することなしといへども、上十番の一天に隨逐して、東より西へ日夜十二時に一回せしむる也、然れば此道筋の竪は三百六十度也といへども、横十二半也、竪ざまの中央に又一筋あり、日月此筋に當て或は會合し、或は正對するときは蝕する故に、彼の筋を食筋と云也、日輪一分も横行せずして、常に蝕筋を正しく行が故に、日輪の正路とも云也、五星月輪は、逆道の總筋をば行といへども、逆旋するに面々各々の道あつて、日輪の如く食筋を直に行かずして、蝕筋を筋違に越て、彼筋違より北方へ六度、南方へ六度より也、故に總筋の横を十二度の廣さにする也、されば日輪一分も左右へ横行せずして、常に蝕筋を正しく行證據には、一には日輪其宿の頭に當て、晝夜の境を見るに、歳去り歳來て、一分も不レ違同じ岐に出る也、譬へば去年午の頭に當りし時、晝夜の境を出し雲衢を記して置き、今年又午の頭に至る時、出る筋を見るに、去年の出し枝岐に一分も違ず出る也、二には日輪日中に物に當て、さす處の影を見るに、年々其時にあたつては、影の長短あることなし、たとへば春秋の等分の節に當るものゝ影を見るに、一年は短くして一年は長きと云ことなし、毎年同じ長さ也、夏至の節の影も、一年は長く一年は短と云ことなし、年々同じ長さ也、他準レ之、三には日輪南北へよるに、毎年等分の筋より、二十三度半北へ依ては、南へ向て運行し、南へ二十三度半依ては、又北へ向て運行す、南北共に二十三度半より過ることなく、又二十三度半に不レ及と云ことなし、是等皆常の例し也、右を以て見るに、少も横行せずして、不斷同じ道を行こと明白也、此の道則蝕筋也、月輪は是に相ちがひ、同じ宿

の頭に當ても、半天の見際を出る岐は、月々同じからず、又午の頭に當て、時により等分の筋より十八度、遠き時によりては凡そ二十度隔る也、五星も同レ之、故に月輪五星は、逆旋の總筋を行といへども、日輪の如く蝕筋正しく行ことなし、然ば右逆旋の道筋を、東西へ十二宿に分ちて、一宿々々に三十度に分つ故に、逆道の一回は統て三百六十度也、十二宿に分つ故は、一つには下より八番の天に備る星辰、其の數積りがたしといへども、日（イ星）光を見分るほどの星辰を積るに、其數一千二十二あり、此星辰を四十八宿に分ちて、十二宿は日月五星逆旋の道筋に列れり、故に彼の逆道を十二宿に分つ也、此十二宿に備る星辰は、其數三百四十六あり、二には日月西より東へ逆回せしむるに、互に重るを朔日と云、正對するを十五夜と云、然るに日月一年に互に十二度正對して、十二月と成が故に、逆旋の道筋を十二宿に分つもの也、一宿を又三十度に割る故に、日輪西より東へ逆旋する道々、凡て一度を運行するが故に、三十日1ヶ月に回る、一宿を三十度にわるもの也、されば春分より初て十二宿の次第を云に、卯辰巳午未申酉戌亥子丑寅是也、逆道は右に云如く、等分の筋より半分は北方へ傾き、半分は南方へ傾きて、筋違たる道なるが故に、右十二宿の内、初の六宿は南方にあるもの也、然るに日輪西より東へ、彼十二宿を逆回せしむるに、南北へよりのくを以て、春夏秋冬の四季を分つ也、大明我朝は年の節を春の初とすといへども、異國には春分秋分を春秋の初とし、夏至冬至を夏冬の初とするもの也、されば日輪南北へよりのくに、年々兩度日夜等分の筋に至ることあり、是則春秋晝夜の等分の節也、然るに日輪の春の等分の日、午の宿に入初て、九十三日の間に卯辰巳の三宿を逆回す、其間に等分の筋より、二十三度半北へよりて、午の宿に至る也、其日北方の爲には夏至にして、第一長き日也南方の爲には冬至にして、第一短き日也、此日輪北へよること、午の頭までなれば也、此三ヶ月の間此方の爲に春の氣を生ず、春の氣は風大の如く温濕の氣也、午の宿より南方に移て、九十四日の間に午未申の三宿を運行して、右の如く二十三度半を回りかへして、又日夜等分の筋まで運轉して、酉の宿に移る也、此日則秋の日夜等分の日也、此三ヶ月の間夏の氣を生ず、夏の氣は火大の如く熱燥の氣也、是の等分の節より南方に移りて、酉戌亥の三宿を八十九日間に逆回して、二十三度半南へよりて、子の宿に至る也、此日此方の爲に冬至にして、第一短き日也、南方の爲

に夏至にして、年中第一長き日也、是日輪の南方へよること是までなれば、此三ヶ月の間に秋の氣を生ず、秋の氣は地大の如く燥寒の氣也、子の宿より北方に向て、八十九日の間に子丑寅の三宿を逆回して、前の二十三度半を回りかへして、又卯の宿に至る也、是は春に日夜等分の日也、日輪此三ヶ月の間冬の氣を生ず、冬の氣は水大の如く寒濕の氣也、然るに此の西より東へ、十二宿の一回を日輪の一年と云也、其日數は三百六十五日也、

辨説、右南蠻學士の説如レ此、其逆道と云は、日月五星の運行する道を云也、天は一日一夜に東より西へ回りて、晝夜十二時の數を盡す、此行りを儒には左旋と云、左行とも云、順行するもの也、日月五星は天の行りに逆ふ、西より東へ行もの也儒には是を右旋と云、又右行とも云、天の行りに逆ふ故に、逆行とも云逆旋とも云也、蠻學士の此の道を輪道と云、誤りなし、其蝕筋と云は日行の道筋也、儒には是を黄道と云、其道は赤道を筋違に天を行りて、半分は赤道の北に出で、半分は赤道の南に出るもの也、赤道より北に出ること、儒には二十四度と云、蠻學には二十三度半と云、不同の如しといへども、其實は同じ、蠻學の法は三十日を以て一宿を量るゆへに、天は只三百六十度といへり、儒には天を以て度を量る、日行一日の分を一度とす、故に日の周天を旋り盡すを以て一年とし、一年の日數を以て天度を測る、故に一年三百六十五日二十五刻なれば、天は三百六十五度四分度の一ろ云也、此積りを以て、赤道より北へも南へも、二十四度行と儒家に云也、又月道は是も日道の如く筋違にして、赤道より北へ三十度、南へも三十度づゝ出る也、故に日道と其行く道同じからず、或は日月量り、或は日月正對し、或は日に後れ或は日に先だち、一日夜に二十三度有奇づゝ、西より東へ行もの也、五星の回りも各々遲あり速あり、其の道日月道の如く、西より東へ筋違に行もの也、然ども赤道より南北へは、三十度づゝの外に出ず、此の一論南蠻學士誤りなし、但四時十二支の説に差違あり、蠻學は十二支の説なし、儒家の説に倣て、其名號を假りて附説せり、故に其説は名を假りたる浮説也、凡そ此書に、蠻士の儒家の名目を假り用る處皆如レ是、

[Paragraph] 10— About the Inverse [Rotation] Way

The Inverse [Rotation] Way referred above is the inverse rotation made furtively from west to east by all the interior nine heavens even though, as referred before, there is the east to west rotation made during the twelve hours of day and night by the several Heavens following the superior Tenth Heaven. The way of inverse rotation is called the Inverse Way. However, this inverse way divides into two equal parts the Line of Equal [Duration of Day and Night], one of which goes from the Line of Equal [Duration] towards the twenty three and a half degrees north, and the other towards the twenty three and a half degrees south, [these] being different lines of the Way. The axis of this path corresponds to the line called South-Line-North-Line. Because from the south-north axis there is an aperture of twenty three and a half degrees, the inverse way of the Sun, the Moon and the Five Stars also has an inclination of twenty three and half degrees to the south and to the north, and the inverse rotation of the Sun, the Moon and the Five Stars, [all of them] in their inverse rotation also make a twenty three and half degrees south north [angle]. Though these two axes do not drive from west to east by themselves, following the superior Tenth Heaven they turn from east to west in the twelve hours of day and night. However, though this path vertically has three hundred and sixty degrees, horizontally it has twelve and a half degrees. Vertically at the centre there is also one line. Because the Sun and the Moon, when touching this line either are in conjunction or in opposition and thus there are eclipses, this line is called the Line of Eclipses. Because the Sun does not part [from it] for even one minute, always accurately trailing the Line of Eclipses, it is also called the True Road of the Sun. Though the Five Stars and the Moon generally follow the Line of the Inverse Way, when making the inverse rotation each has its way, not following closely the Line of Eclipses as the Sun does, going over the Line of Eclipses, going either six degrees to the north or six degrees to the south, and therefore there is a width of twelve degrees to the sides of the General Line. Consequently, it can be proved that the Sun does not move sideways to the left or to the right for even one minute but always treading accurately the Line of Eclipses. First, if the frontier of day and night is observed when the Sun reaches a Mansion, which stars are leaving and which are arriving, these always leave at the same crossroads without one minute difference. For

example, recording that *unku*[1086] left the frontier of night and day at the time of the beginning of the Horse last year, and again at the time of the beginning of the horse this year if it is observed the line from where it leaves, it will not have one minute difference from the crossroad it left last year. Secondly, when the Sun hits something at high noon, looking to the place of the shadow[1087] it [will be seen that it] is the same every year, and that the shadow does not become longer or shorter. For example, the shadow that is made at the season of equal [duration of day and night] in spring or in autumn does not become shorter one year and longer another year, but every year it has the same length. The shadow at the season of the summer solstice is also not longer one year and shorter another year, but every year has the same length. And the other cases are similar to these. Thirdly, as the Sun moves towards the south or to the north, every year when it reaches twenty three and a half degrees north from the Line of Equal [Duration of Day and Night] it turns its revolution towards the south. Upon reaching twenty three and a half degrees south, it turns again to the north in its revolution. It does not go over twenty three and a half degrees south or north, nor does it reach twenty three and a half degrees, this being always the case. As seen above, it does not move to the side even a little, and it is evident that it takes the same way without interruption. This is the Line of the Eclipses. The Moon is a different case from this. When it reaches the beginning of a Mansion, when it leaves the crossroads of the horizon of the hemisphere it is different every month. Also, when it reaches the beginning of Horse, sometimes is eighteen degrees away from the Line of Equal [Duration of Night and Day], and at the times that it is farthest away it can have a distance of twenty degrees. The same happens with the Five Stars. Therefore, though the Moon and the Five Stars generally follow the Line of Inverse Rotation, they do not follow it closely as the Sun does. Moreover as the [referred] above Way of Inverse Rotation is divided east west by twelve Mansions[1088], and as each Mansion has thirty degrees, in a turn of the Inverse Way there are a total of three hundred and sixty degrees. The reason for dividing [the Heaven] in twelve

[1086] This is the name of an unidentified star. This star is also referred to in *Nihon Shoki*『日本書紀』and *Miidera*『三井寺』, a well known Nō play.

[1087] This indicates measurement of the angle made through the gnomon.

[1088] These twelve mansions are the twelve signs of the zodiac, the western scholar having appropriated the Japanese designation of the 28 *shuku* 宿, or the 28 mansions on the Equator, for his twelve constellations on the elliptic.

Mansions is, first, that in the Eight Heaven from below there are stars whose number, although difficult to reckon, is estimated to be 1022 as [far as] it can be distinguishing from the Sun's (star's)[1089] light. These stars are divided into forty eight Mansions, in twelve of which there is the line of the Way of Inverse Rotation of the Sun, the Moon and the Five Stars. This is the reason this Inverse Way is divided into twelve Mansions. The stars placed in these twelve Mansions are three hundred and forty six in number. Second, as the Sun and the Moon make the inverse rotation from west to east, when they overlap that [day] is called the First Day of the [Lunar] Month, when they become in perfect opposition that [day] is called the Fifteenth Night. Moreover, as in one year the Sun and the Moon come into perfect opposition twelve times, there are twelve months, and the Way of Inverse Rotation is divided into twelve Mansions. In turn, as each Mansion is divided into thirty degrees, and as the Sun going from west to east in the Way of Inverse Rotation moves about one degree [in one day], it rotates [the interval of one Mansion] in one month of thirty days, and [therefore] one Mansion is divided into thirty degrees. If, beginning with the spring equinox, the Twelve Mansions are said in order they are the Hare, Dragon, Snake, Horse, Sheep, Monkey, Hen, Dog, Boar, Rat, Ox and Tiger. As said above, half of the Inverse Way has an inclination towards the north from the Line of Equal [Duration of Day and Night], and [the other] half has an inclination towards the south. As it is a Way with [two] different lines from the above [mentioned] twelve Mansions the first six Mansions are towards the south. Moreover, as the Sun moves from west to east, and makes the inverse rotation through these twelve Mansions it leans and gets away from south and north, and this [movement] makes the division between the four seasons of spring, summer, autumn and winter. Although [from] the Great Ming [came to] our Kingdom the [custom of] making the period of one year at the beginning of spring, in other countries the beginning of spring and autumn is made at the spring equinox and autumn equinox, and the beginning of summer and winter is made at the summer solstice and at the winter solstice.[1090] As the Sun leans and gets away from south and north every year it reaches twice the Line of Equal [Duration] of Day and Night, and this is the season of equal night and day of spring and autumn. Moreover, the Sun in the day of equal [duration of day and night] of spring,

[1089] Manuscript [A4], like manuscript (a), has *Sun* instead as *star* in this passage.

[1090] Chūan is referring here that while in China and Japan and equinox or a solstice is the middle of the corresponding season, in other countries they are the beginning of the season

begins to enter the Mansion of the Horse, and during the space of ninety three days it makes the inverse rotation of Hare, Dragon and Snake. During that space [of time] it leans twenty three and a half degrees towards the north and reaches the Mansion of the Horse. That day is for the northern [regions] the summer solstice and it is the longest day [of the year, while] for the southern [regions] it is the Winter solstice and the shortest day. This happens because the Sun, leaning towards the north, reaches the beginning of Horse. Because during this space of three months the *vigour* of spring is produced in the region we are, the *vigour* of spring is similar to element air and has the *vigour* of warmness and dampness. From the Mansion of the Horse [the Sun] moves south and during ninety four days it rotates the three Mansions of Horse, Sheep and Monkey. As above, turning around the twenty three and a half degrees, it rotates again up to the Line of Equal [Duration] of Day and Night and moves to the Mansion of the Hen. This day is the day of equal [duration] of day and night of autumn. During the space of these three months the *vigour* of summer is produced and the *vigour* of summer is similar to element fire and has the *vigour* of warmness and dryness. From this season of equal [duration of day and night] it moves towards the south and makes the inverse rotation of the three Mansions of Hen, Dog and Boar in eighty nine days leaning twenty three and a half degrees towards the south and reaching the Mansion of the Rat. From this day, in the regions we are it becomes the winter solstice and it is the smallest day. In the southern regions it becomes the summer solstice and it is the longest day during the year. As the Sun comes up to here in its leaning towards the south, during the space of these three months the *vigour* of autumn is produced, and the *vigour* of autumn is similar to element earth and has the *vigour* of dryness and coldness. From the Mansion of the Rat it turns north and makes the inverse rotation through the three mansions of Rat, Ox and Tiger during eighty nine days. Turning around at the former twenty three and a half it reaches again the Mansion of the Hare. This is the day of equal [duration] of day and night of spring. The Sun during the space of these three months produces the *vigour* of winter, and the *vigour* of winter is similar to element water and has the *vigour* of coldness and dampness.[1091] The rotation through the twelve Mansions is called one solar year. The number of its days is three hundred and sixty five days.

[1091] Differently from the three previous cases, here the Sun is made responsible for the production of the *vigour* of the season.

Commentary. The above explanations by the southern barbarian scholar are like this. The mentioned Way of Inverse Rotation is the way where the Sun, the Moon and the Five Stars make their revolutions. The Heaven turns from east to west during one day and one night, exhausting the number of twelve hours of day and night. To this movement the Confucians call Left Turning, and also call it Leftward Movement, which is an orderly movement. The Sun, the Moon and the Five Stars [proceed] counter the movement of Heaven, and move from west to east. Confucians call this Right Turning, and also call it Rightward Movement. Because they [proceed] counter the movement of Heaven it is called Inverse Movement and also Inverse Rotation. The Southern Barbarian Scholars say that this way is a circular way, and there is no error there. What is called the Line of Eclipses is the line of the Way of the Movement of the Sun. Confucians call this the Yellow Way[1092], and this way moves in a different line in the Heaven than the Red Way[1093], half [of it] being to the north of the Red Way, and half being to the south of the Red Way. Confucians say that its being to the north of the Red Way is twenty four degrees, and the Southern Barbarians say it is twenty three and a half degrees. Although these are different [figures] its reality is the same because in the Law of Barbarian Learning one Mansion is measured as having thirty days and the Heaven is said to be three hundred and sixty degrees, while Confucians in measuring the degree make one degree equal to the movement of one day by the Sun. Therefore [the time it takes] the Sun to exhaust one turn around Heaven is made to be one year, and with the number of days in one year the [number of] degrees in Heaven is measured. Therefore, if in one year there are three hundred and sixty five days and twenty five

[1092] *Ōdō* or *Kōdō* 黄道: the ecliptic.「①天の道。また、天子の道。天道。②地球からみて、太陽が地球上を一年間に一周してえがく天球上の大円をいう。」Nikkoku. The concept of ecliptic, meaning the circle traced out by the Sun's apparent path around the Earth was introduced by the Babylonians around 500 B.C. who assigned to it 360 degrees. They also divided it into twelve divisions of thirty degrees which formed the signs of the zodiac. See Edward Grant, *A History of Natural Philosophy: From the Ancient World to the Nineteenth Century*, Cambridge, Cambridge University Press, 2007, p. 5. This concept did not play any role of relevance in Chinese astronomy before the first century A.D. when of the calendar reform of Chia Khuei 賈逵 (fl. second half of first century A.D.) of A. D. 85. See Needham, op. cit., Vol. III, p. 200.

[1093] Notice that the designation for "equator" that Genshō uses (Red Way) is always different from that employed by Chūan (Line of Equal Duration of Day and Night).

hundredths of one day[1094], in Heaven there are three hundred and sixty five and one fourth degrees. Using this estimative Confucians say [that the Sun moves towards] the north and the south of the Red Way twenty four degrees. Again, the Way of the Moon is in a different line from this Way of the Sun. From the Red Way it moves out towards the north twenty three degrees, and towards the south also twenty three degrees. Therefore it is not the same Way in which the Sun moves. Sometimes the Sun and the Moon overlap, at other times they are in opposition, sometimes the Sun is behind, at other times it is ahead. To [each] one day and night the twenty three and something degrees are apportioned as it moves from west to east.[1095] In the rotation of the Five Stars there is also lagging behind and running ahead, and their Way, like those of the Sun and the Moon, moves from west to east through different lines. Moreover, from the Red Way they do not move out towards the south and the north more than thirty degrees. Concerning this argument the Southern Barbarian Scholars are not mistaken, with the proviso that there is a difference of four hours in the theory of the twelve stems[1096]. In the Barbarian Learning there is no twelve stems theory so they imitate the theory of Confucians. Borrowing and using its terminology they make a theory. Therefore that theory is a floating theory that borrows names. The same happens all over this book in the places where the Barbarian Scholar borrows and uses the Confucian terms.

[1094] *Koku* 刻: one hundredth of one day and night (「❺〔単位〕一昼夜を百にわけたその一つ。」, Kanjigen).

[1095] *Yūki* 有奇: remnant (「あまり。はした。有余。」, Nikkoku). The manuscript [A4] does not have the particle *ni* in this sentence:「一日夜二十三度有奇宛、西ヨリ東へ行モノ也、」. The Nikkoku gives a sentence of Paragraph 15 of this Book as an example of usage for *yūki.*

[1096] This refers to the duodenary cycle.

第十一　卯酉と子午との筋の事

一、　卯酉と子午と兩筋は、日輪東へ十二宿を逆回するに、何れの宿に至て春秋の日夜等分、夏冬の夏至冬至極る處を知らしむる筋也、然るに兩筋共に南北の兩軸を縦横に通りて、逆旋の道を卯酉と子午と等分に四つに分つなり、卯酉の筋は南北の兩軸を通りて、等分の筋を卯酉に分つ、此辻は日夜等分の處也、是日輪此兩宿の頭に當る時、いづくも日夜等分なれば也、卯の頭は春の日夜等分、酉の頭は秋の日夜等分の處也、子午の筋は南北の兩軸と、逆道の兩軸を縦横に通りて、夏至冬至の筋を子午にわりて、其の辻は則夏至冬至の節初る處也、是日輪彼兩宿の頭に當る時、夏至、冬至初なれば也、午に至る時は夏の夏至也、子に至るときは冬至の初る處也、

辨説、右南蠻學士の説知レ是、此一節は春分、秋分、冬至、夏至の日に、日輪行至る所を知しめんとて圖を出し、圖に付て解釋したる論也、卯酉の筋とは、黄道、黄節の赤道に當りたる處也、赤道は東の正中より西の正中に直に渡りたる筋也、故に卯酉の筋と云、日輪黄道を回て、此赤道卯の位に來る時は春分也、夫より又廻りて酉の位に至るときは秋分也、二八月の中の日にて、日夜各々五十刻づゝ等分の日也、子午の筋とは日輪運行して、赤道より廿四度北へ行たる時、二十四度目を廻る日は夏至也、赤道より北なれども、北の國々は此時に炎熱する故に、夏至の日廻る處を午の筋と云也、夫より日輪南に行向ふに、赤道を行過て赤道の南へ二十四度行、二十四度目を廻る日は冬至也、赤道より南なれども、赤道より北に有る國々は、皆寒凛なる故に、冬至の日廻る所を子の筋と云也、赤道より南の國々は、此時は皆夏也、右二分二至の義を知しめんとて、此論を立たり、あやまりなし、

[Paragraph] 11— About the Lines of the Hare and Hen and of Rat and Horse

Both lines of Hare and Hen and Rat and Horse are the lines that let us know the places of the Mansions where the equal [duration] of day and night of spring and autumn are reached, and the summer solstice and winter solstice of summer and winter are attained by the Sun in its inverse rotation towards the east along the Twelve Mansions. Moreover both lines run vertically and horizontally through both the north and south axes, dividing into four equal parts the Inverse Rotation Way at the Hare and Hen and at the Rat and Horse. The Line of Hare and Hen runs vertically and horizontally through both the north and south axes, and divides the Line of Equal [Duration of Day and Night] at the Hare and at the Hen, which are the places of equal [duration] of day and night. When the Sun enters in these two Mansions, it is always the [time of] equal [duration of] day and night. The beginning of Hare is the [time of] equal [duration of] day and night of spring, and the beginning of Hen is the [time of] equal [duration of] day and night of autumn. The Line of Rat and Horse runs vertically and horizontally through both the north and south axes, and through both axes of the Inverse Way. It divides the Line of the Summer Solstice and Winter Solstice at the rat and horse, and is the line of the places of the beginning of the seasons of the summer solstice and winter solstice. When the Sun enters these two Mansions the summer solstice and the winter solstice begin. When it reaches the Horse it is the summer solstice of summer, and when it reaches the Rat it is the beginning of the winter solstice.

Commentary. The above explanations by the Southern Barbarian scholar are like this. This section [presents the] explanation, with the help of a figure, of which places the Sun reaches in the days of the spring equinox, autumn equinox, winter solstice and summer solstice. The Line of the Hare and Hen is the place of that section of the Yellow Way that touches the Red Way. The Red Way is the line that crosses from the true centre of east to the true centre of west. Therefore it is called the Line of Hare and Hen. It is the spring equinox when the Sun in its turning in the Yellow Way comes to the position of Hare in the Red Way. It is the autumn equinox when, turning from this [point] it reaches the position of the Hen. The middle day of the Second Month and of the Eight Month are the days when the day and the night each have equal [duration] of fifty percent. The Line of the Rat and the Horse is

where the Sun in its rotation moves twenty four degrees north of the Red Way, and the day when it turns the twenty fourth degree is the summer solstice. Though it is to the north of the Red Way, in the countries of the north this is a time of intense heat, and therefore the place the Sun turns in the summer solstice is called the Line of the Horse. From here the Sun turns south, crosses the Red Way and goes to twenty four degrees south of the Red Way, and the day it turns the twenty fourth degree it is the solstice of winter. Because [the Sun] is to the south of the Red Way, in the countries to the north of the Red Way it is intensely cold. Therefore the place [the Sun] turns around in the day of the winter solstice is called the Line of the Rat. For all countries to the south of the Red Way this is the time of summer. The above [explanation] is to make known the meaning of the two equinoxes and the two solstices, and for that purpose this exposition was made, and is without error.

第十二　日中の筋之事

一、　日中の筋と云は、南北の兩軸と、我頭上又足の下なる通りを縦横に通りて、天地と半天の見際を、等分にわかつ一筋あり、日輪旦に晝夜の際を立て、此筋に至る時、日中午の刻の頭也、故に日中の筋と云也、此日中筋晝の間を等分にわかつ境なる故に、晝夜の際を出て、日中まで行る間は三時なれば、日中より入日まで又三時也、然るに南北に向て發行するときは、日中の筋に替ると云ことなし、故に此の筋の下なる諸所は、南北共に同時に日中也、東西へ一度の間發行し、在所を替へ行時は、日中の筋も半天の見際も替るもの也、故に日中も替る也、されば日中の筋、半天の見際を等分に分つが故に、頭上の一點より兩方の見際まで九十度づゝ也、足の下なる一點より、西方へ同く九十度づゝなれば、一回統て三百六十度也、然るにいづれの所も、等分の筋より南北へよるに隨て、南北の軸も高下同じ、半天の見際より、一方の軸高く上る程、一方は下る也、たとへば北天の軸三十度上れば、南天の軸三十度下る也、見際より軸の上るほど、其國は南北へよれりと云也、たとへば當所の見際より、北天の軸四十度上れば、當所四十度北へよれりと云なり、何を以て高下の度數を側かり知るぞと云に、半天の見際より北まで、たとへば三十度あれば、日中の筋の頭上の一點より、等分の筋まで同く三十度あり、然るに日輪の日中の筋に至る時、道具を以て日影を移して見るに、半天の見際より軸まで何度、頭上の一點より等分の筋まで、何度あるぞと云こと計り知る也、故に何づれの國、南北へ何度よれりと計りしる道は、此日中の筋也、

辨説、右南蠻學士の説如レ是、それ天地の形容至圓なる故に、人物の居所も東西南北の変り有て、頭上の天も直上の至る處同じからず、故に日輪運行して、我頭上に至る時を日中と云也、然ども日中の一刻、南北の一直道は、同時に日中に當る、東西の國は其時不レ同、然ども各己が頭上に至る時を日中と云也、假令東方の日中は中央の平旦にて、西方の夜半也、中央の日中に東方の日入にて、西方の平旦也、西方の日中は、中央の日入にて、東方の夜半也、南北の国に、赤道より南へより北へよりたる度數を知も、我居國の日中の一點を計り知てより知るものなり、蠻學の説誤りなし、其術は口訣あり、量天器あり、又北極一星の高下を能く量り定ても、頭上の一點を知るもの也、

[Paragraph] 12— About the Meridians

A meridian[1097] is a line that goes through the southern and northern axes, and passes above one's head and bellow one's feet to divide into two equal parts the horizon of Heaven and Earth and the hemisphere[1098]. In the morning the Sun stands on the edge of day and night and when it reaches this line it is high noon, the beginning of the hour of the Horse.[1099] Therefore [this line] is called the meridian [i.e., the line of mid-day]. This meridian makes a border and divides the day into two equal parts. Leaving the border of day and night, it takes three hours to [reach] the meridian and from the meridian it takes three hours to sunset. Moreover, moving either south or north, one does not change from meridian. Therefore, in all places below this line it is high noon at the same time, both to the south and to the north. When one moves place either to east or to west by one degree, the meridian and also the horizon of the hemisphere change. Therefore the high noon also changes. As a result the meridian divides the horizon of the hemisphere into equal parts. From a point above the head up to the horizon on either side it is ninety degrees. If from a point below the feet to the west it is ninety degrees, it takes three hundred and sixty degrees to make a complete turn.[1100] Therefore in any place as one moves from the Line of Equal [Duration of Day and Night] to the south or to the north, the southern and northern axes equally ascend and descend, and from the horizon of the hemisphere one axis ascends and the other descends. For example, if the axis of the northern Heaven is thirty degrees above [the horizon], the axis of the southern Heaven is thirty degrees below. A country is placed more to the north or to the south depending on the height the axis rises above the horizon. For example, if from the horizon of the place to the axis of the northern Heaven there are forty degrees, it is said that this place is forty degrees north. To the question of how the number of degrees [the

[1097] Literally "line of midday."

[1098] *Hanten* 半天: hemisphere, literally "half Heaven." This word could also mean the middle region of the air:「①天の半分。②なかぞら。中天。」, Kojien. The Vocabvlario, fl. 80, curiously does not refer to *hemisphere* and only presents this definition: "Fanten. Nacazora. *Mea região do ar*."

[1099] The hour of the horse is the time between 11 am and 1 pm. Here we follow the reading in manuscript [A4]:「日輪旦ニ晝夜ノ際ヲ出テ、此筋ニ至ル時、日中午ノ刻ノ頭也、」.

[1100] The argument is incomplete here: twice ninety degrees above the horizon plus ninety degrees from the nadir to the western horizon do not add up to 360 degrees.

axis] is up or down is known, [I answer that] if from the horizon of the hemisphere to the north there are thirty degrees, from a point in the meridian above one's head to the Line of Equal [Duration and Night] there are also thirty degrees. Moreover, when the Sun reaches the meridian, using an instrument that transfers the shadow of the Sun it can be known how many degrees there are from the horizon of the hemisphere to the axis, and one can measure and know how many degrees there are from a point above one's head to the Line of Equal [Duration of Day and Night]. Therefore, in whatever country, the way of measuring and knowing how many degrees south or north [the place is, it is achieved through the] meridian.

Commentary. The above explanations by the Southern Barbarian scholar are like this. Because the shapes of Heaven and Earth are completely round there is difference on how east or west, south or north is the place a person is in. It is the same with the place on Heaven immediately above one's head. Therefore, as the Sun moves, when it reaches [the line] above one's head, that time is called high noon. Hence at the exact moment of high noon the Sun reaches the straight line from south to north. That moment is different according to a country being [placed more] to the east or to the west. However, when [the Sun] reaches the [point] above anyone's head that moment is called high noon. If it is high noon in the east it is morning in the central [region] and night in the west. When it is high noon in the central [region] the Sun is setting in the eastern [region] and it is morning in the western [region]. When it is high noon in the western [region], the Sun is setting in the central [region] and it is night in the eastern region. To know how much to the south or to the north a country is one needs to know how many degrees there are to the south or to the north of the Red Way. This can be known by measuring the point of high noon of the country we are in. There is no error in the theory of the Barbarian School. Its techniques have discernment and the [necessary] measuring instruments. To know how to determine how high or low is the Star of the North Pole is to know the point above [one's] head.

第十三　半天の見際の事

一、　夫れ半天の見際と云は、其國に有る處の人何國に居ても、天の半分を見ることを得て、半分は見ること不レ能也、然に此の天の半分の際を、半天の見際とも云、晝夜の際とも云也、譬ば海上にて、海と其天の際のことを云也、見る所の半天の頭上の一點は、則半天の見際の軸也、見際より頭上の一點迄、兩方共に九十度宛也、故に目の及ぶ半天の分量は百八十度、不レ見半天の分量も百八十度なれば、統て三百六十度也、されば半天の見際は、或は直なる見際、或は筋違たる見際也、日夜等分の筋を頭上に見て、南北の軸を半天の見際にする國々は、兩軸共に高下の隔てなき故に、其の見際は直なる見際と云也、當分の筋を越て、南北の軸を一方は高く見、一方は見ることを不レ得國は、此兩軸の高下あるが故に、其の半天の見際は、筋違たる見際と云也、圖を以て顯す、右半天の見際は、日中の筋の如く、其の處を替へざるときんば、見際も計ることなしといへども、所を替へるときは、見際も一度々々に替るもの也、一度の間は何程の間ぞと云に、道法に積りては凡四十五里の間也、天の循環を以て計かつて見るに、日輪東西へ一度を廻る間は、一時を百二十分に分て四分の間也、其故は天の一回は三百六十度也、日輪彼の一回を十二時にせしむるに、三十度を一時に廻り、一度をば一時の四分の間に廻る也、されば半天の見際は何の用ぞと云に、一には此筋天の上下に等分に分つが故に、天の半規（イ現）は半分の際（イ堺）を是を以て見る也、二つには半天の見際を以て、日夜長短を計り知ること、此理を下に至て沙汰すべし、三には南北の軸の高下を、半天の見際より分ること、是により其所を南北へ何程よれりと云時、等分の筋より度數を計るといへども、南北の軸度高きと云時は、半天の見際より度を計るもの也、

辨説、右南蠻學士の説如レ此、半天の見際と云は、東西南北と地と別るゝ處の際を云也、廣野に出で大海に浮て見るに、四方只天と地と平々として見渡して、天は地につき、地は天につきて、天地の界分明に分るゝ處の見分也、是を半天の見際と云は、此際より上に見る所の天は百八十度あり、地も又百八十度あり、地下に隠れて見へざ

る所の天も百八十度あり、地も同じ、天は三百六十度なる故に、百八十度の天を見る際なれば、半天の見際と云也、此説誤りなし、南北により東西によりて見るも同じ、

[Paragraph] 13— About the Horizon of the Hemisphere

Concerning the horizon[1101] of the hemisphere, [it can be said that] regardless of in what country a person is, half Heaven can be seen, and the other half is unobservable. Moreover, to the border of this hemisphere it is called the horizon of the hemisphere. It is also called the Border of Daytime and Night[-time]. For example, on the sea it is called the Border of Sea and Heaven. The point of the visible hemisphere above one's head is the axis of the horizon of the hemisphere. From any side of the horizon to the point above one's head there are ninety degrees. Therefore, the dimension of the hemisphere that can be reached with the eyes is one hundred and eighty degrees. If the dimension of the hemisphere that cannot be seen is one hundred and eighty degrees, there are in all three hundred and sixty degrees. In this case the horizon of the hemisphere is either the straight horizon or the latitude[1102] horizon. When the Line of Equal [Duration] of Night and Day can be seen above one's head, in the countries that have the south and north axes in the horizon of the hemisphere, there is no difference in the height between the two axes.[1103] That horizon is called straight horizon. Surmounting the corresponding line[1104], one of the southern or northern axes is seen higher, and it becomes impossible to see the other. Because of the difference of height of these two axes, the horizon of the hemisphere is called the latitude horizon. This is shown with [two] figures.[1105] As referred above, the horizon of the hemisphere changes

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[1101] *Migiwa* 見際: horizon is the probable meaning. This word is not listed in any consulted dictionary. The meaning of the homophonous word *migiwa* 水際, written with the character for *water* instead of the one to *see*, may however throw some light on its sense: "Miguiua. *Borda dapraya.*" Vocabvlario, fl.159v.; 「(水際(みぎわ)の意)陸地の、水に接する所。水のほとり。みずぎわ。」, Kojien, i.e. the border between water and land. Chūan may have used *migiwa* with the meaning of border of water and sky, i.e. horizon, and Genshō understanding its intention wrote the word with the character for *seeing*. From the context and from the definitions given below, it is evident that it may mean either "where sight reaches" or "the border where sight reaches," or both. *Hanten no migiwa* 半天の見際: horizon of the hemisphere.

[1102] *Sujichigai* 筋違: literally "different line."

[1103] For both axes to be in the visible hemisphere they have to be on the horizon.

[1104] In manuscript [A4[this sentence appears as 「當ノ筋ヲ越テ」, "Surmounting that line, …". This means, "going over to either side of that line."

[1105] See Figures 16 and 17. Clavius writes on this subject (p. 18): "Manifeste autem vides in sphæra recta axem mundi coincidere cũ Horizonte, cùm ab co non differat; ac proindèvtrumque polumin Horizonte iacere; In oblique verò axem mundi ab Horizonte differre, ac propterea vnum polum supra Horizontem esse exaltatum, alterum veró sub codem depressum." In a similar vein Pedro Gomez writes (fl. 7):

as [one's] place changes, just like the line of high noon. Though the horizon is not measured when [one] changes place the horizon also changes degree by degree. Replying to the question of what is the distance of one degree, [the reply is that] it is the distance of forty five *ri* according to itinerary measures. When seen according to the measure of the rotation of Heaven, the span of one rotation of the Sun from east to west is four minutes when the hour is divided into one hundred and twenty minutes.[1106] Therefore, one turn of the Heaven is three hundred and sixty degrees. As the Sun makes one turn in twelve hours, it rotates thirty degrees in one hour. [Therefore] one degree of its rotation is the space of four minutes of one hour. Consequently, to the question of what is the use of the horizon of the hemisphere [I reply the following]. First, as this line divides Heaven into equal parts, upper and lower, one can see half of Heaven with this. Second, with the horizon of the hemisphere one can measure and know the duration of day and night. This is a *principle* one should notice. Third, depending on the height of the southern and northern axes, which can be known from the horizon of the hemisphere[1107], one can know how far south or north that place is. Though the number of degrees is measured from the Line of Equal [Duration of Night and Day] and when the southern or northern axes are high, the degrees are measured from the horizon of the hemisphere.

Commentary. The above explanations by the Southern Barbarian scholar are like this. The horizon of the hemisphere is the border of the place that divides Earth from east and west, and from north and south. Getting out to a broad plain or fluctuating on the large sea, one sees Heaven and Earth spreading[1108] on the four directions. It is where Heaven touches Earth and where Earth touches Heaven, the place where the frontier between Heaven and Earth can be clearly distinguished. The places of Heaven that can be seen from this border up have one hundred and eighty

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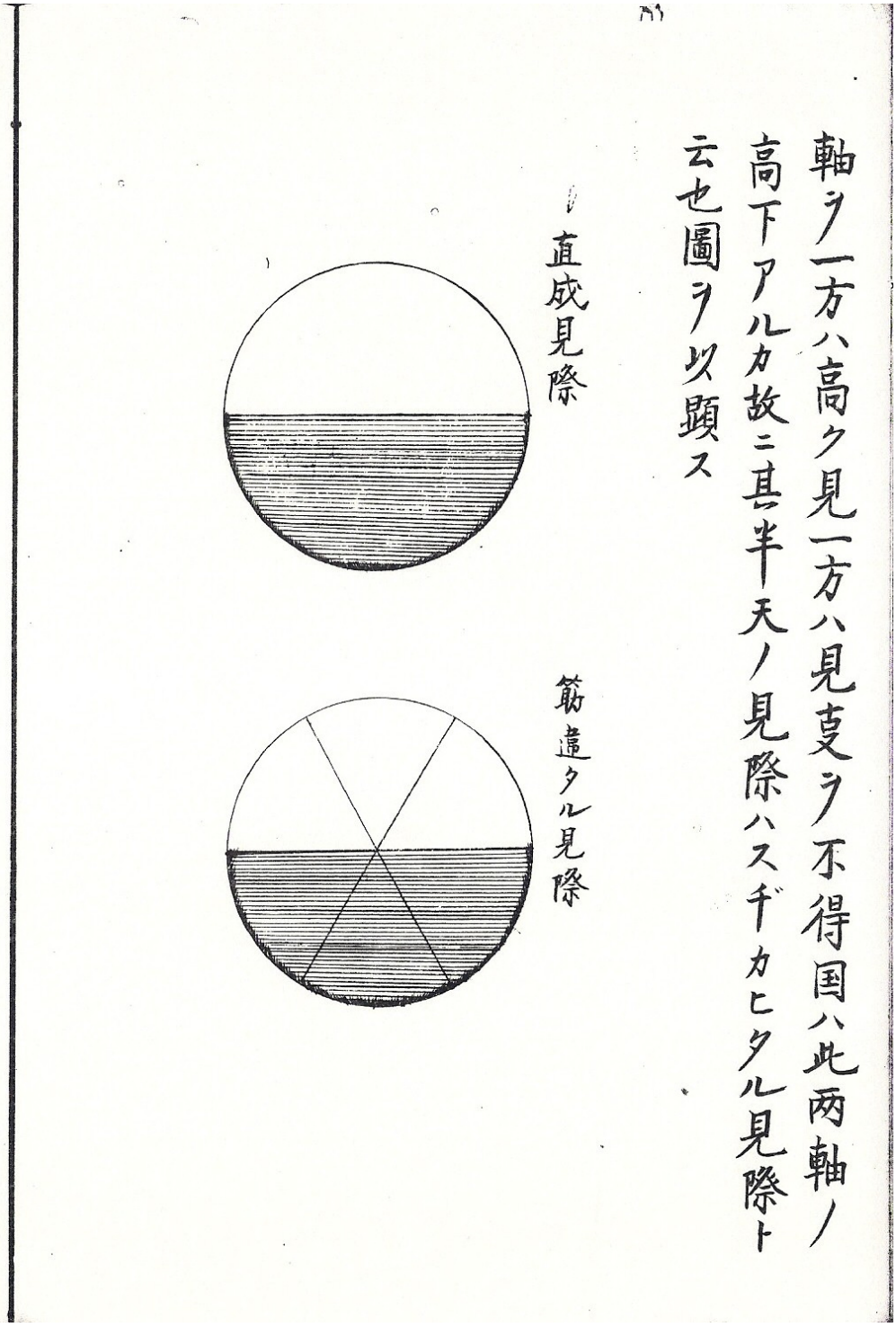
"Horizon duplex est, alter rectus, obliquus alter; rectum horizontem habent hi soli, qui lineam habent pro Zenith, scilicet supra caput suum, quia tunc horizon tangens duos polos mundi dividit aequinoctiam ad angulos rectos; ii vero, qui habent elevatum polum aliquem supra suum hemispherium, dicuntur habere obliquum horizontem."

[1106] One day has 1440 minutes. When this is divided by the 360 degrees it yields 4 minutes.

[1107] That is, it can be known through the measurement from the border of the visible hemisphere, i.e., the horizon.

[1108] *Hirabira* 平々: spreading ("Firabira *Adu. Vt.* Firabirato xitaru mono. *Cousa larga & estendida*." Vocabvlario, fl. 94v.).

degrees, and the Earth also has one hundred and eighty degrees. The places of Heaven that, being hidden by the Earth below, cannot be seen, also have one hundred and eighty degrees, and also has the Earth. Because Heaven has three hundred and sixty degrees, and because only one hundred and eighty degrees can be seen, this is called the horizon of the hemisphere.



Figures 16 and 17— The Horizon of Hemisphere the and the Straight Horizon

第十四　夏至冬至の筋之事

一、　右等分の筋より北へ向て、二十三度半に當て一筋あり、同く南へ向て二十三度半に當て又一筋あり、此兩筋日輪西より東へ逆旋するに、南北へよる境を知しめん爲也、其故は日輪南北へよるに、二十三度半より外によりのくと云ことなし、故に此兩筋夏至、冬至の筋と云也、北方の一筋は、午の宿の頭に當り、南方の一筋は、子の宿の頭にあたる也、日輪等分の筋を越し、北方に移て運行するに、午の宿に初て至る時に、北の地の爲に夏至也、夏至は則第一長き日也、又等分の筋をこし南方に移て廻るに、子の宿に初て至るとき、北方の爲に冬至なり、冬至は第一短き日也、然ば等分の筋より、南北共に二十三度半づゝ統て夏至冬至の兩筋の間は、四十七度の間也、此間を世界に於て道法に積るに、縦は天地の一回也、横は二千百十五里の間也、日輪三百六十度共に、此兩筋の間を不レ出して運行するが故に、炎天にして常に甚しき也、故に四季なし、此通の國々に住む人倫は、凡其色黑し、

辨説、右南蠻學士の説如レ是、異議有ることなし、

[Paragraph] 14—About the Lines of the Summer Solstice and of the Winter Solstice

Moving towards the north from the above mentioned Line of Equal [Duration of Day and Night[1109]], upon reaching twenty three and a half degrees there is a line[1110]. Similarly, moving towards the south, upon reaching twenty three and a half degrees there is also a line.[1111] These two lines allow us to know the frontier inclined from south to north where the Sun makes it retrograde movement from west to east. [The Sun] does not move more than these twenty three and a half degrees. Therefore these two lines are called the Lines of the Summer Solstice and of the Winter Solstice. The line towards the north reaches the head of the Mansion of the Horse. The line towards the south reaches the head of Mansion of the Rat. The Sun, [after] surmounting the Line of Equal [Duration of Day and Night], moves towards the north. When it first reaches the Mansion of the Horse it is the summer solstice in the northern regions. The summer solstice is the longest day. Again, [after] surmounting the Line of Equal [Duration of Day and Night], in its rotation towards the south, when it first reaches the Mansion of the Rat, it is the winter solstice for the northern region, which is the shortest day [of the year]. Therefore, from the Line of Equal [Duration of Day and Night], towards both south and north, there are twenty three and a half degrees in each direction, and the two Lines of the Summer Solstice and Winter Solstice have in all a distance [between them] of forty seven degrees. Estimating this distance in the World in itinerary measurements, vertically is one turn of Heaven and Earth, horizontally it is 2,115 *ri*.[1112] Because the Sun, in the three hundred and sixty degrees of its revolution, never leaves the space between these two lines, it is always a scorching Heaven [in this region]. Therefore there are no four seasons and the people of the countries [under] this route are black.

Commentary. The above explanations by the Southern Barbarian scholar are like this. There is nothing to say against [it].

[1109] The Equator.

[1110] The Tropic of Cancer.

[1111] The Tropic of Capricorn.

[1112] 27 degrees with each having 45 *ri* total 2,115 *ri*.

第十五　南筋北筋之事

一、　右夏至の筋より北方に向ひ、四十三度に當て北筋と云一筋あり、冬至の筋より南に向ひ、四十三度に當て南筋と云又一筋あり、然るに夏至、冬至の筋より、南筋、北筋兩筋迄四十三度の間は、千九百三十五里、寒熱温和にして四季あり、故に萬物の爲に最も宜しき處也、但北方の夏は南方冬也、南方の夏は北方の冬也、右南北兩筋より南北兩軸筋迄、兩方共に廿三度半宛の間也、日月星の逆道の軸は、此筋に當て有るもの也、故に彼逆道は一方は二十三度半北へ傾き、一方は廿三度半南へ傾くもの也、此軸は西より東へ動ずといへども、上十番の一天に隨順して、日々東西の一回をせしむ、然るに彼南筋、北筋兩筋は、此の兩軸の一回の界を知しめん爲也、此天の下四方へさし渡は、四千二百三十里が内なり、此兩筋までは晝夜十二時間也、是より南北へは日も長くつゞき、夜も長くつゞくもの也、南北ともに兩間は、日輪の逆道に遠くして、強にかたぶきて陽氣横行するが故に、常に嚴寒にして四季なし、

辨説、右南蠻學士の説如レ此、夫天の東西一回するに、北極、南極を天の樞紐として、晝夜左旋一回す、然るに日月星西より東へ逆回する故に、日は一晝夜に天の一度を行、月は十三度有奇を行、其道又東西の直道に非ず、赤道より二十三度半儒には二十四度と云、下同じ、北へより、又赤道より二十三度半南へよりて、赤道とすぢかひに右旋一回するもの也、故に日月の行は、南極、北極を以て樞紐とせず、別に又一樞軸あり、此一樞日月の行を守て不レ動といへども、北は北極を去ること二十三度半、南は南極を去ること又二十三度半、故に天運左旋に引れて、晝夜一回左旋せざることあたはず、此左旋の所を指て圖を作るもの、南筋、北筋と名付たり、北筋一回の北は北極の中央にして、四十七度の分にあたる國々は、凡そ半歳を以て晝とし、半歳を以て一夜とするもの也、南筋一回の南も同レ之、

[Paragraph] 15— The Southern Line and the Northern Line

From the above mentioned Line of the Summer Solstice towards the north, after moving forty three degrees, there is a line called the Northern Line. From the Line of the Winter Solstice towards the south, after moving forty three degrees, there is a line called the Southern Line. Therefore from the Line of Summer Solstice and the Line of Winter Solstice, to the two lines, the Southern Line and the Northern Line, there is a distance of forty three degrees, or 1,935 *ri*.[1113] [In these regions] there are four seasons and the winter is warm. Therefore it is the most appropriate place for the myriad things. It should be noticed that the northern summer is the southern winter, and that the southern summer is the northern winter. As said above, from the Southern and Northern Lines to the South and North Poles there is in both cases a distance of twenty three and a half degrees. The axis of the path of inverse rotation of the Sun, the Moon and the stars touches these lines. Therefore the path of inverse rotation, on one side, has a slant of twenty three and a half degrees to the north, and on the other side it has a slant of twenty three and a half degrees to the south. Though this axis does not move from west to east, it follows the highest Tenth Heaven and each day it makes one turn from east to west. Moreover, these two lines, the Southern Line and the Northern Line, allow us to know the separation of each turn of these two axes. {The four directions below this Heaven have 4,230 *ri* inside.}[1114] Up to these two lines there are twelve hours of day and night. From [these lines] to the south and to the north the day lasts for a long [time] and the night also lasts for a long [time]. The inverse path of the Sun is far away from these two spaces of the South and the North. Because the *solar vigour* has a strong slant and arrives sideways it is always extremely cold and there are no four seasons.

Commentary. The above explanations by the Southern Barbarian scholar are like this. The one turn of the Heaven from east to west made around the North Pole and the South Pole, which are the central parts[1115] of Heaven, is the turn made

[1113] 43 degrees with each having 45 *ri* total 1,935 *ri*.

[1114] 4 directions with 23,5 degrees with 45 *ri* total 4,230 *ri*.

[1115] *Sūchū* 樞紐: central part (「中心部。主要店。」, Nikkoku).

leftwards[1116] during night and day. In addition, as the Sun, the Moon, and the stars make the inverse rotation from west to east, the Sun moves in the Heaven one degree during one day and night, and the Moon moves thirteen degrees. Its path is not a straight path from east to west as it tilts twenty three and a half degrees to the north of the Red Way {Confucians say it is twenty four degrees; the same applies to what is said bellow}, and twenty three and a half degrees to the south of the Red Way, making one turn to the right with a slant [in relation] with the Red Way. Therefore the movement of the Sun and the Moon is not made around the South Pole and the North Pole as its central part. There is another central axis, and although this central [axis] does not move keeping the journey of the Sun and the Moon, to the north it is removed twenty three and a half degrees from the North Pole, and to the south it is removed twenty and three degrees and a half from the South Pole. Hence it is pulled by the leftwards movement of Heaven and does not correspond to the day and night leftward movement. To show this left circling a drawing is made and the names of Southern Line and Northern Line are attached.[1117] To the north of the circle of the Northern Line there is the North Pole at the Centre. The countries falling above forty seven degrees have a day that lasts for half year and a night that lasts for half year. To the south of the circle of the Southern Line it is the same.

[1116] Japanese and Chinese described the direction of celestial movements as *leftwards* or *rightwards* as if one was turned to the north. Southern Barbarian described them with the same words as if one was turned to the south.

[1117] The drawing here referred is the figure in Paragraph 8 above.

第十六　天を五筋に分つこと并春夏秋冬のある國々之事

一、　春夏秋冬の移り替り、寒熱温冷の遲速淺深は、皆以て日輪の南北へよりのく遠近にあるもの也、日輪よつてめぐる國は、陽氣不レ斜して甚しきが故に、煖氣勇悍也、故に其國熱くして夏也、日輪のきて廻る國は、陽氣斜にして微弱なるが故に、寒氣嚴寒也、故に其國寒くして冬也、日輪不斷頭上に近き國は、陽氣不レ斜故に其國は常に暑し、不斷頭上に遠き國は、陽氣斜なる故に常に嚴寒也、然るに何國に日輪の遠近有て、四季の轉變有や否やと云ことを辨別せんが爲に、天文學士の縦は東西、横は南北五筋に分つ也、此五筋の長短廣狹を見るに、東西縦はいづれも天地の一回也、南北の横は筋により各別の分量也、中の一筋の横は日夜等分の筋より、南北へ兩方共に二十三度半づゝ、總て四十七度の間、是則等分の筋より、夏至、冬至の兩筋の間也、此幅は世界に別ち、二千百十五里の間なり、日輪三百六十日共に、此筋の内を不レ出しなる處也、故に不斷暑くして四季なし、此筋の廣狹は、縦は世界の一回、横は二千里余なれば、其國數多也といへども、何れも煖國也、西天竺、中天竺、インデヤの國々、其外數多の國其内也、其國々に住む人倫は、凡そ其色黑し、右の筋より南北へ、兩方共に四十三度づゝの二筋あり、是則夏至、冬至の筋より、南筋、北筋までの間也、其廣狹は千九百三十五里づゝの間也、此南北共に兩筋の間は、寒熱温和にして、最も萬物に宜しき所也、日輪南北へよりのくを以て、此兩筋に春夏秋冬の四季を分つ也、但北方の夏は南方の冬、南方の夏は北方の冬也、其故は日輪日夜等分より北方に移りて、北方の六宿を運行するの間は、北方の爲に近き故に陽氣勇悍也、故に北の國は暑くして春夏也、南方の爲には遠き故に、陽氣斜にして厎弱也、故に南國は寒くして秋冬也、日輪秋分より南方に移て、南方の六宿を運行する間、南方の爲に近き故陽氣盛壯也、故に南の國温かにして春夏也、北方の爲に遠き故に陽氣微弱也、故に北の國は寒くして秋冬也、日本、大清、南蠻、其外数多の國此筋の内也、右南筋、北筋兩筋より南北の極めまで、横二十三度半づゝの又二筋あり、此幅は千五十七里半づゝ也、此南北共に兩筋は、日輪不斷遠くして、逆旋の

道強に傾くが故に、陽氣横行して微弱也、故に此兩間は常に嚴寒にして四季なし圖を以て顯す、

辨説、右南蠻學士の説如レ是、細説重複なりといへども、寒國、煖國の辨分明なり、異議あることなし、

乾坤辨説利卷終

[Paragraph] 16— About the Heaven Being Divided into Five Regions and About the Countries That Have Spring, Summer, Autumn and Winter

The changes between spring, summer, autumn and winter, the shallowness and deepness as well as the slowness and fastness of cold, hot, warm and cold are all due to the distance or proximity of the Sun towards the south or the north. In the countries the Sun gets close to in its rotation, because the *solar vigour* has no slant and is extremely strong the *vigour* of hotness is fierce. Therefore in those countries it becomes hot and it is summer. In the countries the Sun gets away from in its rotation, because the *solar vigour* has a slant and is weak the *vigour* of coldness is rigorously cold. Therefore in those countries it becomes cold and is winter. In the countries near where the Sun is above one's head without interruption, because the *solar vigour* has no slant, those countries are always hot. In the countries far away from where the Sun is without interruption above the head, because the *solar vigour* has a slant it is always very cold. However, in some countries the Sun may be near or far away. To determine if there are the changes of the four seasons or not, the astronomers divide [the Heaven and Earth] into five bands[1118] whose length is east westwards and whose width is south northwards. Let's consider now how long and short and how broad and thin they are: in their length east westwards they are all equal to one circle of Heaven and Earth; in their south northwards broadness there is difference in measure depending on the band. The broadness of the central band is from the Line of Equal [Duration] of Day and Night twenty three degrees and a half towards both south and north, a space totalling forty seven degrees. It extends from the Line of Equal [Duration of Day and Night] towards the two lines of Summer Solstice and Winter Solstice. This breadth divides the World, being 2,115 *ri* wide. The Sun never leaves from the inside of this band in all three hundred and sixty days.[1119] Hence it is always hot and it has not four seasons. Concerning the breadth of this band, its length is equal to the circle of the World and its breadth equals more than two thousand *ri*. Therefore it encompasses many countries, all

[1118] Literally "lines". The same character *suji* 筋 is used here as it was used for Line of Equal [Duration] of Day and Night 日夜等分の筋. As it would sound strange to call line to something that has breath, an exception is made here to the rule of using the same English word for the same character or group of characters, and *band*, a flat strip, is used instead.

[1119] Needless to say, this figure is not precise; it is just a convenient approximation.

of them hot countries: West India, East India, the countries of *India*, and besides these many other countries are inside this [band]. [1120] The humanity that lives in these countries is black. To the south and north of this band there are two bands each one with forty three degrees. Their space is from the Lines of the Summer Solstice and Winter Solstice to the Southern and Northern Lines. Their breadth is a space of 1,935 *ri* each. These two bands, both southern and northern, are temperate in coldness and hotness, being the most appropriate place for the myriad things. With the movement of the Sun towards the south and towards the north in these bands the four seasons of spring, summer, autumn and winter can be divided. However it should be noticed that the summer in the north is the winter in the south, and that the summer in the south is the winter in the north. Therefore, when the Sun moves to the north of the Line of Equal [Duration] of Day and Night, during the space [of time] of its revolution in the six northern Mansions, because it is near the northern regions the *solar vigour* is fierce. Hence in the northern countries it is hot and it is spring or summer. Because it is far from the southern [regions] the *solar vigour* has a slant and is very weak. Consequently, in the southern countries it is cold and it is autumn or winter. From the Autumn Equinox the Sun moves to the southern [regions]. During that space [of time] its revolution is in the six southern Mansions, and because it is near to the southern regions the *solar vigour* is strong. Therefore in the southern countries it is warm and it is spring or summer. Because it is far from the northern [regions] the *solar vigour* is weak. Therefore, in the southern countries it is cold and it is autumn or winter. Japan, China[1121], Southern Barbary and many other countries are on this band. From the Southern Line and the Northern Line towards the south and the north up to the poles there are two bands with a width of twenty three and a half degrees each. This is a breadth of 1,557 *ri* and a half each. In both of these bands, in the southern as well as in the northern, the Sun is always far away. Because there is a strong inclination to the Route of Inverse Rotation, the *solar vigour* arrives sideways and weakly. Therefore, in

[1120] *Indeya* インデヤ: India. It is curious that reference is made to three Indies: West and Central *Tenjiku* (written with *kanji*) and India (written with *kana*) with its many countries. This is also one piece of evidence that Genshō was being faithful to his vow of not changing one word of Chūan's text. Otherwise he would have avoided using the foreign word.

[1121] *Daishin* 大清: China, the Qīng dynasty (1644—1912). The usage of *Daishin* for China here may indicate that Sawano Chuwan wrote the basic text in 1644 or after. On the other hand it may have been the word that Genshō chose to use when transliterating Chūan's text.

these two bands it is always extremely cold and there are no four seasons. This is shown with a figure.[1122]

Commentary. The above explanations by the Southern Barbarian scholar are like this. Though it is a detailed and repetitive explanation, the division between cold countries and hot countries is clear and there is nothing to oppose to it.

[1122] See Figure 18.

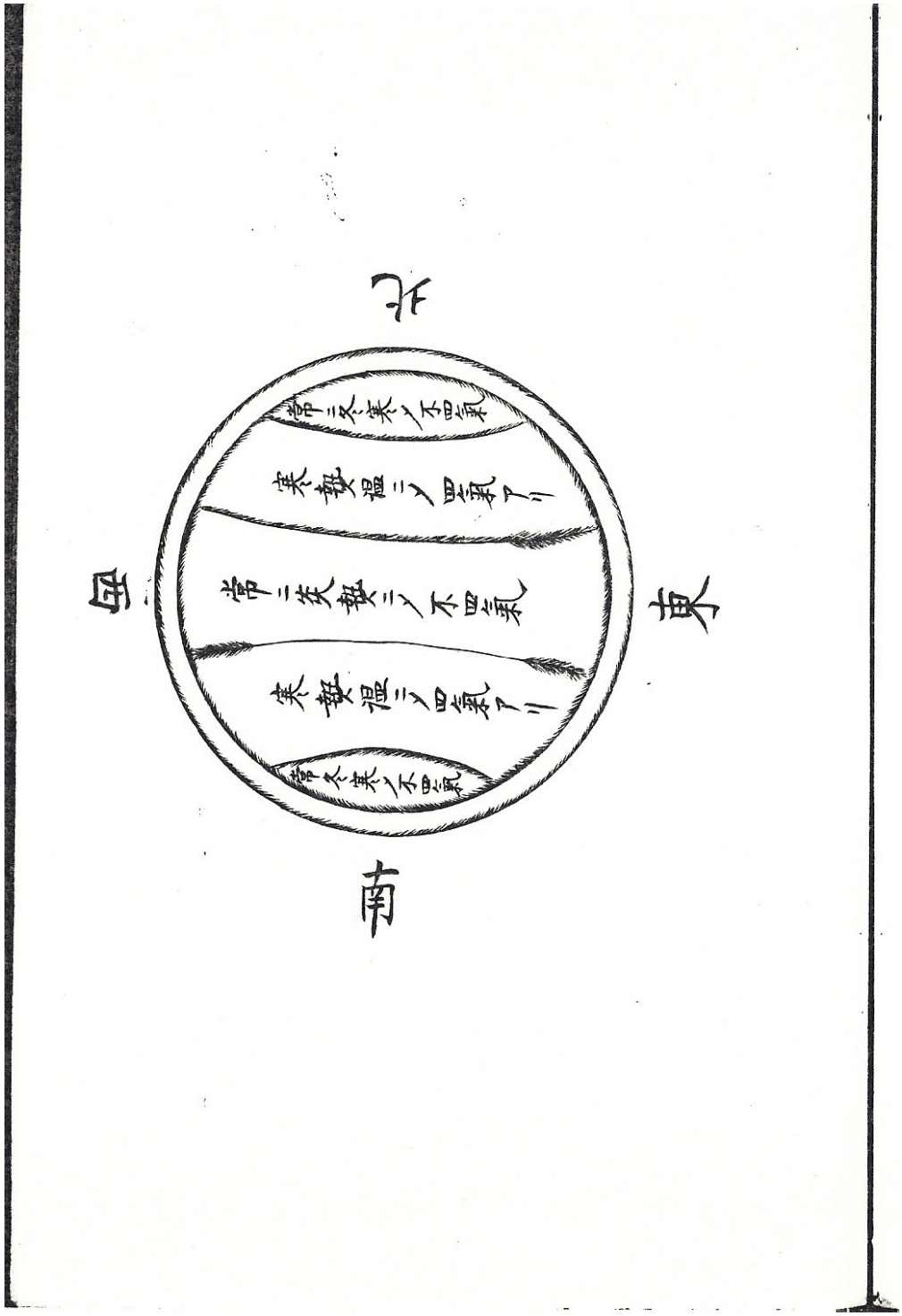


Figure 18 [No caption; the five regions]

Counter-clockwise from above around the circle: north, west, south and east. Inside the circle from above: always winter cold without four *vigours*; harmony between cold, hot, and warm so as to have four *vigours*; always extremely hot without four *vigours*; harmony between cold, hot, and warm so as to have four *vigours*; always winter cold without four *vigours*

End of the Third Volume of Explanations Concerning the Heavens and the Earth

乾坤辨説利巻（イ下巻の二）

第十七　日中割分之事

一、　日月星の循環するに、昔より今に至て遲速をたがへず、一様にめぐるが故に、天の循環を以て、時日割分、年月を定め四節を分ち、古と今をはかること諸國のならひ也、分を重て一時とし、時を重て一日となし、時を重て一月と號し、月を重て年とし、年を重て代とす、然に諸天日夜の間に、東西の一回をせしむるに、此一回の間を十二にわかちて、其一を一時とす、是則三十度をめぐる間也、其故は三百六十度の一回を、十二時に廻るに、三十度を廻る間は二時也、一時をば又百二十分に分ちて、一度をめぐる間を一時四分とす、時を重て十二時の一日とする也、然といへども一日と云は二ざまにあり、一つには日輪見ゑる半天をめぐる間を、一日と云也、是に夜を加へず、日光旦たに晝夜の際を出、夕に及んで西山に入までの間也、此一日は國により時節によつて、其の日の長短あり、二には日輪東西一回せしむる十二時の間を一日とす、是に夜を加へて、一日一夜也といへども、この晝夜を一日と云也、此一日は常に十二時の間なるが故に、國々所々何れの四節にも長短あることなし、然るに此晝夜の一日は、何れの時より初り、何時に終るぞと云に、其定多し、日輪旦たに晝夜の際を出る時を日の初として、次の日の同じ晝夜の際を出る迄を、一日とする國もあり、或は入日を以て日の初として、次の日の入までを一日と定る國もあり、又は子の刻を以て其日の初め、次の子の刻迄を一日と定る國もある也、是日輪子刻より其國へ近寄が故に、最ことはり也、天文學者は午の刻を日の初と用るもの也、

辨説、右南蠻學士の説如レ此、日本、大唐には十二時を一日と云、時は子の時を一日の初とす、晝夜を分て一日と云時は、寅の時を一日の初とす、寅は晝の初め、子は十二時の初なれば、一日の陽氣子の時より地中に動じて升て、寅の時に至て地上に發上する、誠に一時（カ日）の初を生發、此二時に初る也、南蠻天文午の時を以て一日の初とすることあやまれり、一日の分を以て云へば、午は日中にて暮に向ふ初也、十二時

を以て云へば、午は陰氣の初る時にて、一日の終りに向ふ初なり、たとへば十あるものをかぞふるに、一日（イナシ）よりかぞへ初めずして、五つよりかぞへ初るが如し、一年の義を以て云へば、子は十一月、寅は正月、午は五月也、子は一年の陽氣の初る月なる故に、周代には十一月を年の初とす、寅は春初なる故に、夏代には正月を年の初とす、今の年の初め是也、一日の初を子にし、或は寅に定むるも此意也、然るに五月に一年の半也、午の時は一日の半也、南蠻學徒一年を論ずる時は、春分を年の初とす、春分は卯の月二月也、初春に非ずと云ども、猶春を以て年の初とする時は、萬物生成の初を一年の初とする故に、あやまりすくなし、午の時を以て一日の初とすることは、五月を一年の初とするに同じ、一日の日切の初を初とせずして、反て終とすること、あやまりに非ずや、只南蠻學は斗計を以て影をうつし東西に日影の斜なく、正中直影なる時を以て、日の初とするの工夫也、是天道を論ずるに非ずして、人作によるもの也、君子詳レ之、

Fourth Volume

[Paragraph] 17— About the Division of Day and Night

The revolution that the Sun, the Moon and the Stars perform has not changed in speed from old times until now. Therefore, to measure the past and the present all countries learn how to divide days and hours, how to determine years and months and how to separate the four seasons with the revolution of the Heavens. Adding minutes [they] make one hour, adding hours [they] make one day, adding hours [they] call it one month,[1123] joining months [they] make years, and joining years [they] make ages.[1124] On the other hand, the several Heavens make one turn from east to west in the space of [one] day and night. The interval of one of these turns is divided into twelve [smaller units,] and each [of these] is made to be one hour, which is the interval of a rotation of thirty degrees. Therefore, as the three hundred and sixty degrees of one turn is circled during twelve hours, the interval of circling thirty degrees is two hours.[1125] If one hour is divided again into one hundred and twenty minutes the interval of circling one degree is the time of four minutes. Adding the time of twelve hours makes one day. However there are two types of days. First, to the interval of the Sun's observed rotation in the hemisphere it is called one day. To this the night is not added; [therefore] it is the interval between [the moment] the light of the Sun leaves the Border of Day and Night and [the moment the Sun] enters in the western mountains causing night. Then the length or shortness of one of these days depends on the country and the season. Second, one day is made to be the interval of twelve hours that it takes the Sun to make one turn from east to west. To this the night is added, and therefore, though it is one day and one

[1123] It seems as if a step was overlooked here as the day is a natural division between the hour and the month.

[1124] Gomez, in Book 1, Chapter 4 " De dierum et mensium et annorum periodis eorumque varietate" writes that "[…] observantes iuxta eorum varietatem tempus etiam naturale in dies, menses, annos, et saecula dividerent, [...]"

[1125] This must be a mistake. In the previous sentences Chūan had just said that thirty degrees correspond to one hour, and he is about to define in the next sentence an hour as having one hundred twenty minutes. It should be borne in mind that Chūan was using here the Japanese hour, corresponding to two European hours.

night, what is called one day is the [interval of] daytime and night[-time][1126]. Because this day has always the interval of twelve hours, in all countries and in all places, and also in all the four seasons there is no long or short [in the duration of one day]. However, there are many definitions concerning the hour one day [made up] of day time and night[-time] begins, and the hour it ends. There are countries that make the day begin at the hour when the Sun leaves the frontier of daytime and night[-time] and make one day last to the same [time when the Sun] leaves the frontier of daytime and night[-time] in the following day. Alternatively there are also countries that define one day from its beginning when the Sun enters [the western mountains] to the following day when the Sun enters [the western mountains at sunset]. Again, there are also countries that define one day as beginning at the hour of the Rat [and to last] till the hour of the Rat of the following day.[1127] Because from the time of the Rat the Sun draws near to that country, this is the best way [to define the beginning of a day]. Astronomers use the Hour of the Horse as the beginning of the day.[1128]

Commentary. The above explanations by the Southern Barbarian scholar are like this. Japan and China call one day to the twelve hours and make the hour of the Rat the beginning of one day. When daytime and night[-time] are divided and it is considered that they make one day, the Hour of the Tiger is made to be the beginning of one day.[1129] If Tiger is the beginning of day and Rat is the beginning of the twelve hours, the *solar vigour* of one day moves and rises inside the Earth from the Hour of the Rat, and upon reaching the Hour of the Tiger, it expands above the Earth. Truly the beginning of one day is the onset and this begins in the second hour.[1130] The Southern Barbarian astronomers, by using the Hour of the Horse as the beginning of the day, are making a mistake. If we were to divide the day, the [Hour of the] Horse is the middle of the day and it is the beginning of the movement

[1126] Here Chūan chooses a different word for day: *hiru* 晝, daytime, when there is Sun-light, instead of *hi* 日, the twelve hours of day and night. For night-time no such differentiation is made.

[1127] The Hour of the Rat is from 11 p.m. to 1 a.m., or midnight.

[1128] The Hour of the Horse is from 11 a.m. to 1 p.m. High noon falls in the middle of this one hour period.

[1129] The Hour of the Tiger is from 3 a.m to 5 a.m.

[1130] As it is referring to the *solar vigour*, this passage most probably means that this *vigour* begins its diurnal increase at the deepest hour of the night and starts to be felt in the second hour, just before sunrise. See the continuation of Genshō's explanation.

towards darkness. Speaking about the twelve hours, [the Hour of] the Horse is the time of the beginning of the *telluric vigour*, as it is the beginning of the movement towards the end of the day. For example, when counting ten things, it is the same to begin counting from the first or to begin counting with the fifth.[1131] Speaking about the meaning of one year, the Rat is the Eleventh Month, the Tiger is the First Month, and the Horse is the Fifth Month.[1132] Rat is the month of the year when the *solar vigour* begins. Therefore during the Dynasty of the Shū[1133] the year was made to begin in the Eleventh Month, and in the Dynasty of the Ka[1134] the year was made to begin in the First Month, which is currently the beginning of the year.[1135]

[1131] This is the translation of the reading in manuscript (i). The translation of manuscript (a) would be: "For example, when counting ten things, it is the same to begin counting from the first day or to begin counting with the fifth."

[1132] It should be kept in mind that the First Month does not correspond to January, or the Fifth to May, etc. The Rat corresponds to the Winter Solstice and the Horse to the Summer Solstice. For the correspondence between months in the Japanese calendar and months in the western calendar see José Miguel Pinto dos Santos, "Ieyasu (1542-1616) Versus Ieyasu (1543-1616): Calendrical Conversion Tables for the 16th and 17th Centuries", *Bulletin of Portuguese-Japanese Studies*, vol. 5, 2002, pp. 9-26.

[1133] Zhou in Chinese. Chinese historians consider two different periods, the Western Zhou 西周 (1122?—770 B.C.) and the Eastern Zhou 東周 (770—256B.C). See Fairbank, Reischauer and Craig, *op. cit*., pp. 17-54. It could not be determined which period Genshō was referring to.

[1134] Xia 夏 in Chinese, the first Chinese dynasty, in power from from 1989? to 1523? B.C.

[1135] Notice that the Ka were previous to the Shū.

第十八　日夜長短の事

一、　國により時節によつて、日夜の長短あること目前也と云ども、今其理を論ずるに、日輪上十番の一天に隨順して、十二時に東西の一回をせしむ、子の宿の初より午の宿まで廻る間は、百八十二日半、午の宿より子宿なで、又百八十二日半、總て三百六十五日の間也、此日々の一回を一日一夜と云ふ也、一日の一回二に分ちて、朝東天の見際を出で、夕西天の見際に入まで、半天をめぐる間を晝とし、西天の見際に入り、又東天の見際を出るまで、下に隠れて見へざる半天をめぐる間を夜とする也、故に日輪朝夕晝夜の界を出ざる前にも、夕べの界に入てもしばらく光有と云とも、其間を夜の内とする也、然により上へに見ゆる半天の運行する間は、長き時は日長くして夜短し、其間短き時は日短くして夜長し、此長短をはかる權衡は、半天の見際也、其故は半天の見際は、日輪の十二時の一回を晝夜に分ちぬれば、當分にわかつ時は、晝の間は六時、夜の間も又六時なるが故に、其時日夜等分也、等分にわかたずして、一方は長く一方は短くわかつときは、日夜の長短あり、されば右に云如く、半天の見際は、或は直なる見際、或はすぢかひたる見際也、是を以て日夜の長短（イをはかつて見るに、すぐなる見際の國は日夜の長短なくアリ）あり、一年ともに日夜等分也、其故は直なる見際は、等分の筋を頭上に見、南北の兩筋を見と不レ見との半天の界にして、日輪の日々の東西の一回を等分にわかつ也、故に日輪何れの宿に有ても、上に見ゆる半天を行る其間は六宿◎時カ也、隠れて見へざる下の半天を運行する其間も、又六時なれば、其國々常に日夜等分也、等分の節（イ筋）より南北へ三十四度隔りたる國々も、其見際直なる故に如レ是、是を以て見れば、すぢかひたる見際の國は、等分の節（イ筋）より遠のきたりといへども、日輪等分の筋にいたる時、日夜等分也、其凡そ春分と秋分との時等（イ節）也、其故はすぢかひたる見際は、南北へかたぶきたる故、等分の筋を等分にわかつが故に、日夜等分也、彼筋より南北へよるに隨て、逆旋の道南北にかたぶきたる故に、或は下は短くして上は長く、或は下は長くして上は短きが故に、すぢかひたる見際、日々の日輪の一回を等分にわかつことなし、故にすぢかひたる國、見際の國は、春分の日夜等分

の兩日より外、日夜等分有ことなし、常に日夜長短あり、雖レ然すぢかひたる見際の國とても、其日夜の長短はいづくも同じからず、等分の筋より遠のき、南北の軸高あ（イな）るに隨て、逆旋の道も半天の見際もすぢかふ故に、日輪見ゑ（イゆ）る半天を行る間の長短あり、故に其國南北によるに隨て、日夜の長短不同なり、たとへば三十一度北へよりたる國の夏至の日は、晝は七時夜は五時也、四十一度よりたる國は、晝は七時半夜は四時半也、他準レ之、右のごとく天の圖に（イは）目前見へたり、南北の軸を頭上に見る、南筋北筋より内の方に有國には、晝も長くつゞき、夜も長くつゞくといへども、つゞく長短も軸の遠近によるもの也、たとへば六十七度北へよりたる國には、二十二日夜なくして晝也、八十度よりたる國は、百三十四日晝つゞき、九十度よりたる國は、軸を頭上に見るが故に、百八十七日晝つゞき、夜と云ことなし、其故は右に云如く、いづくに居ても半天は、見際より上に見へ、半天は下に隠るゝ也、然るに北軸を頭上に見るものは、等分の筋を半天の見際にする故に、等分の筋より北の方にある六宿はいつもあらはれ、南方にある六宿はいつもかくれて行る也、然るときんば日輪北方の六宿を行る間は、北國のために隠無して晝也、是則半天にして百八十七日の間也、南方六宿はかくれて見へざる半天にあるが故に、彼六宿をめぐる間は見ゑ（イゆ）ることなく、北方の爲に夜也、北軸を頭上に見ず、わきへのきたる國は、のく度の遠近に隨て、十二宿内不斷見る宿もあり、不斷見ざる宿もある也、たとへば、等分の筋より、六十九度半北へよりたる國より、巳午の兩宿は殘りなく見ゆといへども、亥子の兩宿を見ることなし、故に日輪彼巳午の兩宿を運行する間は、夜はなくして晝也、亥子わ行る間は晝なくして夜也、他宿を行る間は、其遠近に隨て日夜の長短あり、算勘を以て知レ之、十二宿はいづれも同く、一宿ごとに三十度也といへども、日輪北方の六宿を運行する間は百八十七日三時に及び、南方の六宿を運轉する間は、百七十八日也、故に北方の軸の下なる國には、夜なくして日のつゞくこと、百八十七日三時にして、夜のつゞくこと百七十八夜なり、南方の軸の下なる國には、夜長くして日のつゞくこと百七十八日にして、夜のつゞくこと百八十七夜三時也、此ちがひの故を下に至て具に論ずべし、南北の軸の下になる國國は、常に暗夜に非ず、初の四五十日の間は、日の體を見ずとも、日輪の行る處なを見際に近きが故に、余光四方に滿て、たそがれ時の如く成て、終

に闇夜に成也、又半天の見際より、日いまだ出ざる四五十日前よりも、夜の明けたるが如くあかるくあるもの也、總じて日輪東の見際を出ざる十五度程前より、日の光四方にさしわたり、又入日の後も十五度過ぎる間は、其光あるもの也、

辨説、右南蠻學士の説如レ是、日夜長短あること、國により南北のかわり有こと、論辨最詳也、儒家、暦家説、布（マヽ）を（イて）如レ是つくすべからず、

[Paragraph] 18— About the Length of Day and Night

It is evident that there is a difference in the duration of day and night depending on the country and depending on the season. Arguing now about that *principle*, the Sun, following the Tenth Heaven above makes one turn from east to west in twelve hours. The interval of the rotation beginning from the Mansion of the Rat and going up to the Mansion of the Horse [is] one hundred and eighty two and a half days, and from the Mansion of the Horse going up to the mansion of the Rat is again one hundred and eighty two and a half days, making an interval with a total of three hundred and sixty five days. One turning of these days is called one day and one night. The turning of one day is divided into two parts: the interval of [the Sun] turning the hemisphere is called daytime, [which is from] the morning when it leaves the horizon of the eastern Heaven until evening when it enters the horizon of the western Heaven; the interval of turning in the hemisphere that is hidden below and is not seen is made to be night[-time] and is [from] its entrance in the horizon of the western Heaven until it leaves the horizon of the eastern Heaven. Moreover, there is light in the morning and in the evening before the Sun leaves the frontier between daytime and night[-time][1136] and [also] a little while after entering the frontier of the evening, but that duration is made to be inside the night. Furthermore, when the interval [during which the Sun] makes its revolution in the hemisphere that can be seen above is long the day is long and the night is short, and when that interval is short the day is short and the night is long. The instrument[1137] to measure this length and shortness is the horizon of the hemisphere. This is because the horizon of the hemisphere divides the twelve hours of the turn of the Sun in daytime and night[-time]. If it divides them into equal parts[1138] the interval of daytime is six hours and the duration of night[-time] is also six hours. At that time the day and the night are equal. When it is not divided into equal parts, and it is divided so that one part

[1136] It would seem that it is only to the morning that "before the Sun leaves the frontier between day and night" can be properly applied.

[1137] *Ken-kō* 權衡: balance, instrument to weigh (「(はかりのおもりとさお、すなわちはかりの意から) つりあい。平均。」, Kojien; "balance, equilibrium," Nelson).

[1138] Thought in this sentence *tōbun* is written as 當分, meaning "for the present," or "for a while," this must be a confusion with the homophonous word 等分 meaning "equally divided" which is used in the following sentence.

is long and the other is short, there is long and short in day and night. In this case, as said above, either there is a straight horizon, or a latitude horizon. When the length and shortness of day and night (are measured in the countries with straight horizon) there is (no) long or short in day or night and [during] all year the day and night are equal. The reason for this is that in the straight horizon the Line of Equal [Duration of Day and Night] is seen above one's head and the two Poles, South and North, can be seen in the frontier of the hemisphere[1139] and one turn of the Sun from east to west is equally divided everyday. Therefore, whatever Mansion the Sun might be in, the interval of its movement in the hemisphere that can be seen above is six hours.[1140] If the interval of the revolution in the hidden hemisphere that cannot be seen is also 6 hours, in those countries the day and night are always equal[ly divided]. The countries that are up to thirty four degrees south or north from the Line of Equal [Duration of Day and Night] also have a straight horizon and therefore it is similar [to what has just been said]. In the countries with latitude horizon, although they are far away from the Line of Equal [Duration of Day and Night], at the time the Sun is in the Line of Equal [Duration of Day and Night] the day and night are of equal duration. This is at the time of the Spring Equinox and the Autumn Equinox. The reason for this is that as the Latitude Horizon leans toward the south or [towards] the north the Line of Equal [Duration of Day and Night] is divided in two and the day and night are of equal duration. As one gets away from this Line either towards the south or the north, the way of inverse rotation leans towards the south or [towards] the north. Then either below it is short and above it is long, or below it is long and above it is short, and the latitude horizon and the daily turning of the Sun are not equally divided. Therefore the countries of latitude, the countries of horizon,[1141] except for the two days of equal [duration] of day and night of Spring and Autumn do not have equal duration of day and night and there is always short and long in these days and nights. Moreover, in the countries with latitude horizon, the length and shortness of day and night are not always the same. The furthest away [they are] from the Line of Equal [Duration of Day and Night], and as the

[1139] *Hanten no sakai* 半天の界, frontier of the hemisphere, is a different expression used here to designate horizon of the hemisphere.

[1140] The editor of Bunmei that here it might be *hour* 時 instead of *Mansion* 宿. In manuscript [A4] it is written *Mansion*.

[1141] This differentiation between *countries of latitude* and *countries of horizon* may be a lapse. The intended meaning may have been simply *the countries of latitude horizon*.

southern [or] northern axes get higher, the Way of Inverse Rotation and also the horizon of the hemisphere [depend on] the latitude. Therefore, depending on [how] south or north that country is, there is inequality in the short and long of day and night. For example, in the day of Summer Solstice in the countries towards thirty one degrees north latitude the daytime is seven hours and the night[-time] is five hours. In the countries towards forty degrees, the daytime is seven and a half hours and the night[-time] four and a half hours, and similarly for the other [latitudes]. The above can be seen easily in the diagram of Heaven. In the countries where the South [or] North Pole can be seen above [one's] head, in the countries inside the region of the Southern Line [or] the Northern Line, daytime lasts long and night[-time] also lasts long. [Their] length depends on the distance to the axis. For example, in the countries towards sixty seven degrees north it is daytime during twenty two days and nights. In countries towards eighty degrees daytime lasts for one hundred and thirty seven days, and in countries towards the ninety degrees, because the axis is seen above [one's] head, there is no night, the reason being as above. In whatever place one may be, [one] hemisphere is seen above the horizon [and another] hemisphere is hidden below. Moreover, to see the North Pole above one's head is to make the Line of Equal [Duration of Day and Night] the horizon of the Hemisphere. Therefore the six Mansions to the north of the Line of Equal [Duration of Day and Night] always appear and the six Mansions to the south are always hidden. Moreover as the Sun moves through the space of the six northern Mansions, in the northern countries it is never hidden and it is always daytime. Consequently this happens during one hundred and eighty seven days in [this] hemisphere. Because the six hidden Mansions to the south are in the hemisphere that cannot be seen, while [the Sun] is rotating in these six Mansions it is not seen, and in the northern region it is night. When the North Pole cannot be seen above [one's] head, in the countries to the [northern] edge, according to the degree of proximity to the edge, there are Mansions that can be seen without interruption and Mansions that cannot ever be seen. For example, in the countries that are sixty nine and a half degrees north from the Line of Equal [Duration of Day and Night], although they can see without cease the two Mansions of the Snake and the Horse, they cannot see the two Mansions of the Boar and the Rat. Therefore in the interval the Sun makes during its revolution in the two Mansions of the Snake and the Horse it is daytime without night[-time], and in the interval of the movement in the Boar and the Rat it is night[-time] without daytime. During the interval it moves in the other Mansions, according to its distance there is

long and short in day and night which can be known through calculations. The twelve Mansions are all similar, each Mansion having thirty degrees. The interval of the revolution of the Sun through the six northern Mansions is one hundred and eighty seven days and three hours. The interval of its drive through the six southern Mansions is one hundred and seventy eight days. Hence in the countries [in the region] below the North Pole there is no night and the day continues during one hundred and eighty seven days and three hours, and the night is one that continues for one hundred and seventy eight nights. In the countries [in the region] below the South Pole, the night is long and the day continues for one hundred and seventy eight degrees and the night continues for one hundred and eighty seven days and three hours. The reason for this difference is discussed concretely below. The countries below the South and North Poles are not always [under the] darkness of night. During the space of the first forty, fifty days the substance of the Sun is not seen. Hoverer, because the Sun moves through places near the horizon its glow fills the four directions and it becomes like twilight[1142] and in the end there is the darkness of night. Forty, fifty days before, while the Sun has not yet left from the horizon of the hemisphere, it is like dawn. In general, fifteen or so degrees before the Sun leaves from the eastern horizon, the light of the Sun fills the four directions. Also, in the interval after the Sun has set and for more those fifteen degrees afterwards its light continues [to be seen].

Commentary. The above explanations by the Southern Barbarian scholar are like this. The explanation concerning the shortness and length in day and night is most detailed. Confucians and Calendar Makers should exhaust [knowledge] like this.

[1142] *Tasogare* たそがれ: twilight ("Tasocare doqi. *Entre lusco, & fusco da noite*." Vocabvlario, fl. 242).

第十九　日夜長短の次第之事

一、　右に如レ云日夜の長短、其國等分の筋より遠のき、南北へよるに隨て不同成故に、等分の筋より北へよる國々の、第一長日の彼筋よりのく度に隨て是を見るに、先一度を六十分にわり、一時をば百二十分にわかつ也、

辨説、右南蠻學士の説如レ是、其云、一度を六十度にわかつと云こと、傳寫のあやまり可レ成、第十三半天見際の篇、第十七日月刻分の篇に、皆云、一時を百二十分にして、一度行る間は四分也と、一度を四分とする時は、一時に百二十分成こと明也、一時の間に三十度を行る故也、一時を百二十分とする時は、一日の運行は一千四百四十分也、日法と可レ云、倭漢暦家の説には、九百四十分を日法とす、是は日行一日の一度の處を指て云也、黄道右旋の分數を云也、蠻學は十二時に東西左旋一回す（イの）分數を云也、故に不同あり、

[Paragraph] 19— About the Order in the Length of Day and Night

As said above, the length and shortness of day and night [depends] on the distance of a country to the Line of Equal [Duration of Day and Night]. The more [a country is] to the South or to the North the more unequal [the day and night] are. The more the countries are to the North of the Line of Equal [Duration of Day and Night], and according to the degrees they lean away from this Line of the Longest Day[1143], the more visible this is. Before one degree was divided into sixty minutes, and one hour into one hundred and twenty minutes.

Commentary. The above explanations by the Southern Barbarian scholar are like this. He says that one degree is divided into sixty degrees, what is possibly a transcription error.[1144] In Paragraph 13 "About the Horizon of the Hemisphere," and in Paragraph 17 "About the Division of Day and Night," he makes one hour one hundred and twenty minutes and the space of the movement for one degree four minutes. When one degree is made to be four minutes, [the fact] that one hour becomes one hundred and twenty minutes is evident. This is because the movement [by the Sun] of thirty degrees has the duration of one hour. When one hour is made to be one hundred and twenty minutes, the revolution of one day is one thousand four hundred and forty minutes. This is a possible day measurement. In the theory of the Japanese and Chinese Calendar makers nine hundred and forty minutes is made to be the day measurement, this showing the place of one degree of the movement of the Sun [during] one day. This is the number of minutes of the right rotation of the Yellow Way. The Barbarian Learning says this one turn of the left East-West rotation is a fraction of the twelve hours. Therefore the difference.

[1143] *Dai-ichi nagaihi no suji* 第一長日の筋: Line of the Longest Day. This is the only place this expressions appears in the *Kenkon Bensetsu*.

[1144] In the text attributed to Chūan it is actually said that "one degree was divided into sixty minutes." Therefore Genshō probably corrected this transcription error, but faithfully recorded it in the commentary.

第二十　年月之事

一、　日輪日々の東西へ一回を、一日一夜とすること、諸国を差別なしと云へども、年月を定むること諸国同じからず、月の盈虧を以て、年月を定る道やすきが故に、月の循環の道として、年月を定る國多し、然と云へども四季の節々、日夜の長短、寒熱温冷の遅速等、皆以て日輪の循環に有が故に、日輪の循環を以て、年月を定る國も多し、されば日の行を以て定る處を云に、日天は餘天にたがはず、東より西へ十二時の間に一回せしむるといへども、此行ぐるは自己の回りに非ず、上十番の一天に隨順して廻也、己がめぐりは西より東へ、十二宿を運行する回逆也、此回逆の道を三百六十度にわかつに、日輪一日一夜に、凡そ一度を運行すといへども、一度を滿ざるが故に、一回の間を日輪の一年とする也、然るに日輪は一年の間に、逆旋一回をせしむるに、十二宿を運行するが故に、彼一回の間を十二に分ちて、其一を日輪の一回とし、一年は十二月なり、此十二月の内七ヶ月を大にして、其一月の日數は三十一日也、四ヶ月を小にして、其一月の日數は三十日也、今一月は廿八日に定め、總じて三百六十五日也、（イ餘る三時を四年つもりて三四の十二時として、一日の閏を二十八日の月に加へ、其年は二十九日の月也、然といへ共逆旋の一回の間を具に考ふるに、三百六十五日アリ）三時廿一分不足也、是わづかなる差なりといへども、積もて見るに四百年に及ては、凡そ3日ちがふもの也、日輪の年月は如レ此、月の年月と云は、月の天も餘の天にたがわず、上十番の一天に順じて、日夜十二時に東西の一回をせしむるといへども、西より東へ自己の逆旋の一回をなすこと、餘天よりもすみやかにして、一日に凡そ九つ十三度行り、十二宿を二十七日四時に一回する也、たとへば今日の卯の宿の初めより行り初て、是より廿七日四時程に及で、又本の卯の初に行りかへる也、然といへども此一回の間を一ヶ月とせず、月と日と運行し、會合して重なるを朔日とし、日月互に其間遠く成て、對向するを十五夜の滿月となし、又、會合して重るまでの間を一ヶ月とする也、故に月十二宿を一回せしむる間を、一ヶ月とはせずして、一回の上に日輪に追付重るを加へて、一ヶ月とする也、たとへば卯の初に日月相かさなりて朔日となり、夫より廿七日四時に、本の卯の初に月は行るといへども、其廿七日四時の間に、日輪

は廿七度あまり先たちたるが故に、月の日輪に追付こと、未二日あまり也、故に二十九日六時の間に、本の如く日月運行して、相重るを一ヶ月とするもの也、然るに一ヶ月は二十九日にあまり、卅日にたらざるが故に、月の大小には小を廿九日にし、大をば卅日と定る也、されば右日輪の一年の間に、日月十二度相重り、十二度正對して十二月と成也、此十二月を月の一年として、其日數は三百五十四日也、是廿九日六時を十二重すれば、總て三百五十四日也、然るに日輪の一年は三百六十五日餘なれば、月の一年は日輪の一年に十一日不足なるが故に、日輪の逆回につもり合て、四季の節々に異なからしめんが爲に、十一日を三つ重ねて、三年に一度閏月を加へて、其年を十三月に用ても、未だ三日餘る也、

辨説、右南蠻學士の説如レ是、蠻人は春分の日を以て、歳旦元日と定め、夏至を四月朔日に定め、秋分を七月朔日とし、冬至を十月朔日として、三百六十五ヶ日を一年とす、日行一周天の數を盡すを以て、一年の終りとす、萬物生成の歳功なることなれば、儒家、暦家にも又是を一歳とす、蠻學も又あやまりなし、但蠻學は是を十二ヶ月の法に立て、俗間にも用レ之、日月晦朔を以て十二ヶ月を立ず、故に蠻俗は月を見ても、今月幾日の影と云ことを不レ知、只學者のみ知レ之、儒家、暦家、には、日月晦朔を以て十二ヶ月を定め、世間に用る故に、婦人小兒下賤の者と云へども、月を見て今月幾日の影とし、君子小人ともに知レ之、蠻人の學者獨知りて、民間に不レ知にははるかにまされり、蠻人には三百六十五ヶ日を一年とする故、是を十二月に分て、大の月は三十一日にして七ヶ月あり、小の月は三十日にして四ヶ月有り、外に又一ヶ月有り、此月を廿八日にして、共に三百六十五ヶ日也、儒家、暦家には、日月晦朔を以て一ヶ月とする故に、大の月は三十日にして六ヶ月あり、小の月は廿九日にして又六ヶ月有り、共に三百五十四ヶ日也、一周天の日數に比すれば、十一日餘分有、此餘分を三年積て閏月を置て、四時の節に應じ行く也、然れども猶三日の餘分有り、積て十九年にして餘分なし、是を一章と云也、爰に至て世界の暦法一致に歸すべし、

[Paragraph] 20— About Years and Months

The turn from east to west the Sun makes every day is one day and one night, and [concerning it] there is no difference between the countries. In determining the year and the month there is no similitude between the countries. Because the way to determine year and month is easy through the Full and New Moon, numerous countries use the revolutions of the Moon to determine year and month. However, because the times of the seasons, the length and shortness of day and night, the slowness and rapidity of cold and hot, and of warm and cool, as all of these [depend] on the revolutions of the Sun, numerous countries also use the revolutions of the Sun to determine year and month. If we now speak of the definition [of year and month] by the movement of the Sun, although the Heaven of the Sun, as well as the other Heavens, completes a revolution from east to west in twelve hours, the revolution is not a proper movement but it is a rotation made following the Tenth Heaven above. The circling done by itself is from West to East, and it is the inverse turning[1145] of the revolution through the Twelve Mansions. This Way of Inverse Turning is divided into three hundred and sixty degrees. The Sun makes one revolution in one day and one night, but because it does not fulfill one degree [in that daily revolution], the interval of one turn is made in one year of the Sun. Therefore, the Sun in order to make one inverse rotation during the interval of one year has to make a revolution of the Twelve Mansions. Dividing the interval of this turning into twelve, [each] one being made by one turn of the Sun, [then] one year becomes twelve months. Amongst these twelve months seven are large and the number of days of each of these is thirty one days. Four months are made small and the number of days of these is thirty days. Now one month is determined to be twenty eight days, [making] three hundred and sixty five days on the whole. {As the remaining three hours during four years make twelve hours, one lap day[1146] is added to the month of twenty eight days, which becomes that year a month of

[1145] *Kaigyaku* 回逆: inverse turning. A word not listed in any dictionary and that appears only twice in this paragraph and in the whole *Kenkon Bensetsu*. It is probably a mis-ordering of the two characters that compose it.

[1146] *Urū* 閏: lap; usually lap month, in this case lap day. The Vocabvlario, fl. 288v. gives the following definition: "Vruzzuqi. *Hũa lũa, ou mes que acrescentão os Iapoens de tres ẽtres annos, & esses anno tẽ 13. Lũas, ou meses*." Later, when the Svpplemento to the Vocabvlario was written, it was thought necessary to complement the above definition of *urū* given according to the Japanese calendar with the

twenty eight days. Moreover to think concretely about the space of one inverse rotation [it is] three hundred and sixty five days,} three hours and twenty one minutes lacking. Although this is a small difference, when accumulated during four hundred years, it produces a disparity of about three days. The months of a Solar Year[1147] are as they were explained just above. The month of a Lunar Year[1148] is the following. The Heaven of the Moon not differing from the remaining Heavens follows the Tenth Heaven above to make one turn from East to West in the twelve hours of day and night. The turning of the inverse rotation from West to East being faster than that of the remaining Heavens, it moves about nine thirteen degrees in one day,[1149] making one turn of the Twelve Mansions in twenty seven days and four hours. For example if it begins today moving from the beginning of the Mansion of the Hare, after about twenty seven days and four hours its movement returns to the original beginning of the Hare. However the interval of this turn does not make one month. [When in their] revolution the Moon and the Sun overlap in conjunction [that] is made to be the First Day [of the month]. As the Sun and the Moon get farther away from each other they make opposition in the Full Moon of the Fifteenth Night. The interval until they overlap again in conjunction is made to be one month. Therefore, the interval of one turn of the Moon through the Twelve Mansions is not made to be one month, but one month is made when on the top of one turn is added [the interval necessary] to reach and overlap with the Sun. For example in the beginning of Hare the Sun and the Moon overlap and it becomes the First Day. Though the Moon [then] moves to the original beginning of the Hare after twenty seven days and four hours, because during the interval of those twenty seven days and four hours the Sun moves ahead some twenty seven degrees, it takes around a further two days for the Moon to catch up with the Sun. Therefore in the space of twenty nine days and six hours the revolutions of the Sun and the Moon return to the original [position where] they overlap and this is made to be one month. Consequently in one month

following one: "Vrù. i. Vrŭzzuqi. *Mes que se acrescenta de tres em tres annos*." Vocabvlario, fl. 391. Also：「季節と暦月とを調節するため、平年より余分にもうけた暦日・暦月。地球が太陽を 1 週するのは 365 日 5 時 48 分 46 秒だから、その端数を積んで、太陽暦では 4 年に 1 回、2 月の日数を 29 日とし、太陰暦では, 平均を 354 日と定めているから、適当な割合で 1 年を 13 ヶ月とする」, Kojien.

[1147] Literally, "year of the Sun."

[1148] Literally, "year of the Moon."

[1149] Manuscript [A4], which writes 「一日に凡十三度行り、」 seems to be a better reading: "it moves about thirteen degrees in one day."

[there are] twenty nine and something days, which because they do not reach thirty days it is determined that there are large and small months, the small with twenty nine days and the large with thirty days.[1150]Given the above, as during one Solar Year the Sun and the Moon overlap twelve times, and make perfect opposition twelve times there are twelve months. Twelve of these months make one lunar year whose number of days is three hundred and fifty four days. If twenty nine days and six hours are multiplied by twelve it totals three hundred and fifty four days. Therefore, as one solar year has three hundred and sixty five days and something, one lunar year has eleven days less than a solar year. As the inverse rotation of the Sun accumulates and to ensure that the times of the seasons do not become different, eleven days are thrice accumulated and [every] three years one lap month is added. That year has thirteen months, and three days remaining.

Commentary. The above explanations by the Southern Barbarian scholar are like this. The Barbarians define the Spring Equinox to be the First Day of the New Year; define the Summer Solstice to be the First Day of the Fourth Month; determine the Autumn Equinox to be the First Day of the Seventh Month; make the Winter Solstice to be the First Day of the Tenth Month; make three hundred sixty five days one year; make the end of the year with the exhaustion of the number [of days] of one turn in Heaven by the movement of the Sun. If it is a matter of proper times[1151] for the production of the myriad things, Confucians and Calendar Makers also make this [their] year. There is no error in the Barbarian Learning. With the proviso that the Barbarian Learning set up this rule of twelve months, made ordinary people use it, [even though] with the First Day and the Last Day of Sun and Moon the twelve months [of the Solar Year] cannot be determined. Therefore, Barbarian common people, even if they see the Moon they do not know what month's and what day's its silhouette is and only scholars know it. Confucians and Calendar Makers with the First Day and the Last Day of Sun and Moon determine the twelve months [of the Lunar Year] which can be used by common people, by wives and by children, even by the low and base, who seeing the Moon know what month's and

[1150] Gomez, in Chapter 4, paragraph 3 presents also the Solar and the Lunar Years.

[1151] *Saikō* 歳功: proper times (「①一年の時が順序正しくなっていること。また、それによって万物が正しく生成すること。②農事。また、その収穫。」, Nikkoku). The Nikkoku presents this sentence of the *Kenkon Bensetsu* as an example of usage of this word.

what day's its silhouette is, this being known by both sovereign and lowly, what is much better than the Barbarians' [calendar] which is only known by scholars and it is not known by the people. Because the Barbarians make three hundred and sixty five days one year, dividing it into twelve months the large months have thirty one days and are seven, the small months have thirty days and are four, and there is another month, a month with twenty eight days, what altogether is three hundred and sixty five days. Because Confucians and Calendar Makers determine the month with the First Day and the Last Day of Sun and Moon the large months have thirty days and are six months, the small months have twenty nine days and are six months totaling three hundred and fifty four days. Comparing with the number of days of one circle of Heaven there are eleven days in excess. This excess is accumulated in three years and a lap month is placed so that the times of the four periods[1152] move appropriately. However, there are still three days in excess, which accumulated at the end of nineteen years, there remains no excess, this being one cycle.[1153] Coming to this point the calendar making of the [countries of the] World should return to uniformity.

[1152] *Yoji* 四時: another, less common, expression for four seasons.

[1153] *Isshō* 一章: one cycle, the Metonic Cycle (「②太陰暦で太陽暦とのずれを調整するために必要な一周期。十九か年」, Nikkoku).

第廿一 月輪に自己の光耀なき事

一、　日月の蝕する所を知ん爲に、光明の本源又は日月の大小を辨明すること專一也、されば日輪の體は總て光の本也、月輪衆星は自己の光耀なく、其體剛嚴にして透徹せざるが故に、日光を受てとゞめて以て照す物也、たとへば日光鏡に移りて、鏡光環當して照すが如し、月を見るに、日に向たる方より外に光耀有ることなし、故に日輪の對不對に隨て、盈虧ある物也、是月は自己の光耀なく、日輪の陽光を受て以て照す故也、此理を云に、上十番の一天に順じて、内の九天共に、一日一夜に東西の一回をせしむると云ども、彼の十番の一天を遠のく天程、西より東へ逆回すること速にして、下成天は上の天にをくるゝが故に、下より一番の月の天は、四番の日の天に一時の内四分程をくれ、一日夜に凡て十二度をくるゝ也、故に月に増減有る物也、其故は朔日には日月重りて、月は日の正中に有て、日光月のうらを照と云へども、月の面に當てず、故に其下くらし、二日三日弓張月の比より、上十五日の間は、月の天日の天に漸々にをくれ、月輪日の後にのき、遠く成に隨て日に向ふが故に、日光月のうらをはづれて月面を照す也、故に十五日迄は、西の方より其光耀次第に増物也、十五日には月の天日の天六時程をくれ、月と日と對面するが故に、光明圓滿也、十五日よりは月の天日の天にをくれければ、月輪次第に日に近付、月は下に日は上に、又漸々に重るに隨て、日光西の方より月の面をはづれて裏を照す也、故に下成面は、西の方より漸々に光かけて、終には日月の重る時、月はうらに日光をうくと云へども、面に受ざるが故に、晦日朔日には月の體を見ることなし、右を以て見るに、月は自己の光耀なく、日の光耀を受て以てかゞやくと云ことと明也、

辨説、右南蠻學士の説如レ是、儒家、暦家皆云、月本光なし、銀丸の如し、日光を受て光あり、星も又同じ、今詳にするに、南蠻學家の説あやまりなし、

[Paragraph] 21— About the Moon Having no Proper Light

In order to know the places of the eclipses of the Sun and the Moon it is very important to make clear the source of light and the largeness and smallness of Sun and Moon. Therefore this being the case the substance of the Sun is the source of all light. The Moon and the stars do not have their own light. Because their substance is extremely hard and clear, upon receiving the light of the Sun, they shine. For example, as the light of the Sun is reflected by a mirror and makes the mirror shine, when [one] looks at the Moon, besides the [side] turned towards the Sun there is no other light. Therefore, depending on the Sun being in opposition or not in opposition there is Full Moon or New Moon. This is because it has not its own light but upon receiving the light from the Sun it shines. Let's expound this *principle*. Following the Tenth Heaven above, the interior nine Heavens make one rotation from East to West during one day and one night. The Heavens farthest away from this Tenth Heaven make the fastest inverse rotation from West to East. Because the Heaven below gets behind the Heaven above, the Heaven of the Moon, which is the first Heaven from below, gets behind the Heaven of the Sun, which is the fourth, by about four minutes for each hour, getting behind about twelve degrees in one day and night.[1154] Therefore there is waxing and waning in the Moon. Consequently, in the First Day [of the month] the Sun and the Moon overlap. The Moon being in the exact centre of the Sun, the Sunlight shines on the back of the Moon[1155] and does not hit the face of the Moon[1156], and therefore it is dark below it. From the waxing crescent[1157] of the Second Day and Third Day and in the proportion to the interval up to the Fifteenth Day, the Heaven of the Moon gradually gets behind the Heaven of the Sun and the Moon is left behind the Sun. As [the Moon] gets farther away it faces the Sun, and the sunlight failing to reach the back of the Moon shines on the face of the Moon. Therefore, until the Fifteenth Day that light gradually

[1154] As the Sun moves one degree per day in its inverse rotation path, and the Moon thirteen degrees per day, the Moon gets behind the Sun by about twelve degrees per day.

[1155] This is the Far Side.

[1156] This refers to the visible face of the Moon.

[1157] *Yumiharizuki* 弓張月: waxing crescent ("Yumifarizzuqi. *Lũa de tres, ou quarto dias*." Vocabvlario, fl.326; 「①弓の弦を張ったような形をしている月。上弦・下弦の月をいう。弦月」, Kojien).

increases from the West.[1158] On the Fifteenth Day, the Heaven of the Moon is behind the Heaven of the Sun by six hours and because the Sun and the Moon are in opposition the circle [of the Moon] is full of bright clarity. From the Fifteenth Day, the more the Heaven of the Moon gets behind the Heaven of the Sun, the more the Moon gradually approaches the Sun. Again, gradually they [start to] overlap, the Moon below and the Sun above. The light of the Sun [coming] from the West misses the face of the Moon and glows on its back. Therefore, the face below gradually loses light from the West and in the end when the Sun and the Moon overlap. Because the back of the Moon receives the light of the Sun and its face does not, in the Last Day and First Day [of the month] the substance of the Moon is not seen. As can be seen above, the Moon has no light, and it is clear that it shines by receiving the light of the Sun.

Commentary. The above explanations by the Southern Barbarian scholar are like this. Confucians, Calendar Makers, all of them say that the Moon has not its own light, but just like a mirror[1159] has light by receiving the sunlight. With the stars is the same. As was explained now in the theory of the Southern Barbarian Scholars there is no error.

[1158] As the Moon goes from waxing crescent to first quarter to waxing gibbous to full moon the Moon appears to be moving from the West to the East.

[1159] *Gingan* 銀丸 (literally: round silver) is a word that does not appear in any consulted dictionary. *Kingan* 金丸 (literally: round gold) is a classical and uncommon name for Moon. As mirrors were frequently made of silver and usually had a round shape, our guess is that this word means "mirror."

第二十二　日月大小之事

一、　日月の大小を云に、此地より見る時は、圓相小に見へて、日も月も同じ程に見るといへども、日の體は世界よりも廣大なるもの也、世界は日輪よりもほそしといへども、月よりは大き成もの也、是を徵するに、光る體と影をさす體の大小をくらべはかるに、光る體よりも影をさす體大きなる時は、さす處の陰はいづくまでもなく、漸々に末ひろく成もの也、是光る體小なる時は、影さす體の半分の内照す故也、光る體と陰さす體と同じほど成時は、さす所の陰は其體の廣さに、いづくまでともなくさすもの也、光る體よりも陰さす體小なるときは、其陰漸々にほそく成て、終にはなくなるもの也、是光る體の大きなる時は、陰さす體を過半に照すもの也、是を以てみれば、日輪は世界よりも遙に廣大也と知れたり、其故は日輪よりも世界大きなるに於ては、世界の陰漸々に末廣く成て、何迄もさすべし、然れば八番の天に備る星辰日輪と正對する時節、其星辰世界の陰にさゑられて何二蝕す一、同五番六番七番の天に具はる熒惑星、歲成、鎭星、日輪に正對に時、其中間に隔る故に可二蝕す一、然ども八番天にある星辰は云に不レ及、右三天の星も、昔より今に至る迄蝕する例なし、若又日輪と世界と同じ程ならば、世界の陰世界の廣さに、何國迄もなくさすべし、然れば星辰右の如く蝕するべきに、終に例なきことなれば、畢竟は日輪よりも世界遙に小成る故に、世界の陰漸々に未ほそくなり、終には其限り有て、右の三星まで不レ及が故に、三星も諸星も蝕すると云ことなし、故に此地より日輪を見るに、其圓相微小に見ゆといへども、其體は世界よりはるかに廣大也、微小に見ることは、其天誠に以て高遠懸隔なる故也、月の圓相は日輪と同じ程に見ゆといへども、世界よりも遙に小成もの也、其故は右に云如し、世界の陰は漸々に細くなり、間遠くなるほどせばしといへども、月の蝕する時節、全體のこらず世界の陰にさへられて、加レ之久く日光を受ずして蝕すること有り、是世界の陰よりも小きなれば也、此世界を以て日輪に比すれば、世界は已に遙に小なるに、月は世界より小成時は、日輪に對しては月は彌々小成こと明白也、然るに此地より日月を同程に見ことは、兩天の遠近有故也、日輪は其圓相廣

大也と云へども、其天高遠懸隔なるが故に小に見へ、月は日輪よりも遙に小也と云へども、其天近き故に日輪と同じ程に見ゆるもの也、

辨説、右南蠻學士の説如レ是、今詳レ之、儒家、暦家の説に、日は大に月は小に、日は上に月は下に、日は外に月は内に、日は遠く月は近して云説有り、然れども其詳明成こと、蠻説の能く盡したるに如ず、蠻學は只能物を以て比す、例を考へ證を引て其説詳也、故に其理有に似たり、但是形器の上に付て方比して人に示す、凡俗安心眼（イ服）可レ愼物也、右論中に光體と陰さす體の大小に付て、陰の義を論ずること詳也と云へども、猶不レ盡の處あり、學者詳レ之、蠻學の工夫此上なき物也、

[Paragraph] 22— About the Dimensions of the Sun and the Moon

We now speak about the dimensions of the Sun and the Moon. When seen from this Earth the Sun and the Moon are seen as being of about the same [size], and although they are seen as round and small the substance of the Sun, is larger than that of the World. Although the World is thinner than the Sun it is larger than the Moon. To systematize these [facts] together, [let us see how] to measure and compare the substance that shines to the substance that shadows. When the substance that shines is larger than the substance that shadows, the shadow[1160] does not continue without end but gradually comes to an end. When the substance that shines is smaller, less than half the substance that shadows shines. When the substance that shines is about the same size as the substance that shadows, the shadow continues without end with the [same] broadness as that substance [that shadows]. When the substance that shadows is smaller than the substance that shines its shadow gradually becomes narrower and in the end it disappears. When the substance that shines is larger the substance that shadows more than half[1161] of the substance that shadows shines. By seeing this it can be known that the Sun is much larger than the World. The reason for this is that if the World was larger than the Sun the shadow of the Earth would gradually become broader to the end, and would thrust without end. Therefore at the times when the stars placed in the Eight Heaven are in opposition to the Sun, those stars should be eclipsed by the shadow of the World. In a similar way, when Mars, Jupiter and Saturn placed in the Fifth, Sixth, and Seventh Heavens are in opposition to the Sun because they are in the middle they should be eclipsed. But like the stars in the Eight Heaven these three stars have not been

[1160] In this paragraph the word shadow appears frequently. Although in the first two instances the character used for *kage*, *shadow*, is 影, in this third instance it is 陰, which is also read *kage* but is more well known as the *in* of *in-yō* (yin-yang). Afterwards the first character is used again intermittently with the second, and from the middle of the paragraph the scribe settles for using the second. In a previous version of this translation, to make clear this difference in characters in the original Japanese, the two different English words *shade* and *shadow* were used. Here, however, we opt for using the same word: *shadow* as the intended meaning is certainly the same irrespective of which of the two characters was used. It should also be noticed that here we are also departing from our convention of using one same English word for a Japanese word related to science or philosophy. This is the unique instance that *telluric* would not do; furthermore it should be taken into consideration that 陰 is not being used as the word *in* (notice that in this paragraph it is not ever used in contrast to *yō*, not even in the commentaries) but as the word *kage*.

[1161] *Kahan* 過半: more than half (「半分より多いこと。半数より上。おおかた。」, Kojien).

eclipsed from old times until the present. Again, if the World was about the same [size] as the Sun, the shadow of the World would have the same broadness as the World and should cover until the last region[1162] [of Heaven] and consequently the stars should be eclipsed as above. In the end if there are no examples [of stars being eclipsed] the World must be after all smaller than the Sun. The shadow of the World gradually becomes narrower and in the end it has a limit that does not reach the above [mentioned] three stars, and the three stars and the several stars cannot be said to be eclipsed. Therefore, although when seen from this Earth the Sun is seen as a small circle, its substance is much larger than the World. It is seen as small because its Heaven is truly very high and far away. The circle of the Moon, though seen as being of about the same [size] as the Sun, is much smaller than the World. The shadow of the World gradually becomes narrower, and though it becomes narrower for a long[1163] space, when it eclipses the Moon, its whole substance, without anything left, is covered by the shadow of the World. Moreover, it happens that it is eclipsed for a long time without receiving the light of the Sun, what shows that it is smaller than the shadow of the World. When the World is compared with the Sun the World is much smaller than it, and when the Moon is smaller than the World, it becomes clear that compared with the Sun the Moon is exceedingly small. Therefore, that the Sun and the Moon are seen with about the same [size] is because the two Heavens are far away and nearby. Although the circle of the Sun is very large, because its Heaven is far above in the high it is seen as small. Though the Moon is much smaller than the Sun, because its Heaven is near, it is seen of about the same [size] as the Sun.

Commentary. The above explanations by the Southern Barbarian scholar are like this. This is [a] detailed [explanation]. In the theories of Confucians and Calendar Makers there is the theory that the Sun is large and the Moon small, the Sun is above and the Moon is below, the Sun is outside and the Moon is inside, and the Sun is far away and the Moon is nearby. Moreover it is detailed and clear, but is does not reach the Barbarian theory which completely exhausts [the matter].

[1162] Here the word *kuni* 國, or *country*, is used to designate region and we translate accordingly, noticing however the peculiar usage of *country* do designate far away regions in the Heavens. One of the meanings of *kuni* is in fact *region* (「⑧地方。田舎。また、地域。」, Kojien), though usually a terrestrial region.

[1163] Literally, "for a far away space."

Barbarian Learning skillfully brings and compares things, thinks of examples and pulls out proofs to make its theory detailed. Therefore it seems that it has *principle* but it is a comparison about forms to show to the people; as the common people easily believe it circumspection should be exercised. In the discussion above about large and small in the Substance of Light and in the Substance That Shadows, although the discussion about the meaning of shadow is detailed, there are places where it is not exhausted. Scholars have detailed knowledge [of these maters], and above these devices of Barbarian Learning there is nothing.

第二十三　日月蝕之事

一、　右に云如日輪は、西より東へ逆旋するに、逆道之宿筋を一分も横行することなし、月は逆道の總筋をば循行すと云へども、宿筋をすぐに行ずして、二十九日半の間に十二宿を一回せしむるに、必宿筋を二度すぢかひに行通る也、此蝕筋を月の越筋に日輪回り（イ同く）廻る也、月は下日は上に重複する時節、月輪日光を裏にうけて、以て下へ下すことなし、故に月の正下に有國々には日蝕する物也、此は朔日也、是日月朔日に重なれば也、月蝕は月と日と蝕筋の辻にて正對する時節、地大其中間に隔碍して陰と成が故に、月もとより自己の光耀なければ、地大の陰にさへられて日光を受ず、故に蝕する物也、此比は十五六日也、是日月十五日に正對すれば也、難じて曰、朔日毎に日月重複すと云へども日蝕なく、十五夜毎に對向すと云へども、月蝕なきは何ぞや、日月は朔日毎に必同じ宿にて重ると云へども、右蝕筋の辻にて逢こと、朔日毎になきが故に、日蝕することなし、十五日毎に日月對向すること無が故に、月蝕することなし、蝕筋の辻にて行り逢時は、必蝕する物也、日月ともに或は全體不レ殘蝕し、或は十分にたらず蝕することは、月の體少もかたよらずして、蝕筋の辻に當て日と重る時は、日輪全體蝕し、月かたよりたる時は、日蝕十分にたらず、月のかたよりたるに隨て、日蝕の多少有、日月蝕筋の辻に在て正對する時は、月輪全體蝕し、月かたよりたる時は、月蝕十分に不レ足、かたよりたるに隨て月蝕の多少有り、又難曰、日蝕、月蝕ともに國によつて見へ、國によつて不レ見ことは何ぞや、日月ともに蝕することは、蝕筋の辻にて重るが故に、正對する時節なれば、國によつて日輪の晝夜の界を出ざる前に、日蝕すること有り、故に其國の者は、日蝕を見ることを得ず、國によつて月の出ざる前に月蝕することあり、故に其國のものは月蝕をみること不レ能也、猶此正理を云に、月蝕は必世界の半分より見る物也、其故は日月正對する時、地體其中間に隔碍して、月は自己の光耀なければ、地體のかげにさへられて、日光に移らざるが故に蝕する物也、故に月を見程の國は、月蝕を見るもの也、月の體は則世界の半分より見るもの也、是何國に居ても天の半分を見れば也、然により見ゆる半天の見際を、月の出ざる前に月蝕する時は、見ゆる半天の國の者は、月蝕を見

ること不レ能也、日蝕の見へ不レ見も是謂也、雖レ然日輪を世界の半天より見ると云へども、日蝕は世界の半分より見ることなし、其故は日輪は蝕するに光耀をかくるに非ず、月にさへられて下なる國を照さゞる也、故に月の正下に有處の國は日蝕し、月の正下にあらざる國は日蝕有ことなし、月は日輪に比しては云に不レ及、世界よりもはるかに小なるが故に、月の正下なる國は、世界は(イナシ)半分に不レ足もの也、

辨説、右南蠻學士の説如レ是、今詳レ之あやまり有ることなし、儒家暦家の説同じ、但月蝕の義、蠻説最細也、

[Paragraph] 23— About Solar and Lunar Eclipses

According to what was said above, as the Sun makes an inverse rotation from West to East it does not move even one minute away from the Line of the Mansions of the Way of Inverse [Rotation]. Though the Moon wheels through the general line of the Way of Inverse [Rotation], it does not move straight in the Line of the Mansions. During the twenty nine days and a half it takes to make one turn of the Twelve Mansions, it always deviates two degrees from the Line of the Mansions. The Sun also turns in this Line of Eclipses. When the Moon below and the Sun above overlap, the Moon receives the light of the Sun in its back, which cannot go down anymore, and in the countries that are directly below the Moon there is a Solar Eclipse. This is in a New Moon[1164]. This happens in the New Moon if the Sun and the Moon overlap. The Lunar Eclipses happen when the Moon and the Sun in the crossroads of the Line of Eclipses are in opposition. Because the element earth is in the middle point and thus by its interposition creates a shadow, and as the Moon has no light of its own and is covered by the shadow of element earth, it does not receive the light of the Sun and therefore it is eclipsed. This happens on the Fifteenth or Sixteenth Day. This happens if in the Fifteenth Day the Sun and the Moon are in perfect opposition. Against this it asked why is it that although every New Moon the Sun and the Moon overlap, there isn't a solar eclipse? And why it is that every Fifteenth Night there is opposition but there isn't a Lunar Eclipse? Though the Sun and the Moon invariably overlap in the same Mansion every New Moon,[1165] when they meet at the crossroads of the above [mentioned] Line of Eclipses, because it is not on every New Moon, there is no Solar Eclipse. Because the Sun and the Moon are not in opposition every Fifteenth Day there is no Lunar Eclipse. When [they met] at the crossroads of the Line of Eclipses there certainly is an Eclipse. The Sun and the Moon are eclipsed either totally and completely or are eclipsed partially. When the substance of the Moon is without any deviation at the crossroads of the Line of the Eclipses and overlaps with the Sun there is a total eclipse of the Sun.

[1164] Because the Japanese used a Luni-Solar calendar the same word, *tsuitachi* 朔日, meant both the *First Day of the Month* and the *new moon*. Chūan clearly meant here new moon. But by using *tsutachi*, was incurring the risk that his readers interpreted it as First Day.

[1165] This must be a mistake, as every successive new moon should take place in the adjoining constellation.

When the Moon deviates somewhat, there is a partial Solar Eclipse. The more the Moon deviates the smaller is the Solar Eclipse. When the Sun and the Moon are at the crossroads of the Line of the Eclipses and in perfect opposition there is a total Lunar Eclipse. When the Moon deviates somewhat, there is a partial Lunar Eclipse. The more the Moon deviates, the smaller the Lunar Eclipse. Against this it is asked why is it that the Solar Eclipses and the Lunar Eclipses are seen or not depending on the country [where someone is]? For the Sun or the Moon to be eclipsed, because they have to overlap on the crossroads of the Line of Eclipses, if it is at the time of opposition, depending on the country it may be before the Sun has left the border of daytime and night[-time] that the Solar Eclipse takes place. Therefore the people of those countries cannot see the solar eclipse. Depending on the country, it may be before the Moon has left [from below the horizon] that the Lunar Eclipse takes place. Hence it is impossible for the persons of that country to see the Lunar Eclipse. To state right *principle* now, the Lunar Eclipse is always seen from half of the World because when the Sun and the Moon are in opposition, the substance of the Earth is in the middle point and makes an interposition, and if the Moon has not its own light, being covered by the substance of the Earth the light of the Sun does not pass and there is an eclipse. Therefore all countries that can see the Moon see the Lunar Eclipse. The substance of the Moon is always seen from half of the World. In all countries where one may be a hemisphere can be seen. This way, if the eclipse takes place before the Moon leaves from the observable horizon of the hemisphere, the people of the countries of the observable hemisphere cannot see the Lunar Eclipse. Concerning the Solar Eclipse being observable or not observable the same can also be said. However, though the Sun is seen in the hemisphere of the World, the solar eclipse is not seen from half the World. The reason is that as the Sun is eclipsed the light is not hidden, but it does not shine on the countries that are directly below the Moon. Therefore, in the places directly below the Moon there is Solar Eclipse, and in the countries that are not directly below the Moon there is no Solar Eclipse. Because the Moon cannot be compared with the Sun and is much smaller than the World, the countries directly below the Moon do not make half the World.

Commentary. The above explanations by the Southern Barbarian scholar are like this. This is a detailed [explanation] and there is no error in it. The theories of Confucians and Calendar Makers are the same. With the proviso that the Barbarian theories are the most detailed.

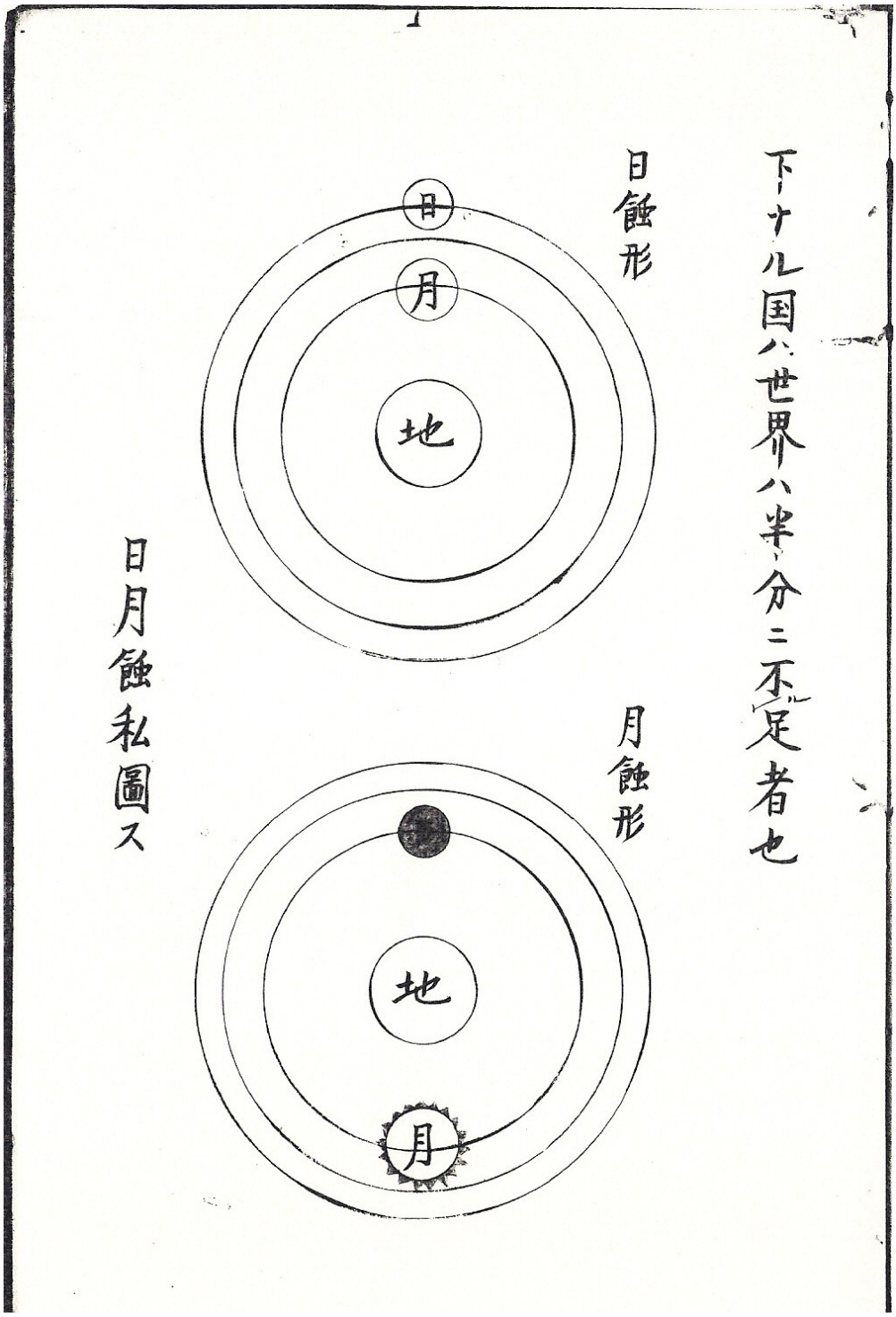


Figure 19—Solar and Lunar Eclipses

Above: Solar Eclipse: Earth in the inner circle; Moon in the next circle and Sun in the outer circle.

Below: Lunar Eclipse: Earth in the inner circle, Moon in the inner circle (below) and blackened circle, certainly representing the Sun also in the inner circle (above); this last circle should have been placed in the outer circle.

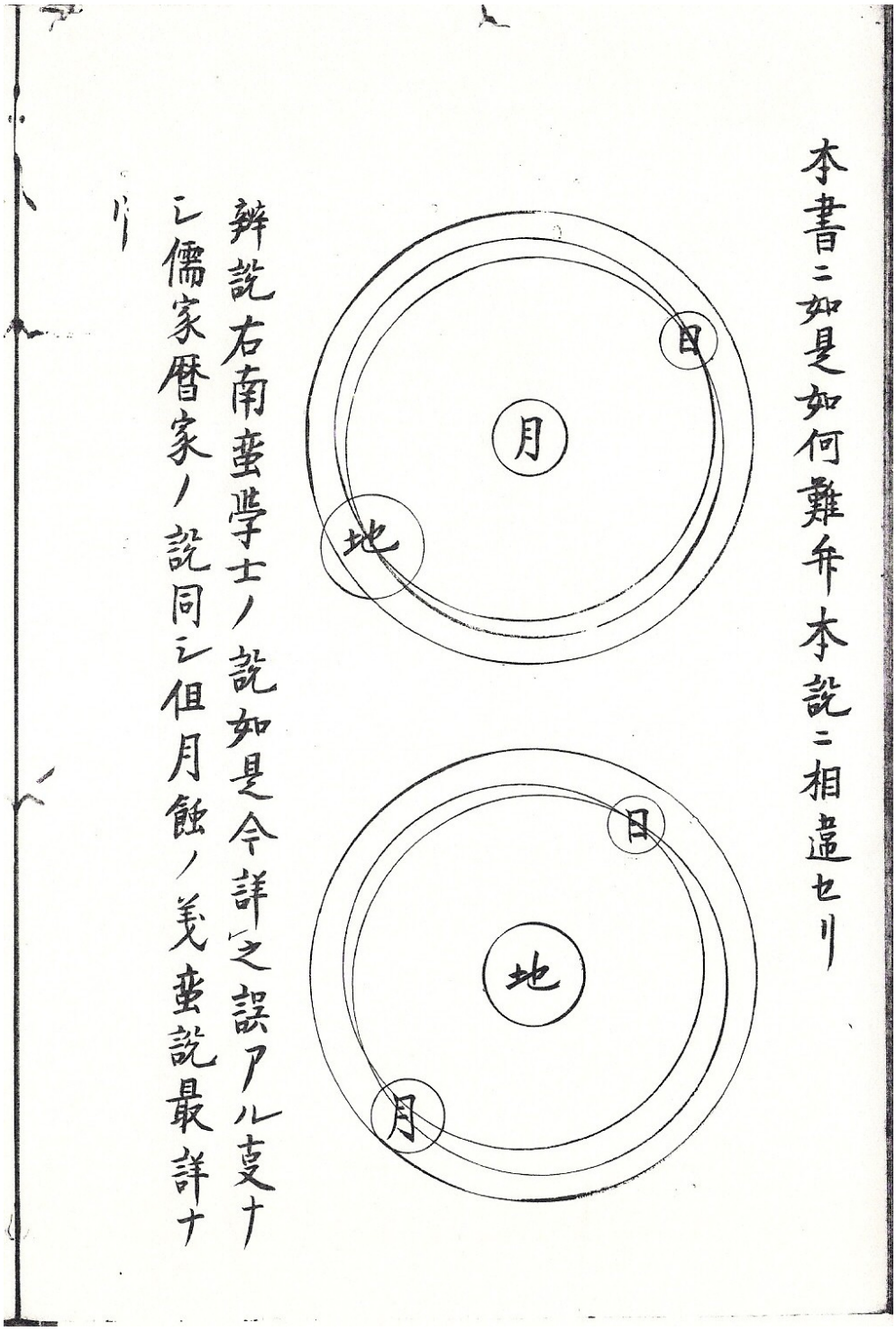


Figure 20—Figures Difficult to Explain and Different From the Exposition

Above: Moon in the inner circle; Earth to the left and Sun to the right.

Below: Earth in the inner circle, Moon to the left and Sun to the right.

第二十四　七星の天之事

一、　夫れ圓なる物の正中と云は、其圓（イ圖）相の中の一點義也、其故は圓（イ圖）相外面は何れの方も、中の一點より同じ度なるが故に、中の一點則正中也、然るに諸天を初として、地水風火の四大圓（イ圖）相の正中は、世界の中の一點也、是世界のセントロを（イて）天地の正中、されば七星と申は日、月、星辰、太白星、熒惑星、歳星、鎭星是也、然るに天文學者の説を見るに、日、月、五星そなはる七天は、いづれも一重にあらず、一天一天に三重あり、上の一重の外の方と、下の一重の内の方との正中は同じ正中也、是則世界の正中也、中の一重の内外の方の正中は、世界の正中に非らず、各別の正中也、三重を一天にしては、日、月、五星の備はる總天は、七天ともにいづれも内外の方の正中は、世界の正中也といへども、中の一重は内外共に世界の正中に非らず、かたよりたる各別の正中也、彼一重の正中各別なる時は、正中の二重は必ず厚薄の處有て、一方はあつく一方はうすし、中の一重は内外共に同じ正中なるが故に、厚薄無くして同じあつさ也、日、月、五星は此中の一重にそなはりて行る也、此中の一重の地體を（イ大に）遠き天は、あうげとて最上也、地體近き一天は最下と云也、圖を以てことはる、然ればいかなる故を以て一天一天に三重あるぞと云に、一には日、月、五星ともに、何れも地大に近くなり遠くなり、又同じ體を大小に見る也、たとへば午と子との兩宿ともに、等分の筋より二十三度半づゝ也といへども、日輪は午の宿に至るときは、地大に遠くして其體小に見へ、子の宿に有る時は、地大に近くして其體大に見ゆる也、是毎年の例也、例して云ば、道具を以て日影を移して知レ之、月輪も五星も同レ之、然るに日、月、五星ともに同じ道の通りに乍レ有、同體を時により地大に近より、時によりては地大に遠のく則は、圓（イ圖）相に見する如く、七星の備る天の正中と世界の正中と、各々ならずして不レ可レ叶、其故は同じ正中に於ては、地大に近くなり遠くなり、大小に見ゆること不レ可レ有、正中各別なるときは、一天一天に三重不レ有と云ことなし、其故は總天は七天共に、其正中世界の正中成故也、二つには天の運旋するに遲速と云ことなく、常に一様に行ぐれり、たとへば月は二十七日三時半程に十二宿を行り、日輪は三百六十五日三時に一回し、熒

惑星は一年三百二十一時に行る定り有り、餘准レ之、如レ是定をたがへず回ることは、一天一天の循環に遲速なき證據也、然るに年々の例しを以て是れを見るに、卯の宿の初と酉の宿の初とは、南北の堺成故に、日輪かしこに至る時は、國々共に日夜等分也、此さかいより北方の午の宿の初と、南方の子の宿の初迄は、西方共に二十三度半宛也といへども、日輪の往來の日數は不同（イ足）也、其故は卯の初より午を通りて酉の初迄、北方の六宿を運る間は百八十七日の間也、酉の初より子を通りて卯の初迄、南方の六宿を行る間は百七十八日の間也、故に九日の違有物也、此違は天の循環に違有には非ず、右の如く一天一天に三重有て、日輪循（イそなは）る中の一重の正中、世界の正中に非ずして、片寄たる正中成が故に、日輪運轉するに地大に遠近有故也、春の等分の日より北方に移て、北方の六宿を運轉する間は、地大に遠きが故に、回る日數多し、秋の等分の日より南方に移て、南方の六宿を運行する間は、地大に近きが故に、回る日數は少き物也、圖を以て顯す、圖相に見る如く、三重に合たる總天の正中は、世界正中成故に、十二宿の内六宿は、等分の筋より北方にあり、六宿は南方に有て、兩方共に地大に爲には同じ間也と云へども、日輪の備る中の一重の正中は、世界の正中に非ずして片寄たるが故に、北方六宿の間は地大に遠し、故に日輪彼の六宿を運行する間は、其日數多し、是を以ても一天一天に三重有と徵する也、三には日月蝕する處を見るに、月と日と重りて、月一分も不二片寄一して日の正中に有ても、日の體時によりてかけたる處なく蝕し、時によりては蝕すること全體ならず、日輪の體月にあまりて見ゆること有り、又日月少しも不二片寄一正對して、月同く十分に蝕すと云へども、月蝕の間は常に不レ同、時により其期長短あり、故をいかんとなれば、日月互に同じ度の通りに有ても、時により互に近より、時によりては遠のき、又地大に近くなり遠くなるが故也、猶此理を云に、光りを受る體よりも、光る體の大きなる時は、兩體互に近き程、光を受くること廣しと云へども、さす處の陰はせばし、互に遠くなる程光を受くることはせばしと云へども、さす處の陰は廣し、又光を受くる體よりも、光體の小なる時は、互に近き程光を受ることせばしと云へども、さす所の陰はひろし、其間遠き程光を廣[1166]く受ると云へども、さ

[1166] There is a space in this place in Bunmei. In manuscript [A4] this is substituted by 「く」.

す所の陰はせばし、爰を以て日月互に遠くして、日蝕の有る時は、月の體は日輪よりも小なるが故に、日の光をせばく受ると云ども、世界へさす所の陰は廣きが故に、日蝕の間も久しきもの也、日月互に近き時は、月の體に日光を廣く受くると云へども、世界へさす所の陰はせばし、故に日蝕有間程短き物也、月蝕の長短も同レ之、日輪世界に遠き時は、世界の陰廣が故に、月蝕の間は久しく有物也、日輪世界に近き時は、世界の陰はせばきが故に、月蝕の間も短き物也、日月如レ此互に地大にも遠くなり近く成時は、一天一天に三重有て、日月五星の備る中の一重の正中と、世界の正中と各々成こと明白也、其故は同じ正中ならば、遠くなり近く成と云こと不レ可レ有、四には天の循環を見るに、諸天透間なく重りて、十天共に同じ正中成が故に、上なる天の循環に隨順して、下成天共に廻る物也、たとへば上十番の一天は、日夜十二時の間に、東より西へ一回せしむるに、此天の餘情に順じて、内の九天も共に東西の一回をし、九番の天は西より東へ、二萬五千七百九十八年に一回するに、内の八天ともに此循環に隨順して同時に逆回し、八番の天は南北へゆるが故に、内の七天共に同じ間に見ゆる物也、是十天共に同じ正中成るが故也、雖レ然日月五星、西より東へ逆旋する間を見るに、何れも各別也、譬ば月輪は二十七日に一回し、日輪は三百六十五日に、歳成は十二年に一回す、他准レ之、日、月、五星是如レ是、各々の一回をせしむる時は、上なる天に隨順して回に非ず、其故は上の天に隨順して廻る天は、必同じ正中故に、上の天と共に同じ間に一回す、日、月、五星は何の天とも同じ間に一回せず、七星共に各別に一回せしむる則（とき）は、備る天の正中は十天の正中に非ず、各別の正中也、各別の正中成則（とき）は、一天一天に三重なくて不レ可レ叶、然により右に云如く、三重合せたる總天は、七天共に同じ正中成が故に、下成天は上なる天に隨順して同じ間に行る也、日月五星備る中の一重の正中は各々成が故に、餘の天に隨逐すると云ことなく、何れも各別に自己逆旋する物也、故に七星の逆旋と總天の逆旋とは各別也、是總天の正中と、中の一重の正中とは各別なれば也、

辨説、右南蠻學士の説如レ此、其云、總圓（イ圖）相の正中は、世界之中の一點也と云は、地體圓球の中心を云也、譬ば車轂の中心至密の處の如し、天の運轉は車輪の回轉するが如し、地體の天の正中と成ことは、

車轂の輪中に有が如し、地中至密の極る處は、車轂の中心至密の處の如し、凡回輪する物は必中心有、車輪の轂有が如き是也、故に蠻學士地の中心極る處を指て、天運東西回轉の正中とすることあやまりなし、其日月五星は、或は地に近く、或は地に遠く成こと有り、又春分の後より秋分に至ては日數多く、秋分の後より春分に至迄は日數少し、此兩義を以て日月五星の回轉は、地心を以て正中とせず、別に日月五星運轉の正中有りと云こと、よく辨じたるに似たりと云へ共、あやまり多し、故いかんとなれば、一には南蠻人道具を以て日影を受て、能はらり知ると云ども、大圖は合べし、其精微の義に至ては盡がたかるべし、假令日の體は地大を百六十五雙倍合せたる程の大さと云り、其大なる體の光を、わづかに十二尺の道具に受てはかる、其道具の上の釐毫の差は、天にては仞常の及ぶ儀にては不レ可レ有、釐毫の差は千里の謬と云古語有り、二には赤道より南の冬至道迄は二十三度半、赤道より北夏至道迄も又廿三度半也、最南北直道の度數也、然るに日輪の行黄道は横斜に有て、赤道より冬至迄九十度、冬至道より又赤道まで九十度有て、四つ合て三百六十度有、是天體度數の定法也、秋分の日日輪赤道に至るに、蠻人日中に於て道具を以て日影を移して、天地南北の中分を定め、一年晝夜等分を定む、春分の日も又如レ此、然るに日輪の黄道三度八分餘を行ば、則三日（イ百）八分餘也、此間に南北の直道を行こと只一度なれば、道具に受る日影も、必しも日體正中の直影にも不レ可レ限、此書の第廿二日月大小の篇に、光體よりも陰さす體小なる時は、其影漸々に細く成て、終にはなく成也と云り、實に日輪全體光なれば、彼道具に受る處の日影は、正中の光に不レ可レ限、日體編（イ偏）傍の光を受と云ども、直中の光を受るが如く可レ成、如レ此時は北方の六宿を運行する間は百八十七日、南方の六宿を運行する間は、百七十八日の違い有ば、一天一天に三重有て、日輪備る中の一重の正中、世界の正中に非ずして、片寄たる正中成故に、日輪の運轉するに、地大に遠近有故也と云ふことは、亡説に非ずと云ども、精微の説に非ず、其云、天體一重三光の天は、各一重の中に又三重有と云こと、穿鑿過たる邪説也、三には日食、月蝕の或は久く或は速成を以て又辨説す、然共日蝕は日月同度に過て並行時は、相掩

て分離遅し、故に日蝕すること久し、同度に並行すると云へども、道理稍異差有時は、分離早くして日蝕速に晴也、月蝕の義も此心を以て例准すべし、四には天體千萬里（イ重い）有りと云共、地大を中心にして運行す、豈中心可レ有んや、然ときんば此篇は邪論可レ成、凡日月の運行遅速有ること深意有り、今爰に略レ之、學者詳レ之、

[Paragraph] 24— About the Heavens of the Seven Stars

What is said by the exact centre of a round thing means the one point at the centre of a sphere. Because [a point] anywhere in the outside surface of a sphere has the same distance to the one point at the centre, the one point at the centre is the exact centre. Moreover, beginning with the several Heavens, the four elements earth, water, air and fire all have their exact centre in the one point at the centre of the World. This *centro* [1167]of the World is the exact centre of the Heavens and the Earth, namely, of Sun, Moon, stars and constellations[1168], Venus, Mars, Jupiter, and Saturn. Hence seeing the theories of astronomers, the seven Heavens where the Sun, the Moon, and Five Stars are placed, none of them has just one layer, but in every Heaven there are three layers. The layer above is on the outside, the layer below is on the inside and their exact centre is the same exact centre, which is the exact centre of the World. This middle layer is inside and its exact centre is not the exact centre of the World, each one having their exact centre. The three layers are one Heaven, and despite the inside and outside layers of the Full Heaven[1169] where the Sun, the Moon and the Five Stars are placed having their exact centre in the exact centre of the World, the middle layer differently from the inside and outside layers does not have as its exact centre the centre of the World but each one has its own exact centre that leans to one side. When the exact centre of this layer is different, the two layers of the exact centre certainly have [differences in their] thickness and thinness, one side being thick and the other thin. The middle layer, so that the inside and the outside layer may be on the exact centre, has no [difference in its] thickness and thinness, being uniformly thick. The Sun, the Moon and the Five Stars are placed inside and move with this middle layer. The [most] far away Heaven of this central layer from the substance (element) earth is called *auge*, as it is the highest.[1170]

[1167] *Sentoro* セントロ: *centro*, the Portuguese word for centre.

[1168] *Seishin* 星辰, here translated literally as "stars and constellations" is probably a misspelling for *shinsei* 辰星, Mars. "Xeixin. Foxifoxi. *Estrellas. S*." Vocabvlario, fl. 392v.

[1169] *Sōten* 總天: Full Heaven. This word does not appear in any dictionary at our disposal. It means the totality of the three layers that compose one Heaven. Therefore this rendition. There are, however, three homophonous words related to the sky: early morning sky, blue and high sky, and the early morning winter sky that causes frost (cf. Nikkoku).

[1170] The more sensible reading is that if manuscript (i). Still it doesn't make much sense unless we assume that instead of *ten* 天, Heaven, it should have written *ten* 点, point. In this case Chūan would have meant:

The Heaven nearest to the substance of the Earth is called inferior.[1171] This is shown with a figure.[1172] However, why can it be said that each Heaven has three layers? First, the Sun, the Moon and the Five Stars are always approaching and withdrawing from element earth and the same substance is seen large and small. For example, though the two Mansions of Horse and Rat are twenty three and a half degrees from the Line of Equal [Duration of Day and Night], when the Sun is in the Mansion of the Horse it is far away from element earth and its substance is seen as small, when it is in the Mansion of Rat it is near element earth and is seen as large. This happens every year. Using an example, the change in the shadow of the Sun can be known with an instrument, and this is the same also with the Moon and the Five Stars. However in spite of the Sun, the Moon and the Five Stars taking the same Way, according to the time the same substance approaches the element earth and according to the time it gets far away from element earth. As is seen in a sphere, the exact centre of the Heavens where the Seven Stars are placed and the exact centre of the World should not be different from the other. The reason is that with the same exact centre [they] should not be seen larger and smaller, approaching the element earth and withdrawing from it. When the exact centre is different for each one, it cannot be said that each Heaven does not have three layers. The reason is that the Full Heaven of all the Seven Heavens has the exact centre of the World as its exact centre. Second, there is no slowing down or speeding up in the rotations of the Heavens, but they are always uniform. For example, the Moon moves through the Twelve Mansions in twenty seven days and three hours, the Sun makes one turn in three hundred and sixty five days and three hours, the movement of Mars is determined to be one year three hundred and twenty one days eleven hours, and similarly with eclipses. This fixed turning without change is proof that the revolution of each Heaven is not slowing down or speeding up. Therefore, it is seen from this example that year after year, when the Sun reaches the beginning of the Mansion of the Hare and the beginning of the Mansion of the Hen, because these are in the frontier of

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"The [most] far away point of this central layer from the element earth is called *auge*, as it is the highest [point]." Notice however that a Japanese would most probably read *Heaven* instead of *point*, as that was the Chinese character used by Genshō. *Auge* is possibly either the ablative form of the Latin *aux*, or the Portuguese *auge*, which has a similar meaning, i.e., apogee.

[1171] If, as in the previous sentence, we read *point* instead of *Heaven* we would have the following sentence: "The point nearest to the body of the Earth is called the inferior [or perigee]."

[1172] See Figure 21.

South and North, in all countries the day and night are of equal [duration]. From this frontier up to the beginning of the Mansion of the Horse to the North and to the beginning of the Mansion of the Rat to the South, although in both cases it takes twenty three and a half degrees the number of days of the excursion of the Sun is not the same. The reason is that from the beginning of the Hare, through the Horse, up until the beginning of the Hen, the space of moving through the six northern Mansions is one hundred and eighty seven days. From the beginning of Hen, through the Rat, up until the Hare, the space of the movement through the six southern Mansions is one hundred and seventy eight days. Therefore there is a difference of nine days. This difference is not due to a difference in the revolution in the Heaven [of the Sun]. As [said] above, each Heaven has three layers and the exact centre of the middle layer (where) the Sun follows (is placed), is not the exact centre of the World but it is an exact centre that leans [to one side]. Therefore, the Sun in its drive gets away and gets near to element earth. Therefore, from the day of equal [duration of day and night] of Spring [the Sun] moves to the North, and because during its driving in the northern six Mansions it gets away from element earth the number of days of its rotation is large. From the day of equal [duration of daytime and night-time] of autumn it moves to the south, and because during its driving of the southern six mansions it gets near element earth the number of days of its rotation is small. This is shown with a figure.[1173] As it is seen round, the exact centre of the three layers combined in the Full Heaven is the exact centre of the World. Therefore, Six Mansions of the twelve Mansions are to the north of the Line of Equal [Duration of Daytime and Night-time], six Mansions are to the south, and the space from both sides to the element earth is the same. Nevertheless, as the exact centre of the layer inside where the Sun is placed is not the exact centre of the World but leans [to one side, the Sun] in the space [of its movement through] the six northern Mansions is far away from the element earth. Therefore in the space the Sun is making its revolution in these six Mansions the number of days is large and from this it is gathered that in each Heaven there are three layers. Third, when observing a solar or lunar eclipse, as the Moon and the Sun overlap, even if the Moon does not lean even for a minute but is in the exact middle of the Sun, the substance of the Sun is sometimes totally eclipsed, sometimes it is not completely eclipsed, and it happens that the excess of the substance of the Sun over the substance of the Moon can be seen. Also, as the

[1173] See Figure 22.

Sun and the Moon are in perfect opposition without leaning even a bit, even though the Moon is equally eclipsed, depending on the time that period [of eclipse] is short or long. The reason is that, even if the Sun and the Moon have the same degrees in relation with each other, at certain times they are close one to the other, at [other] times they are far way, and also in relation with element earth [sometimes] they are close and [sometimes] they are far away. Concerning this *principle*, when the substance that shines is larger than the substance that is shone upon, and the closer both substances are in relation to each other, even though the one that is shone upon is said to be large its shadow is narrow. The farther away they are from each other, although the one that is shone upon is shone more narrowly, its shadow is broader. Also, when the substance that shines is smaller than the substance that is shone upon, and the closer they are in relation to each other, the narrower is [the area that is] shone upon but its shadow is broader. The greater their distance the broader [does that which is shone upon] receive the light, but its shadow is narrower. With this [*principle* let us consider the case when] the Sun and the Moon are far away from each other. When there is a solar eclipse, because the substance of the Moon is smaller than the substance of the Sun, although [the substance of the Moon] receives the light of the Sun narrowly its shadow is broad and therefore the duration of the solar eclipse is long. When the Sun and the Moon are close to each other, although the substance of the Moon receives the light of the Sun broadly, the shadow it puts on the World is narrow and therefore the duration during which there is solar eclipse is short. The duration of the lunar eclipse is similar to this. When the Sun is far away from the World, because the shade of the World is broad the interval of the lunar eclipse is long. When the Sun is near the World, because the shadow of the World is narrow the interval of the lunar eclipse is also short. When the Sun and the Moon are like this far away or near to the element earth, it is clear that in each Heaven there are three layers, and the exact centre of middle layer where the Sun, the Moon and the Five Stars are placed are each one different from the exact centre of the World. The reason is that if the exact centre was equal [for all] they could not become farther away or closer by. Fourth, when observing the revolutions of the Heavens, the several Heavens overlap without any space. Because the ten Heavens all have the same exact centre, the Heavens bellow turn following the revolution of the highest Heaven. For example, as the Tenth Heaven above, in the space of twelve hours of day and night turns once from east to

west, following the lasting impression[1174] of this Heaven the nine interior Heavens also make one turn from east to west. As the Ninth Heaven makes one turn from west to east in twenty five thousand seven hundred and ninety nine years, at the same time the eight interior Heavens also follow this revolution and make an inverse rotation. Because the Eight Heaven makes one trepidation south north, this is seen during the same interval in the interior seven Heavens. These ten Heavens together have the same exact centre. However, when observing the interval of the inverse rotation from west to east of the Sun, the Moon, and the Five Stars each one has its own [interval]. For example, the Moon makes one turn in twenty seven days, the Sun in three hundred and sixty five days, and Jupiter makes one turn in twelve years. The others are similar to this. This way, when the Sun, the Moon and the Five Stars make their own turn they do not turn following the turn of the superior Heaven. The reason is that the Heaven that turns following the Heaven above, because it has to have the same exact centre it makes one rotation of the same duration as the Heaven above. As [neither] the Sun, the Moon, or the Five Stars, [as] none of the Heavens makes one rotation of the same duration, when the Seven Stars make their turn differently then the exact centre of the Heaven where they are placed is not the exact centre of the Tenth Heaven. When the exact centre is different for each, it cannot happen that each and every Heaven doesn't have three layers. However as was said above, the three layers conjointly make a Full Heaven and together the seven Heavens have the same exact centre. Therefore, the Heaven below follows the Heaven above and travels for the same duration. Because the exact centre of the layers where the Sun, the Moon, and the Five Stars are placed inside are different for each one, it cannot be said that they do follow other Heavens, but each one makes its own inverse rotation. Therefore the inverse rotation of the Seven Stars and the inverse rotation of the Full Heaven are distinct. The exact centre of the Full Heaven and the exact centre of the middle layer are distinct.

Commentary. The above explanations by the Southern Barbarian scholar are like this. What he says is that the exact centre of the full circle is the one point inside the World. Such is said to be the centre of the sphere of the substance of Earth. For example like the centermost place of the hub of a chart's wheel, the driving of Heaven is like the spin of a chart's wheel. The substance of the Earth being the

[1174] *Yojō* 餘情: lasting impression ("suggestiveness (of a poem), lingering charm, lasting impression," Nelson).

centre of Heaven is like the axis that there is in the hub of a chart's wheel. The centermost place inside Earth is like the centermost place in the hub of a chart's wheel. That means the centre that can always be found in a turning thing like the hub of a chart's wheel. Therefore the Southern Barbarian Scholar is pointing to the most central place there is in the Earth and there is no error in making it the exact centre of the spin of the east west movement of Heaven. There is also [reference to] the Sun, the Moon and the Five Stars either getting nearer, either getting farther away from the Earth, and also that the number of days after the Spring Equinox up to the Autumn Equinox being large and the number of days after the Autumn Equinox until the Spring Equinox being small. With these two meanings the spin of the Sun, the Moon, and the Five Stars does not have its exact centre in the centre of Earth, but there is another exact centre for the driving of the Sun, the Moon, and the Stars. Although it seems to be well reasoned there are many errors which are: first, the Southern Barbarians with instruments take the shade of the Sun, which they know well how to do, match it up with large drawings. It is difficult to reach and exhaust the meaning of its details. Assuming that the substance of the Sun is about as twice one hundred sixty five times as large as element Earth, to take the light of such a large substance from a instrument of only twelve *shaku*, there cannot be the smallest difference[1175] on the top of such a instrument as [such a small difference] always means *jin*s in the Heaven. There is the ancient saying that the smallest difference means an error of one thousand *ri*. Second, from the Red Way towards the Winter Solstice in the south [there are] twenty three and a half degrees, and from the Red Way towards the Summer Solstice in the North there are again twenty three and a half degrees. This is the number of degrees of the direct Way from the extreme south to north. Moreover, in the movement of the Sun in the Yellow Way there is an inclination and from the Red Way to Winter Solstice there are ninety degrees, from the Winter Solstice again to the Red Way there are ninety degrees. Taking the four together there are three hundred and sixty degrees, this being the fixed rule of the number of degrees for the substance of the Heaven. On the day of the Autumn Equinox the Sun reaches the Red Way, at high-noon the Barbarians with an instrument take the shadow of the Sun, determine the middle division of south north

[1175] *Rigō*: the smallest difference (「ごくわずかなこと。毫釐。」, Nikkoku). The Nikkoku presents this sentence as an example of usage of this word.

in the Heaven and the Earth and determine the equal [duration] of daytime and night[-time] . On the day of the Spring Equinox it is also the same. However if the Sun moves somewhat more than three degrees and eight minutes that represents somewhat more than three days (hundreds) and eight minutes.[1176] If in this interval the movement in the direct way south north is just one degree, the shadow of the Sun that the instrument receives is not with certitude limited to the direct shadow from the substance of the Sun at high-noon. In the Paragraph Twenty Two of this book, "About the Dimensions of the Sun and the Moon" it is said that when the substance that shadows is smaller than the substance that shines that shadow gradually becomes thinner so that in the end it disappears. As a matter of fact if the whole substance of the Sun shines, when the shadow of the Sun is received by this instrument it is not limited to the light of high-noon, but it also receives the light from the sides of the substance of the Sun as it receives the light from the direct middle. When it is like this, if there is a difference between the interval of its revolution in the northern six Mansions which is one hundred and eighty seven days and the interval of its revolution in the southern six Mansions which is one hundred and seventy eight days, then every Heaven has three layers; the exact centre of the layer where the Sun and the Moon are placed is not the exact centre of the World but it is an exact centre that leans; and therefore the Sun in its drive is near and far away from element earth; although these are not reckless theories they are not detailed theories. According to what is said, for the Heavens of the three lights with one layer of heavenly substance, in the middle of each layer there are also three layers, what is an evil theory resulting from excess scrutiny.[1177] Third, it is also exposed that solar eclipses and lunar eclipses either last long or are short. However, concerning solar eclipses, when the Sun and the Moon have moved so as to line up to the same [number of] degrees, their mutual covering is separated slowly. Therefore the solar eclipse lasts long. Although they move so as to line up to the same [number of] degrees, when there is a very small difference in reason the separation is fast and the

[1176] In this sentence both in manuscript [A1] and in manuscript [A4] it is written *three days*.

[1177] The original Japanese sentence is meaningless. It is the only example of Genshō writing in the manner of Chūan, "without any rules." Forcing some meaning into it, it might have be intended to mean: "According to what is said [by the theory of Southern Barbarian disciples], the one layer of Heavens where the three lights [of Sun, Moon, and stars] are has inside each one of them three layers, what is an evil theory resulting from excess scrutiny."

solar eclipse clears up fast.[1178] Concerning lunar eclipses, they should be considered in a similar way.[1179] Fourth, besides the substance of Heaven having one thousand myriad *ri*, if it revolves having the element earth as its centre why should it have another centre? Then this book should be an evil argumentation. However there is deep meaning in the rotation of the Sun and the Moon being [sometimes] slower and [sometimes] faster. We abridge here as scholars [have] detailed [knowledge] of this.

[1178] This is a passage difficult to interpret. *Dōri* 道理 means reason, a word that does not seem to fit, and the motive for the short duration of the solar eclipse does not result clear.

[1179] Or, "according to this way of thinking".

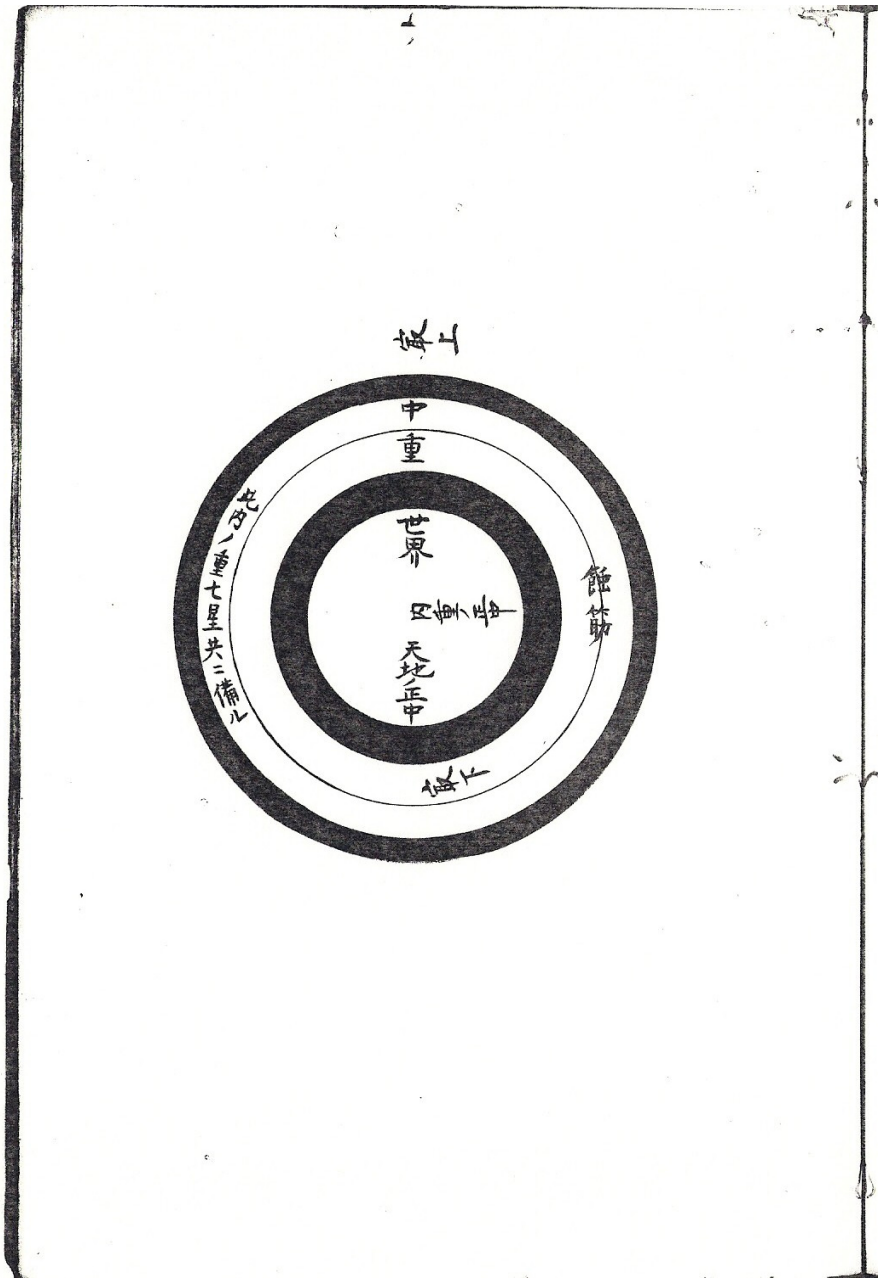

Figure 21—[No caption: The Three layers of the Heavens]

Above, outside the circle: Highest.

Central circle, vertically: The centre of the World, of Heaven and Hearth; horizontally: the centre of the middle layer.

Second circle from the centre (in black): [the lower layer; in some manuscripts this layer is drawn thicker above and thinner below]

Third circle from the centre (in white): [on top:] middle Heaven; [bellow:] lowest; [to the right, near the circular line in the middle:] line of eclipses; [to the left:] the seven stars are placed in this middle layer

Fourth circle from the centre (in black): [the upper layer; in some manuscripts this layer is drawn thicker below and thinner above]

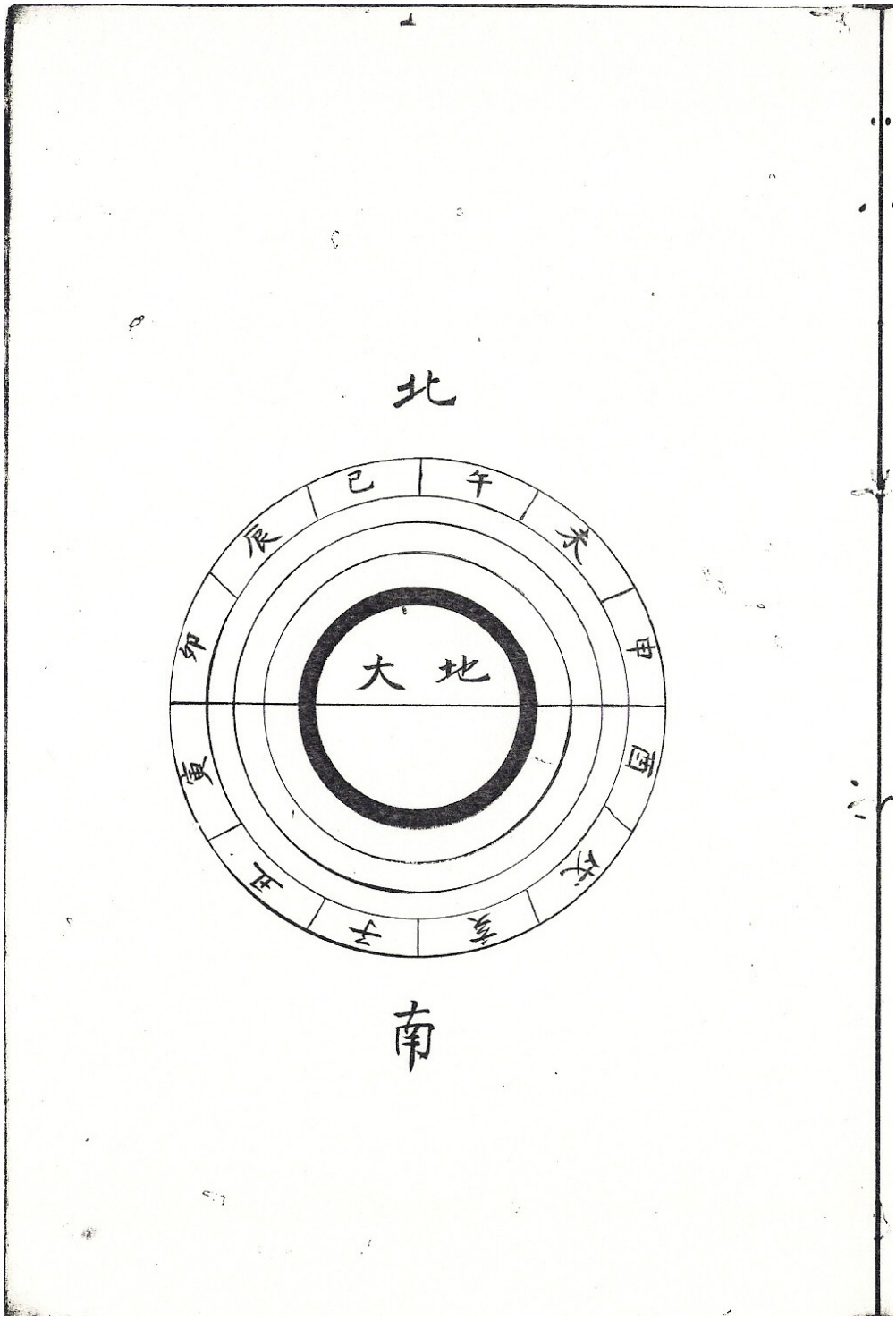

Figure 22—[No caption: The Three layers of the Heavens with constellations]

Above, outside the circle: north; below, outside the circle: south

Central circle: Earth

The second circle from the centre represents the middle layer; this is followed by the central layer with the line of the eclipses, and by the upper layer. In some manuscripts this upper layer is blackened and has not uniform thickness, and the lower layer is also drawn with variable thickness.

第二十五　七星與衆星異なる事

夫日輪の光耀天にうつるといへども、天の體は透徹長生なるが故に、日光透貫す、故に天に光明なし、星辰は自己の光耀なしと云いへども、其體透徹せざるが故に、日輪の光耀を受止て、以てかゞやくもの也、たとへば日光鏡にうつゝて、景光貫透して照すが如し、されば日月星三光の内七星と申は、日、月、辰星、太白星、熒惑星、歳成、鎭星是なり、此七星は七つに各格々の天にありと云へども、衆星は殘なく、下より八番の一天にそなはるもの也、日月五星は互に或は先たち、或はをくれ、或は近より或は遠のくが故に、遠近も所在も夜夜に變易する也、是七星ともに各別々の天にあるがゆへ也、衆星はたがいに近より遠のくことなきがゆへに、遠近も所在のかたちも不レ變也、是衆星とも三天にそなはるゆへ也、七星は時によりウイセンの會合あるが故に、現じ或は隱るゝことあると云へども、衆星は一星も會合なきが故に、現不現の異なることなし、衆星は其光ちるが如く動がごとくかゞやくもの也、是其天此地より高遠懸隔なるが故に、眼見不レ正して暈光定まらず、然ども誠に星光のちるにあらず、五星と月は其光ちらずして、のどかに耀もの也、是其天此地より近きがゆへに眼見正しき也、但鎭星は七星の内其天高き故に、少ちるがごとくにみるもの也、

辨説、右南蠻學士の説如レ是、あやまりなし、日、月、五星と衆星と運行の各別なること、儒家の説猶詳也、可レ考也、

On the Stars

[Paragraph] 25— About the Seven Stars and the Multitude of Stars Being Different

Although the light of the Sun is reflected in the Heaven, because the substance of the Heaven is transparent and long lasting, the light of the Sun goes through it and therefore the Heavens have no light. Although the stars do not have their own light, because their substance is not transparent they receive the light of the Sun and with it they shine. For example the light of the Sun is reflected in a mirror and it shines in the scenery. Therefore let us state the Seven Stars [that are] amongst the Three Lights [which are] the Sun, the Moon, and the stars: the Sun, the Moon, Mercury, Venus, Mars, Jupiter and Saturn. Though these Seven Stars are in their own seven Heavens [all of] the multitude of stars without exception are placed in the eight Heaven from below. The Sun, the Moon, and the Five Stars are reciprocally either ahead [of each other], either behind [each other], either approaching, either getting away. Therefore every night their distance and places change. Therefore the seven stars each have their own Heaven. Because the multitude of stars do not approach and get away from each other, their distance and also the shape of the places [they occupy] does not change. Therefore the multitude of stars are placed in the three Heavens. The Seven Stars, according to time, are in the conjunction of *visen*[1180], and consequently appear or are hidden. Because not even one star of the multitude of stars is in a conjugation, there is no difference in presence or lack of presence, and the multitude of stars shine and their light is scattered as they move. This is because that Heaven compared with this Earth is so far above in the high that the eyes cannot see correctly and determine [their] halo of light and, consequently, truly there isn't a scattering of star light. The Five Stars and the Moon do not scatter their light which is bright and calm.[1181] This is because their Heavens are

[1180] *Visen* ウイセン: possibly the transliterated Portuguese word *visão*, or the Latin *visum*, both meaning vision, or sight.

[1181] *Nodoka* のどか: calm ("Nodacana. *Cousa tranquilla, & serena*. Nodocani. Nodoqesa." Vocabvlario, fl. 185;「①のんびりと、おちついて静かなさま。ゆっくりと、あわてないさま。②気にかからないさま。心配のないさま。③天気がよくて穏やかなさま。」, Kojien).

near this Earth so that the eyes can see them correctly. However of the Seven Stars Saturn,[1182] because its Heaven is high is seen a scattering [its light] somewhat.

Commentary. The above explanations by the Southern Barbarian scholar are like this, and there is no error in them. The Sun, the Moon, and the Five Stars have a different revolution from that of the multitude of stars, the Confucian theory being detailed. It should be considered.

[1182] *Chinsei* 鎮星: Saturn.

第廿六　星辰の數并其光相之事

此地より八番の一天にそなはる星辰、幾千萬と云數を不レ知と云へども、其數つもりがたしと云へども、さだかに體を見分る程の星辰は千二十二あり、是四十八宿に分て、逆旋の道の十二宿に三百四十六あり、北天の二十一宿に三百六十あり、南天の十五宿に三百十六あり、總て一千二十二あり、此光相をはかるに六品あり、一には星數十五あり、此星の一つの圖◎圓カ相、地大に百七倍、二には星四十五あり、此星の一つの圖相、地大に九十雙倍、三つには星數二百八あり、此星の一つの圖相地大に九十雙倍、三つには星數二百八有、此星一つの圖相、地大に七十二雙倍、四には星數四百七十あり、此星一つの圖相、地大に五十四雙倍、五には星數二百十七あり、此星一つの圖相、地大に十八雙倍大き也、此外少しかすみて、光相さだかに見分がたき星辰十四あり、總て一千廿二也、日、月、五星の光◎圓カ相を云に、鎭星の圖相は地大に九十一雙倍、歲星の圖相は地大に九十五雙倍、熒惑星の圖相は地大に一倍半、日輪の圖相は地大に百六十六雙倍大き成者也、太白星、辰星、月輪の圖相は、地大よりも小なるもの也、地大は月に三十九雙倍、太白星に三十七雙倍大きなるもの也、辰星は諸星の内に至て小なるもの也、右星辰光相信じがたしといへども、道理ためしを以て是を徹する學者は其數を知らず、殊に地大のさうあん、方土の懸隔、言語の相異、文學の不通なること、天地雲泥の隔絶なりと云へども、いづれも同意也、故に是を證正とする也、

辨説、右南蠻學士の説如レ是、其云、四十八宿とは四十八座なるべし儒家、醫家に宿と云は、日月運行の道に列なる二十八座を宿と云ふ也、此外は皆座と云也、日月運行の道理を十二宿とするは、十二月に應じて云也、是も儒には宿とは不レ云、宮と云也、然ども宮も似たることなるべし、然るに一宮は三十度あり、則一回十二宮也、此十二宮の間に列りたる星二十八座あり、是二十八宿也、二十八座の星は其宿の主人のごとく、日月五星の其所を運行するに往來の客のごとし、其十二宿の定むる處も儒の説と同じからず、儒家の説には、日月交會の處を宮と云、一宮三十度の内に必ず會す、故に春分を卯の中とし、秋分を酉の中とし、夏至を

午の中とし、冬至を子の中とす、此二至二分の處に日輪行至る日を、即子午卯酉の四ヶ月の中日にす、此前後各十五度合て卅度也、是を一月の氣候として、節氣、中氣の名あり、日月此三十度の内に必ず交會す、此時を晦朔とす、是より一月を定め、毎月大小ありと云へども、晦朔弦望の日は、節氣、中氣に遠からず、若遠くなりて中氣の比、晦朔となり、節氣の比望月となる時は、閏月を加へてをきたらす、南蠻學は只節氣、中氣を以て十二月を定む、故に春分の日を卯の初とする時は、月朔となす、秋分の日を酉の初として、夏至の日を午の初とし、冬至の日を子として、皆月朔となせり、十二月皆如レ是、本朝に中氣とする日を朔日として、一月三十度の處に十五度の差あり、而も又日月會合を以て一月を定故に、其云、月の十五六日に月體無レ光、其云、月の晦朔の比に滿月光明なることあり、是故に曆法同じからず、又總天の星數千二十二ありて、四十八座に分つと云こといかにぞや、和漢の天文書を見るに、星の總數千四百六十四星あり、是既に四百四十二星の不同あり、星座の名あるもの二百八十三座あり、星も又二百三十五座の差あり、蠻學は星數多き連屬して名づけ、一座とする故に、總天の星座數を四十八座と云へり、假令日月運行の道に、列たる星を星勢近付し、自ら連屬すべきを連屬して一座とする時は、二十八座あり、是二十八宿と云、蠻學の徒は是を三十度の内にあるを、總て一座とする故に、十二宿と云へり、星座の多少有ことは、星形名義の替りある故のみ也、但星數一千二十二といへること、和漢の説と四百四十二星の不同あり、蠻學士は徹星の見へがたきと、黑色なる星を不レ入にや、其是非は精眼の人見と正すべし、又日月星の大小の義、和漢明説なし、胡亂の説なりといへども蠻學の説にまかす、是又明眼精量の士はかり知るべし、

[Paragraph] 26— About the Number of Stars and Constellations and Their Light

The stars placed on the Eight Heaven from this Earth are of an unknown number of several thousands of myriads and their number is hard to estimate.[1183] However there are one thousand and twenty two stars whose substance can be distinguished with certainty.[1184] They are divided into forty eight Mansions, twelve Mansions in the Way of Inverse Rotation with three hundred and forty six [stars], twenty one Mansions in the northern Heavens with three hundred and sixty [stars], fifteen Mansions in the southern Heavens with three hundred and sixty [stars], for a total of one thousand and twenty two. There are six categories into which this relative brightness is classified. In the first there are fifteen stars, and the circle of one of these stars is one hundred and seven times [larger than] that of the element earth. In the second there are forty five stars, and the circle of one of these stars is ninety times that of the element earth. In the third there are two hundred and eight stars, and the circle of one of these stars is ninety times that of the element earth.[1185] In the third there are two hundred and eight stars, and the circle of one of these stars is seventy two times that of element earth. In the fourth there are four hundred and seventy stars, and the circle of

[1183] In the De Sphaera, fl. 19v, we can find a similar statement: "Aliorum autem astrorum, qui stallae fixae communiter dicuntur, qui ordinem et situm non mutant, licet infinitus prope videantur esse numerus, quod et Sacra Scriptura saepe innuit". Therefore, from the opening sentence of this paragraph it cannot be inferred that the author, or the editor, of the *Kenkon Bensetsu* was aware of the observational results of the telescope. The number of stars traditionally given in European treatises until the early seventeenth century was of 1022 stars, the number transmitted since Ptolemy. The discovery of the telescope by Galileo in 1609 made clear that the number of stars was actually much larger. Not only the results of Galileo's observations, but the telescope itself, rapidly became well known amongst Portuguese officers and Jesuit priests throughout the World. See Henrique Leitão, "Longemira: os Primeiros Telescópios em Portugal", Física e Sociedade, Vol. 33(2), 2010 pp. 17-21. One example of this is the reference made to the telescope in the *Tianwen Lue* (1614) of Manuel Dias Júnior (1574—1659). See Henrique Leitão, "The Contents and Context of Manuel Dias' Tianwenlűe", *History of Mathematical Sciences: Portugal and East Asia III—The Jesuits, the Padroado, and East Asian Science (1552-1773)*, Luís Saraiva and Catherine Jami (eds.), Singapore, World Scientific Publishing, 2008, pp. 99-121. It is very unlikely, given the close communication that existed between the Jesuits of the Japanese Province that were in Japan with those of the Japanese Province that were in China, that those in Japan remained unaware of the main observational facts obtained with the telescope.

[1184] "[S]tellas clariores et semper apparentes in 48 constellationes communiter reducunt, quae mille et viginti duarum stellarum numerum conficiunt", De Sphaera, fl. 19v.

[1185] Obviously this sentence is a mangled repetition of the previous and of the following sentences. It was inserted by error of either author, translator, transliterator, or copyist.

one of these stars is fifty four times that of element earth. In the fifth there are two hundred and seventeen stars, and the circle of one of these stars is eighteen times that of element earth. The others besides these are seen indistinctly as mist, and there are fourteen whose light can be clearly distinguished, so that the total [of stars that can be distinguished] is one thousand and twenty two. Concerning the circle of the Sun, the Moon, and the Five Stars, the circle of Saturn is ninety one times that of element earth, the circle of Jupiter is ninety five times that of element earth, the circle of Mars is one and a half times that of element earth, the circle of the Sun is one hundred and sixty six times larger than that of element earth. The circles of Venus, Mercury, and Moon are smaller than that of element earth. The element earth is thirty nine times that of the Moon, and thirty seven times that of Venus. Mercury is the smallest of all stars. Although it is hard to believe the above mentioned dimensions [for the circle] of light of the stars, through the use of reason innumerable scholars of very different[1186] lands, of unlike languages, of incommunicable letters, so different as Heaven and Earth, as clouds and mud[1187], have all agreed [on this]. Therefore they prove this.

Commentary. The above explanations by the Southern Barbarian scholar are like this. When he speaks about forty eight Mansions it should be about forty eight constellations. What Confucians and Medical School [practitioners] call Mansion are the twenty eight constellations lined on the way of revolution of the Sun and the Moon. To all of the remaining they call constellations. The reason of the revolution of the Sun and the Moon being made twelve Mansions is to meet the twelve months. To these Confucians do not call Mansions, but call them Shrines[1188]. Therefore they should be likened to Shrines, as Shrines also have thirty degrees, and one turn is twelve Shrines. Lined in the space of the twelve Shrines there are twenty eight constellations of stars, and these are the twenty eight Mansions. The stars of the twenty eight constellations are like the host of that Mansion, and the Sun, the Moon and the five stars are like the guests of that Mansion. [The Southern Barbarian way]

[1186] *Kenkaku* 懸隔: difference ("Qengaku. Furucani fedataru. *Differença.* ¶ Vndeino qengacu nari. *He differença como de nuuẽs, & lama. S*." Vocabvlario, fl. 191). See Nippo. Curiously the key word (*vndei*) used in the example of this definition is also used in this same sentence.

[1187] *Undei* 雲泥: clouds and mud ("Vndei. Cumo, doro. *Nuuem, & lama. Tomase por ceo, & terra. Vt*. Tenchi vndeino sedategia. *Ha tanta difference como do ceo à terra*." Vocabvlario, fl. 274.)

[1188] *Miya* 宮: Shrine ("Miya. *Ermida dos Camis*." Vocabvlario, fl. 162v).

of determining the place of those twelve Mansions is not similar to that of the theory of Confucians. According to the theory of Confucians the meeting place of the Sun and the Moon is called a Shrine as they certainly meet inside the thirty degrees of a Shrine. Therefore the Spring Equinox is inside the Hare, the Autumn Equinox is inside the Hen, the Summer Solstice is inside the Horse and the Winter Solstice is inside the Rat. The days when the Sun in its movement reaches the place of these two Solstices and of these two Equinoxes are made to be the middle day of the four months of Rat, Horse, Hare, and Hen. The fifteen degrees before and [the fifteen degrees] after these [points] altogether make thirty degrees. In the Season[1189] of one month there are the names like Fortnight Nodes[1190] and Middle Points[1191]. The Sun and the Moon certainly meet inside these thirty degrees, and this time is determined to be the First Day and Last Day [of the month]. From this one day the month is determined, and tough all months are [either] large or small, the days of the Four Weeks[1192] are not far away from Fortnight Nodes and Middle Points. When they get far away and a Middle Point becomes a First Day and a Last Day, and a Fortnight Node becomes a Full Moon, a lap Month is added.[1193] The Southern Barbarian

[1189] *Kikō* 氣候: season (「②時節。時機。」, Nikkoku).

[1190] *Sekki* 節氣: a Fortnight, a fifteen day period, corresponding to the division of the eccliptic (the Yellow Way) into twenty four partitions (「太陽年を太陽の黄経に従って 24 等分して、季節を示すのに用いる語。中国伝来の語で、その等分点を立春・雨水などと名づける。二十四節。二十四気。節気。」, Kojien; 「横道を二四等分して、太陽がその位置にきたときの季節を示すようにしたもの。中国伝来の語で、旧暦で季節と暦日の不一致を補うために暦に書きいれた。」, Nikkoku); a Fortnight Node when referring to one of the twenty-four partition points, especially those that are not Middle Points (see below). Sivin, *op. cit*., p. 79, translates *sekkki* as *Nodal Ch'i*.

[1191] *Chūki* 中氣: Middle Point, the twelve separating points between two pairs of *sekki*, or Fortnights; a Fortnight Node in the middle of a lunar month. In usual usage a Fortnight Node and a Middle Point alternate. As referred above, a lunar month that does not include a Middle Point is made a lap month (「②二十四節気を一つおきにとった分点。雨水を正月中、春分を 2 月中とし、以下順に穀雨・小満・夏至・大暑・処暑・秋分・霜降り・小雪・冬至・大寒を続く。中期を含まない暦月を旧暦で閏月とした」, Kojien). Sivin, *op. cit*., p. 79 and p. 608, translates *chūki* as *Medial Ch'i.*

[1192] Four Weeks 晦朔弦望: these are four divisions of a lunar month: *misoka* 晦, *tsuitachi* 朔, *tsuru* 弦, and *mochizuki* 望, respectively the Last (Third Quarter), First (New Moon), Before Full Moon (First Quarter), and Full Moon.

[1193] Any calendar faces the basic problem that cycles based o the movement of the Sun are not exact multiples of the cycles based on the movement of the Moon. Solar calendars, based on the tropical year which is a cycle lasting 365. 24219 days, have the problem of not being able to predict full Moons. Lunar calendars, based on the synodic month which is a cycle lasting 29.53050 days, have the problem of not being able to predict seasons. Luni-Solar calendars try to overcome this two problems by using the

Learning simply uses the Fortnight Nodes and the Middle Points to determine the twelve months. Therefore when they make the day of the Spring Equinox the beginning of the Hare they make it the First Month; they make the day of the Autumn Equinox the beginning of the Hen; they make the day of the Summer Solstice the beginning of the Horse; they make the day of the Winter Solstice the [beginning of] the Rat, they make all of them First Months! All twelve months are like this. As in Our Nation[1194] the day of a Middle Point is the First Day, in the thirty degrees of one month there is a difference of fifteen degrees. Moreover one month is determined by the conjunction of the Sun and the Moon, the reason being that in the Fifteenth and Sixteenth Days of the Month the substance of the Moon has no light, what [in turn] is because in the First and Last Day of the Month it happens to be a bright full Moon.[1195] Because of this the calendrical methods are not similar. And what does he say about the existence of one thousand and twenty two stars in the Heavens divided into forty eight constellations? In the Japanese and Chinese astronomical books on can see that there are one thousand four hundred sixty four stars, what results in a difference of four hundred forty two stars. Constellations with name there are two hundred eighty three constellations. Like what happens with the stars there is a difference of two hundred thirty five constellations. The Barbarian School names numerous stars in sequences[1196], and because these make one constellation they say that in the Heavens there are constellations in the number of forty eight constellations. If in the way of the revolution of the Sun and the Moon the array of stars is arranged according to proximity, and when one constellation is

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synodic month as its basis and adding periodically on lap month, *uru tsuki* 閏月. As twelve synodic months have 354 days twelve lunations fall short of a tropical year by about 11 days. So approximately once in three years a lap month needs to be added. To be more precise, in 19 years 7 lap years need to be added to make an exact correspondence between the two cycles. The procedure to determine when a lap month is added is schematically described here by Genshō: usually a synodic month includes one day that falls on a Middle Point; when a synodic month falls between two Middle Points, none of its days including a Middle point, that month becomes a Lap Month, and is added to the other twelve lunations of that year.

[1194] *Honchō* 本朝: Our Nation, literally Our Dynasty.

[1195] It would seem that Genshō is saying that in the Southern Barbarian Solar calendar it can happen to be Full Noon on the first day of the month. In the Luni-Solar Japanese (and Chinese) calendar this cannot happen.

[1196] *Renzoku* 連屬: sequence. *Renzoku* 連屬 is not listed in any consulted dictionary. Most probably the homophonous *renzoku* 連続, meaning *sequence*, was intended.

made of a sequence that is a proper sequence, then there are twenty eight constellations which are said to be twenty eight Mansions. The disciples of the Southern Barbarian School saying that these are inside thirty degrees make them all to be one constellation and speak of twelve Mansions. Therefore a greater or smaller number of constellations is [a question of] changing the names and shapes of stars. However concerning there being one thousand and twenty two stars this is not similar to the Japanese and Chinese theory in four hundred and forty two stars. The Barbarian scholars have difficulty seeing clear stars, and dark coloured stars do not enter [in their eyes]. Their existence or non existence depends on the right sight of the person. Concerning the meaning of the larger and smaller [dimensions] of the Sun, the Moon and the stars there is no clear Japanese or Chinese theory. Although it is a suspicious looking[1197] theory let us trust in the theory of the Barbarian School. This should be judged by a scholar with good eyes.

[1197] *Uran* 胡亂: suspicious looking.

第二十七　星之部

下より初めて七星のさたをするに、月輪は此地より一番の天に獨りはなれて、二十七日四時ほどに、西より東へ逆旋の一回をせしむるもの也、月の體は右に云ごとく、自己の光耀なしといへども、日輪の餘光を受て以て明也、故に日輪の對不對にしたがつて、盈虧するもの也、其性は水氣潤濕を主る故に痰を治す、是痰は濕よりをこるが故也、然に月は一切潤濕の性あるものを主るといへども、水大をつかさどりて、水を吸引する性あり、故に滿潮の缺滿此所為也、同く群生の骨体髓の中を主るが故に、滿月の比は髓中まして、頭腦の益滿して腦中重着す、緒介の肉も其比充滿することも、月の所爲也、日輪萬物を茂生するごとく、月も又是を潤色すと云へども、中にも白銀を潤色する物也、月輪其上へのハラネイタ重複せず、自己の本性をあらはす時出生の子は、其たけ高く、色白く、面相圓滿也、五體全備学知すくなき物也、本性下す時刻は、月の日午未の兩限也、下より二番天に辰星ひとりあり、此星は性令爽々の氣を主り、水銀を潤色するもの也、此星月輪會合障碍なく、自己の本性を下す時出生する子は、其長短く、頭目ちいさく、但顔相は美なり、本性をあらはす時刻は、水の日午未の兩限也、三番の天には太白星あり、此星は早天には日に先たちていづ(でる)、日暮には日の後にあり、是則明星也(これすなわちみょうじょうなり)、其光相は衆星の中に小也といへども、地大に近きが故に大いにみへ、又は日輪其光耀甚しく一入かがやくもの也、此星は性冷にして、潤濕の氣を主りて群生を尤潤色す、此星障碍なくして、本性をあらはす時出生する子は、色白く、たけ高く眼睛甚だ黑し、本性をあらはす時刻は、金の日午未の兩限也、四番の天に日輪そなはりて、三百六十五日三時の間に、西より東へ一回せしむるもの也、此一回は乃一年と云也、日輪の體は光の本なるが故に、衆星并月輪日光を受け以て明也と云へども、日輪光耀を以て諸星の光を隱伏する也、故に日中に星をみることなし、諸天常に運行すると云へども、晝夜の時刻をげんからは日輪也、此日輪温煖にして寒燥の氣あり、されば熒惑星も温煖にして、槁燥の氣を主ると云へども、日輪の温煖は異別あり、たとへば熒惑星の煖氣は熱なり、故に火熱の病并黄水を主る、是群生を熱腦する也、日輪の温煖は温

和也、故に萬物を温養す、然るにより一切の胎生、たとひ父母の生氣を受と云へども、日曜の煖氣外に無時は、其生あることなし、蠢動含霊も皆以て日輪の所為也、日輪下の星の障碍なく、其本性の比出生する子は、たけ高からず、色白く、眼目よきほどにあつて頭髪ほそきもの也、日輪は萬物を茂生する中にも、黄金を潤色するもの也、五番の天に熒惑星あり、此天凡そ二年の間に一回せしむる也、熒惑星は温煖にして、槁燥の氣あつて、黄水を主るなり、故に勇氣の大過は此星の所為也、是黄水滿溢する時は、必ず勇氣大過するもの也、此星下の星の障碍なくして、自己の本性をあらはす時出生する子は、たけ高く、色白くして、少し赤く、五體に毛多きもの也、本性をあらはす時刻は、火の日の午未の兩限也、からかね、黒がねを潤色するもの也、六番の天に歳星あり、此天凡そ十二年の間に、西より東へ一回する也、此星は温煖にして潤澤の氣あり、故に一切の群生を温養す、たとへば五體の精血のごとし、温暖にして物を潤澤する五星の内に、萬物を養育すること最長たり、此歳星下の會合の障碍なく、自己の本性を下す時出生する子は、色白くして面少し赤く、頭髪薄少にして、顔ほ形ちち美也、五體常に暖氣ありて、冷利（怜悧カ）なる物也、本性をあらはす時刻は、木の日午未の兩限也、錫を潤色するもの也、下より七番の天に鎭星ひとりあり、此星凡そ三十年の間に、西より東へ鎭星の一回をせしむる也、此鎭星寒冷槁燥の氣あり、此性氣群生のためには毒氣也、然と云へども此に上下の天の星、或はをほひ或はのせて運轉するときは、自己の毒氣をあらはすこと微也、毒氣を甚しくあらはす時刻は、月の日の午未の兩限也、君子愼レ之、此鎭星下の星會合することなく、自己の本性を下す時に出生する子は、頭髪黒く胸に毛多し、鼻は黄に大也、物を氣にかけ、五體勇健なりといへども、其徳すくなき物也、

辨説、右南蛮学士の説如レ此、其云、七星の所在と運行の説あやまりなし、七星の性徳主職を論ずることはあやまりあり、まゝ辨ずるに暇なしと云へども、大槩を擧て論ずべし、月は水大を主ると云ことあやまれり、月は陰の至精至貴なるもの也、故に天地の陰精を主る水は、陰の卑賤なるもの也、故に萬物の下に下る、是故に月の直下には海水退て落潮となる、滿月の比は人之頭腦不レ固、一切の介類は内肉空して、柔弱なること眼前の境界なり、日は陽氣の至精至貴なるもの也、故に天地の陽氣を生む

る、其氣不寒不熱不燥不温、其體光明赫たり、其徳述がたし、誰か又よく述ぶべきや、我國は古へより、伊勢内宮の神徳を日に配し崇め奉ること、誠に深き故也、然に陰陽五行の氣も、皆日性の徳を受くるときは、升上の氣ありて發動す、況んや火大は五行中の大陽なる故に、日光向こふ處にすゝんで萬物を温養す、故に日輪此土に近き時は、此土も温熱して春夏の氣あり、日月の性徳は陰陽の至精を以て論ずべきもの也、扨五星の内辰星は、世界の水類を主る故に水星とも名づく、太白星は世界の金類を主る故に金星とも云、炎惑星は世界火類を主る故に火星とも名づく、歳星は世界の草木類を主る故に木星とも名づく、鎭星に世界の土類を主る故に土星とも名づく、夫萬物を生ずる、陰陽五行和合する故に、水類にも、火類にも、木類にも、金類にも、土類にも、各たがひに五行の氣あり、金類ばかりに非ず、人は最も陰陽五行の氣あり、蠻学の徒は陰陽五行を知らず、故に七曜の性徳を論ずること、皆牽強附會の説也、餘説是にて知るべし、

[Paragraph] 27— About the Stars

To distinguish the Seven Stars, we start from those below. The Moon is alone in the First Heaven above this Earth. In about twenty seven days and four hours, it makes one inverse revolution from west to east. As said above, the substance of the Moon, though it has not its own brightness, it becomes bright by receiving the excess of light from the Sun. Consequently, depending whether it is in opposition to the Sun or not, it waxes and wanes. Its nature is that of the *vigour* of water and thus it is damp and wet and consequently heals the phlegm. This phlegm results because of dampness. However, although the Moon rules everything that by nature is damp, by ruling the element water it has the nature of attracting water. Thus the lack of fullness in a high tide is due to this reason. In the same way, it rules the inside of the medulla and bones of all sentient beings[1198]. As the Full Moon approaches the marrow increases, the brain increases and fills [the head] and it becomes heavy. The flesh of shellfishes also become full depending on the place the Moon is. The Sun makes the myriad things grow luxuriantly, [and] the Moon also gives them brilliancy[1199]. Amongst those, it gives brilliancy to silver. When the other planets[1200] above the Moon do not overlap and its own nature is revealed through a child at his birth, his height is tall, [his] color white, [his] features harmonious, [and his] five body parts[1201] are fully equipped [but his] knowledge and learning will not amount to much. The time when it bestows its own nature is in the day of the Moon between the two limits of the Horse and the Sheep. In the Second Heaven from below there is Mercury[1202] alone, and this star rules the *vigour* of coolness and freshness and it is that which colors mercury. When this star is not in conjunction with and does not have the obstacle of the Moon, and gives its own nature

[1198] *Gunsei, Gunjō* 群生: all sentient beings (a Buddhist word). ("Gunsui. Muragaru taguy. *Viuentes sensitiuos, i*, Gunjō." Vocabvlario, fl. 123 v.;「①(仏)ぐんじょう。②多くの生物。多くのひと。③植物が一所に群をなして生えること。」, Kojien; *Gunjō*:「(仏)すべての生き物。一切衆生。ぐんせい。」, Kojien)

[1199] *Junshoku* 潤色: brilliancy (光彩を添えること。幸運、めぐみ、。表面をつくろい飾ること。, Kojien).

[1200] *Haraneita* problably means *planeta*, planet in Portuguese

[1201] *Gotai* 五體: the five body parts ("Gotai. *Sentidos com todo o corpo*." Vocabvlario, fl. 122;「身体を構成する五つの部分、すなわち筋・脈・肉・骨・毛・皮、または頭・両手・両足・あるいは頭・頸・胸・手・足の称。転じて、全身。」, Kojien).

[1202] *Shinsei* 辰星: Mercury (「五星の一。水星の中国名。」, Kojien).

to a child at birth, his height is small, [and his] head and eyes are small, but his face is lovely. The time when it shows its own nature, is the day of water between the two limits of the Horse and the Sheep. In the Third Heaven there is Venus. This star in the early morning[1203] comes out before the Sun, and at sunset is just behind the Sun, this being precisely the Morning Star. Its brightness is, amongst the multitude of stars, small. As it is near the Earth it is seen as large, besides that the Sun makes its brilliancy still more bright, and exceedingly so. As this star is cold it rules the *vigour* of dampness and understandably it gives luster to [all] animals. This star having no obstacles, when it reveals its nature through a child at his birth [his] color is white, [he] is tall and his [eye's] pupils are exceedingly black. The time when it shows its own nature is the day of metal between the two limits of Horse and Sheep. In the Fourth Heaven is placed the Sun, [which] in three hundred sixty five days and three hours, makes one rotation from west to east, one such rotation being called one year. Because the body of the Sun is the source of light, the multitude of stars as well as the Moon receive the light of the Sun and become bright, but the light of the Sun hides[1204] the light of the several stars. Therefore during the day the stars cannot be seen. Although the several Heavens are always rotating, the origin of time of daytime and night[-time] is the Sun. The Sun being warm and hot has the *vigour* of cold and dry, and thus Mars also being warm and hot rules over dryness, but its warmness and hotness is different from that of the Sun. For example, the *vigour* of hotness of Mars becomes fever and therefore it rules over the illnesses of fever and of phlegm and causes brain fever on all the sentient beings. The warm and hot of the Sun is gentle[1205]. Therefore it warms and nurtures the myriad things. Moreover, for everything inside the womb[1206], even if it receives the life *vigour* of father and mother, when there isn't the warm *vigour* of the Sun, there is no birth.

[1203] *Sōten* 早天: early morning ("Sŏten. i, Axita tocu. *Pelamenhãa cedo*." Vocabvlario, fl.227;「早朝。あけがた。」, Kojien).

[1204] *Inpuku* 隠伏: hide (「①他に知られないように隠れひそむこと。事物が表に現れないで隠されていること。②見えないように隠すこと。」, Nikkoku). The Nikkoku gives this sentence as an example of usage of this word.

[1205] *Onwa* 温和: gentle (「①(気候が)暖かくのどやかなさま。②(性質、態度などが)おとなしくやさしいさま。穏やかで落ち着いたさま」, Nikkoku).

[1206] *Taisei* 胎生: viviparity (「①体内受精を行った卵子が母体の生殖器官内に定着し発育し、分娩によって生み出される現象。」, Nikkoku).

Everything that moves[1207] and has a soul[1208] exists because of the Sun. When the stars below the Sun make no obstacle and it reveals its nature through a child at his birth [his] is height is not high, [his] colour is white, [his] eye's are large and his hair thin. The Sun besides making the myriad things grow luxuriantly gives the colour to gold. In the Fifth Heaven there is Mars. This Heaven makes one turn in the space of about two years. Mars being warm and hot has the *vigour* of dryness and rules over the phlegm. Therefore extreme courage belongs to this star. When phlegm overflows certainly there is excess of courage. When the stars below this star make no obstacle and it reveals its own nature through a child at his birth, [his] height is tall, [his] colour white, somewhat reddish, and the five [parts of the] body are hairy. The time when it shows its own nature is the day of fire between the two limits of Horse and Sheep. It gives colour to bronze and iron. In the Sixth Heaven there is Jupiter. This Heaven makes one turn from west to east in the space of about twelve years. This star being warm and hot has plentiful *vigour*. Therefore it warms and nurtures every sentient being. For example, like the pure blood of the five [parts of the] body, it plentifully warms the things [and] among the five stars is the one that makes most to feed and raise the myriad things. If below Jupiter there is not the obstacle of a conjunction, and it reveals its own nature through a child at his birth, [his] colour is white with the face somewhat red, [his] head's hair is somewhat thin, the shape of his face beautiful, and the five [parts of the] body have always warm *vigour*, and [he is] clever. The time when it shows its own nature is in the day of wood between the two limits of Horse and Sheep. It gives colour to tin. In the Seventh Heaven from below there is Saturn alone. This star Saturn, in the space of about thirty years, makes one turn from west to east.[1209] Saturn has the *vigour* of cold and dry and these properties are poison[1210] to the sentient beings. However, as

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[1207] *Shundō* 蠢動: moving like a group of insects (「①虫などのうごめくこと。②転じて、取るに足りないものが策動すること。」, Kojien).

[1208] *Ganrei* 含霊: a being with a soul「含識におなじ。」, Nikkoku; Ganshiki 含識:「仏語。心識(心・情)を有するものの意。衆生(しゅじょう)。有情(うじょう)。含霊(がんりょう・がんれい)。こんしき。」, Nikkoku).

[1209] This must have been one of those sentences Genshō had in mind when he referred to "[those] passages [… that] were written as if there weren't any rules". In the original, as in the following more literal translation, the subject appears twice, once as "this star" and again as "Saturn": "This star in the space of about thirty years, from west to east Saturn makes one turn."

[1210] *Dokki* 毒気: poison ("Docqi Docuno iqi. *Peçonha, ou qualidade peçonhenta*." Vocabvlario, fl. 72; 「①毒を含んだ気。毒性。」, Kojien)

the stars of the Heavens above or below this [star] either cover it or ride on it during their drive, its own poison is felt only slightly. The time when it shows strongly its poison is in the day of the Sun between the two limits of Horse and Sheep. The sovereign is careful about this. If below Saturn there is no star conjunction and it reveals its own nature through a child at his birth, the hair of his head is black and the hair of his chest is abundant, [his] nose is yellow and large, is worried about things, and although the five [parts of his] body are strong[1211], his virtues are few.

Commentary. The above explanations by the Southern Barbarian scholar are like this. In the theory about the place and rotations of the Seven Stars there is no error. In the discussion of the characteristics and main workings of the Seven Stars there are errors. Although [I] have no time to explain it, the general framework should be discussed. What is said about the Moon ruling over the water is an error, as the Moon is the exalted extreme of the essence of extreme *telluric*. Therefore the water that rules over the essence of the *telluric* of Heaven and Earth has the lowest position of *telluric*. Therefore it moves down to below the myriad things and therefore as the water of the sea withdraws from [the place] directly below the Moon and it becomes low tide. At the time of the Full Moon it is extremely evident that the brain in the head of people does not harden, and that the flesh of all species of shells becomes empty and weak. The Sun is the exalted extreme of the essence of extreme *solar vigour*. Therefore it gives birth to the *solar vigour* of Heaven and Earth. Its *vigour* is not cold, nor hot, nor dry, nor warm[1212], its body shines and blazes, its virtue is hard to describe. Should someone describe it well? Truly it is with a profound reason that in our country from old [times] the divine blessings of the Interior Ise Shrine[1213] are attributed to the Sun which is worshiped and profoundly revered there. Moreover, the *vigours* of the *solar* and *telluric* and of the *five phases*, when all of them receive the virtue of the *solar* nature the rising *vigour* makes them move. Still more, that because the element fire is [like] the Sun amongst the *five*

[1211] *Yūken* 勇健: strong ("Yǔqen. *Força, ou valentia.* ¶ Yǔqenna. *Valente, & esforçado*.", Vocabvlario, fl. 326v.).

[1212] Probably damp was intended here. As the characters for warm 温 and damp 湿 are similar it is probable that a copyist unwittingly changed the character.

[1213] The Kōtai Jinja 皇大神社, in Kyoto-fu Fukuchiyama-shi、京都府福知山市, where the ancestor of the Imperial line, Amaretasu Ōmikami 天照大神 is worshiped.

phases it advances towards the Sun light and warms and nurtures the myriad things. Therefore when the Sun approaches this soil, this soil also becomes warm and hot and there is [in it the] *vigour* of spring and autumn. The characteristics of the Sun and the Moon should be discussed with the extreme of the essence of the *solar* and the *telluric*. Now, of the interior Five Stars Mercury, because it rules over the water and everything in the category of water in the World, it has been named the Water Star[1214]. Because Venus rules over metals in the World, it has also been named Metal Star[1215]. Because Mars rules over fire and everything in the category of fire in the World, it has also been named Fire Star[1216]. Because Jupiter rules over the grasses and trees of the World, it has also been named Wood Star[1217]. Because Saturn rules over soil and everything in the category of soil, it has also been called the Soil Star[1218]. Because these give birth to the myriad things and combine the *solar* and *telluric* and the *five phases*, in the category of water, as well in the category of fire, as well in the category of wood, as well in the category of metal, as well in the category of earth, in each of them as well in their reciprocal [relations] there is the *vigour* of the *five phases*, and not just [that of] the category of metal. People have the most of the *vigour* of the *telluric* and the *solar* and of the *five phases*. The disciples of Barbarian Learning do not know about the *telluric* and the *solar* or the *five phases*. Therefore they discourse about the characteristics of the Seven Lights, all [their] theories being twisted reasoning. It should be known that [their] remaining theories come from those.

[1214] Mercury usually referred to in the *Kenkon Bensetsu* as *Shinsei* 辰星, its classical Chinese name, also has *Suisei* 水星, literally Water Star, as its name.

[1215] Venus which has been referred as *Taihakusei* 太白星, its classical Chinese name, also has *Kinsei* 金星, literally Metal Star, as its name.

[1216] Venus which has been referred as *Keiwakusei* 熒惑星, its classical Chinese name, is also named as *Kasei* 火星, literally Fire Star.

[1217] Jupiter which has been referred as *Saisei* 歲星, its classical Chinese name, is also named as *Mokusei* 木星, literally Wood Star.

[1218] Saturn which has been referred as *Chinsei* 鎮星, its classical Chinese name, is also named as *Dosei* 土星, literally Soil Star.

第二十八　十二宿の事

夫十二宿の性又は七星の内、いづれの星は何のいづれの宿を主ると云ことを云に、七星ともにいづれも常に世界の萬物に性を施すと云へども、宿により星によりて、其宿の内を運轉する時節は、殊に己が本性を下し、物を潤色するが故に、星も其宿を主り、宿も其星に隨順すと云也、然るに日月は各一宿々々を主り、五星はいづれも兩宿づゝを主るもの也、雖レ然五星ともにめんめんの宿を運轉する間、萬物に性を旋すに其強弱有て、兩宿の内一宿を旋る間はよはく、今一宿を運轉する間はつよく性を下すもの也、つよく本性を下す宿は、星其宿を第一に主る、弱く性を下す宿をば第一◎二ヵに主るもの也、然るに日輪二月の中より三月の中まで、卯の宿の内を運轉す、此宿に初て入時春の日夜等分也、卯の性は火大の性に似たり、炎熱にして寒燥の氣あり、熒惑星第二に主レ之也、此宿の内に日輪運轉する時節に生産する子は、短慮にして○○○○○○○○○此下は忠庵が本書に消したるなり、三月の中より四月の中まで、日輪辰の宿を運轉す、辰の性は土大の性に似たり、寒冷にして燥寒の氣也、太白星是を第一につかさどる也、此の宿の内日輪運轉する時節に生産する子は、節要を守らず、時々發飄するもの也、四月の中より五月の中までは、日輪巳の宿を運轉す、巳の性は風大に似たり、潤濕にして温煖の氣也、辰星第一に主る也、日輪此宿の内を運轉する時節生産する子は、其氣逆活にして大名高家の傍にあつて、天下をもしらんとするなり、五月中より六月中までは、日輪午の宿を運轉す、此宿に入日則夏也、午の性は水大の性に似たり、寒冷にして潤濕の氣也、月輪此宿を主る也、日輪此内を運轉する時節に生産する子は、其人美麗にして力つよく陽氣甚しきもの也、六月中より七月までは、日輪未の宿を運轉す、未の性は火大の性に似たり、炎熱にして槁の氣也、日輪此宿を主る也、日輪此宿を運轉する時節に生産する子は、頭上髪毛すくなく、人愛あつて其氣逆活廣大成もの也、七月中よりも八月中までは、日輪申の宿に運轉す、申の性は土大の性に似たり、稿燥にして寒冷の氣也、辰星第一◎二ヵに主レ之也、日輪此宿を運轉する時節に生産する子は、其人譽をむさぼつて財物を失ひ、歌曲を好むものなり、八月中より九月中までは、日輪酉の宿を運轉す、此宿に至る時分秋日夜等分也、酉の性は風大の性に似たり、潤濕にして温煖の氣也、太

白星第一◎ニカに主レ之也、日輪此宿を運轉する時節に生産する子は、其人禮節正しく勇知多きもの也、九の月中より十月中までは、日輪戌の宿を運轉し、戌の性は水大の性に似たり、寒煖にして潤濕の氣也、熒惑星第一に主レ之也、日輪此宿を運轉する時節に生産する子は、言語過多也、陰慾多きもの也、十月中より十一月中までは、日輪亥の宿を運轉す、亥の性は火大の性に似たり、炎熱にして稿燥の氣也、歲星第一に主レ之也、日輪此宿の内を運轉する時節生産する子は、禮節正しく人前を恥て、其人の子は親にしたがはざるもの也、十一月中より十二月中の中までは、日輪子の宿を運轉す、此宿に入日は則冬至也、子の性は地大の性に似たり、稿燥にして寒冷の氣也、鎭星第二に至◎主カる也、日輪此宿を運轉する時節に生産する子は、禮節正しく、其氣逆活にして、常猛狼たり、十二月中より正月中までは、日輪丑の宿を運轉す、丑の性は風大に似たり、潤濕にして温煖の氣なり、鎭星是を第一に主る也、日輪此宿の内を運轉する時節に生産する子は、たけひきく丈を節にして、常に猛狼たり、正月中より二月中までは、日輪寅の宿を運轉す、寅の性は水大の性に似たり、寒冷にして潤濕の氣なり、歲星第二に主レ之也、日輪此宿の内を運轉する時節に生産する子は、其人美麗にして髮毛黑、濕病あつて常に猛狼たり、

辨説、右南蠻學士の説如レ是、其十二宿と云は、十二支の主る分野三十度の處を云、然ども和漢の説と不レ同也、月の中氣をとりて節氣となす、故に四時の節も四時の中氣をとりて初とせり、夫春の氣は正月の節より初る故に、立春の日東風氷をとく、鶯幽谷を出て鳴る、是より草木次第に目ぐみ出て、三月の比は花鳥色音をあらそふ、二月中を春分として、立春より四十五日也、春分より後四十五日過て四月の節に及、前後九十日は春也、南蠻學士は春分の前四十五日を冬とし、春分の日より春の初とする故に、五月中に及ぶまでを春とす、和漢の説は四月の節を夏初として立夏と云、五月中を夏の中として夏至と云、七月の節に及んで、九十日の間を夏と云、蠻説は五月中を夏初とする故に、八月に及までを夏とす、倭漢の節は、七月の節を秋初として立秋と云、八月を秋の中として秋分と云、十月の節に及で九十日を秋と云、蠻説には、八月中の秋分を秋初とする故に、十一月中に及て秋とす、倭漢の説は十月の節を冬初として立冬と云、十一月中を冬の中として冬至と云、正月の節に及て九十

日の間を冬と云、蠻説には、十一月の中を冬初とする故に、來年の二月春分に及て冬とす、是其差謬四十五日あり、故に一月の節氣中氣も十五日の差誤あり、故に蠻學士は、和漢の中氣をとりて節氣とす、其本づく處に差誤ある故也、蠻学士は陰陽氣化を知らず、故に化令氣候を立て、節氣中氣四時の氣候を論ずることなし、是を以て春分より春とする故に、春分の前四十五日の間を猶冬とし、夏至より夏とする故に、夏至の前四十五日の間を猶春とし、秋分より秋とする故に、秋分の前四十五日の間を猶夏とし、冬至より冬とする故に、冬至の前四十五日の間を猶秋とす、只温熱寒冷の氣候ばかりを知て、陰陽升降の徳化政令を不レ知、故に禽獸草木の付て、四時造化の徳を見るともみへず、偏に人の身體に温熱冷寒を覺るのみを、四時の化令と云り、蠻學は只皮膚の間のみにて、骨髄を知らずる事爰に知るべし、

[Paragraph] 28— About the Twelve Mansions

Concerning the nature of these Twelve Mansions; and [concerning] also which from amongst the Seven Stars is the star that rules over which Mansion and at what time,[1219] it can be said that all the Seven Stars are always bestowing [their own] nature on the myriad things of the World. However, depending on the Mansion and depending on the star, in the season [the star] is driving inside a Mansion it imparts its own real nature, giving life[1220] to the things. Therefore it can be said that the stars also rule over the Mansions and that the Mansions also follow those stars. Moreover the Sun and the Moon each one rules over one Mansion and each one of the Five Stars rules over two Mansions. Furthermore during the space the Five Stars are driving through each Mansion, there is strong and weak in the nature they bestow on[1221] the myriad things. In the space it is turning in the two Mansions, in one Mansion it is weak, and in the space while it is driving in the other mansion it imparts strongly its nature. The Mansion where it strongly imparts its true nature is the Mansion in which the star rules over [in the] first [place], the Mansion where it imparts [its nature] weakly is where it rules [in the] first {second is a possibility}[1222] [place]. Moreover, from the middle of the Second Month until the middle of the Third Month the Sun drives through the Mansion of the Hare. The moment it first enters this Mansion is the Day of Equal [Duration] of Day and Night of spring. As the nature of the Hare is similar to the nature of element fire, [the Hare] being scorching hot it has the *vigour* of cold and dryness and is ruled over by Mars in its second place. The children that are born in the season when the Sun is driving inside this Mansion are hotheaded and {what Chūan wrote following this is missing}. From the middle of the Third Month until the middle of the Fourth Month the Sun drives through the Mansion of the Dragon. As the nature of the Dragon is similar to

[1219] This is another of those sentences whose grammatical construction is most peculiar and we will not try to do justice to it in the English translation.

[1220] The word employed is *shiki* 色, literaly *colour*, but also meaning in the Buddhist terminology *life*. Chūan would have probably this latter meaning in mind when writing this passage, and his Japanese readers would certainly have understood it also that way.

[1221] In Bunmei it is written *megurasu* 旋す, to turn, what is certainly a mistake for *hodokosu* 施す, to bestow. We translate assuming this latter meaning.

[1222] If what was said at the beginning of this sentence was correct, then *second* must be the correct reading.

the nature of element earth, [the Dragon] being cold it has the *vigour* of dryness and cold, and is ruled over by Venus in its first place. The children that are born in this season when the Sun is driving inside this Mansion do not keep important matters[1223] and sometimes drift aimlessly as whirlwind. From the middle of the Fourth Month until the middle of the Fifth Month the Sun drives through the Mansion of the Snake. As the nature of the Snake is similar to the nature of element air, being damp it has the *vigour* of warmness, and is ruled over by Mercury in its first place. The children that are born in this season when the Sun is driving inside this Mansion having a *vigour* of [unknown word[1224]] they are beside the *daimyō* and the nobles, and understand the [affairs of the] realm. From the middle of the Fifth Month until the middle of the Sixth Month the Sun drives through the Mansion of the Horse. The day it enters this Mansion it is summer. As the nature of the Horse is similar to the nature of element water, [the Horse] being cold it has the *vigour* of dampness, and the Moon rules over this Mansion. The children that are born in this season when the Sun is driving inside this Mansion are gorgeous and strong and full of *solar vigour* to the extreme. From the middle of the Sixth Month until the middle of the Seventh Month the Sun drives through the Mansion of the Sheep. As the nature of the Sheep is similar to the nature of element fire, [the Sheep] being scorching hot it has the *vigour* of desiccation. The children that are born in the season when the Sun is driving through this Mansion have little hair in the top of their heads and are loved by people, having a *vigour* of [unknown word[1225]] they are magnificient. From the middle of the Seventh Month until the middle of the Eight Month the Sun drives through the Mansion of the Monkey. As the nature of the Monkey is similar to the nature of element earth, [the Monkey] being dry it has the *vigour* of coldness, and is ruled over by Mercury in the first {second is a possibility}[1226] place. The children that

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[1223] *Setsuyō* 節要: this word does not appear listed in any consulted dictionary. There are two homophonous words that share one character with it. *Setsuyō* (「費用や労力などを節約すること。もろもろの出費を少なくすること。浪費をしないこと。倹約。」, Nikkoku), meaning saving, and *setsuyō* (「きわめてたいせつなこと。また、そのさま。かんじん。肝要。緊要。」, Nikkoku), meaning important matter. Probably this was the intended meaning.

[1224] Unknown word, not listed in any dictionary consulted, made of two characters: *gyaku* 逆, meaning *inverse*, and *katsu* 活, meaning *lively*. Possibly it means *serenity*, *tranquillity*, or *imperturbability*.

[1225] Same word as in previous note.

[1226] If what was said above about Mercury ruling in the first place over the snake was correct, then here the appropriate reading must be *second*.

are born in the season when the Sun is driving through this Mansion lose their wealth in the unrestrained pursuit of fame and are found of music. From the middle of the Eight Month until the middle of the Ninth Month the Sun drives through the Mansion of the Hen. The time it reaches this Mansion is the Day of Equal [Duration] of Day and Night of autumn. As the nature of the Hen is similar to the nature of element air, [the Hen] being damp it has the *vigour* of warmness, and is ruled over by Venus in its first {second is a possibility}[1227] place. The children that are born in the season when the Sun is driving through this Mansion, are persons who are properly courteous and are very courageous and knowledgeable. From the middle of the Ninth Month until the middle of the Tenth Month the Sun drives through the Mansion of the Dog. As the nature of the Dog is similar to the nature of element water, [the Dog] being cold and hot it has the *vigour* of dampness, and is ruled over by Mars in the first place.[1228] The children that are born in the season when the Sun is driving through this Mansion are verbose. Their sexual desire[1229] is frequent. From the middle of the Tenth Month until the middle of the Eleventh Month the Sun drives through the Mansion of the Boar. As the nature of the Boar is similar to the nature of element fire, [the Boar] being scorching hot it has the *vigour* of dryness, and is ruled over by Jupiter in the first place. The children that are born in the season when the Sun is driving through this Mansion are persons who are properly courteous and are shy in front of people. The children of these persons do not obey their parents. From the middle of the Eleventh Month until the middle of the Twelfth Month the Sun drives through the Mansion of the Rat. The day it enters this Mansion it is the Winter solstice. As the nature of the Rat is similar to the nature of element earth, [the Rat] being dry it has the *vigour* of coldness, and {is ruled over is a possibility} by Saturn in the second place. The children that are born in the season when the Sun is driving through this Mansion are persons who are properly

[1227] As was already stated above that Venus rules over the Dragon in the first place second must be the correct reading here.

[1228] It is not clear how the Dog may be at the same time cold 寒 and hot 煖. It is probable that the intended meaning was "cold and damp" as it has the *vigour* of dampness, and these two qualities are those of the water.

[1229] *In-yoku* 陰慾: a word not listed in any dictionary. It certainly stands for the homophonous word *in-yoku* 淫欲 (「①異性の体に対する欲望。男女の間の情欲。色欲。」, Nikkoku), meaning "sexual desire" or "sexual impulse." The literal translation of *in-yoku* 陰慾 would be *telluric desire*. This is ultimate proof that Genshō, who unconsciously chose this character, really saw all phenomena in terms of *telluric* and *solar*.

courteous and as their *vigour* is [unknown word[1230]] they are always muddled. From the middle of the Twelveth Month until the middle of the First Month the Sun drives through the Mansion of the Ox. As the nature of the Ox is similar to the nature of element air, [the Ox] being damp it has the *vigour* of warmness, and is ruled over by Saturn in the first place. The children that are born in the season when the Sun is driving through this Mansion are persons whose height is small and are always muddled. From the middle of the First Month until the middle of the Second Month the Sun drives through the Mansion of the Tiger. As the nature of the Tiger is similar to the nature of element water, [the Tiger] being cold it has the *vigour* of dampness, and is ruled over by Jupiter in the second place. The children that are born in the season when the Sun is driving through this Mansion are persons who are beautiful with black hair, are prone to dampness disease and are always muddled.

Commentary. The above explanations by the Southern Barbarian scholar are like this. What he calls Twelve Mansions are the places of thirty degrees that are ruled by the duodenary which, however, is not equal to the theory of Japan and China. Taking the Middle Point of the month it makes them Fortnight Nodes. Therefore, to begin with, the nodes of the four seasons make the Middle Points of the Four Seasons. Because the *vigour* of spring begins from the node of the First Month, in the day of Enthronement of Spring the eastern wind melts the ice and the bush warbler appears in the somber valleys. From this point the blessings of grasses and trees gradually appear, and from the Third Month the flowers and birds compete on colour and sound. The Second Month is made to be the Spring Equinox forty five days from the Enthronement of Spring. Forty five days after the Spring Equinox is the node of the Fourth Month, and the ninety days before and after are spring. The Southern Barbarian scholars make winter the forty five days before the spring equinox, make spring begin from the day of the spring equinox and therefore make spring last until the middle of the Fifth Month. According to the theories of Japan and China, the node of the Fourth Month is the beginning of summer and is called the Enthronement of Summer; the middle of the Fifth Month as the middle of summer is called Summer Solstice and summer lasts for the space of ninety days until the node of Seventh Month. Because the Barbarian theory makes the middle of

[1230] Unknown word, the same as the above mentioned, composed by two characters: *gyaku* 逆, meaning inverse, and *katsu* 活, meaning lively.

the Fifth Month the beginning of summer it makes summer last until the Eight Month. The node[1231] of Japan and China, [is that] the node of the Seventh Month as the beginning of Autumn is called the Enthronement of Autumn, and the Eight Month as the middle of Autumn is called the Autumn Equinox, and the Autumn lasts for ninety days until the node of the Tenth Month. The Barbarian theory, because it makes the Autumn Equinox of the middle of the Eight Month the beginning of autumn, it makes autumn last until the middle of the Eleventh Month. The Japanese and Chinese theory [is that] the node of the Tenth Month as the beginning of Winter is called the Enthronement of Winter, and the Eleventh Month as the middle of Winter is called the Winter Solstice, and the Winter lasts for the space of ninety days until the node of the First Month. In the Barbarian theory, because it makes the middle of the Eleventh Month the beginning of winter it makes winter last until the Spring Equinox of the Second Month of the following year. There is here a difference and mistake of forty five days. Therefore in the Fortnight Node and in the Middle Point of the First Month there is also a difference of fifteen days. Consequently the Southern Barbarian Scholars take the Middle Point of Japan and China and make it a Fortnight Node, there being an error in their justification. The Southern Barbarian Scholars do not know the *vigourization* of the *telluric* and *solar*, and therefore they establish [unknown word[1232]] seasons but do not argue about the Fortnight Nodes, Middle Points and Four Periods of the seasons. With this they make spring from the Spring Equinox, and therefore the space of forty five days before the Spring Equinox they make it still winter. They make summer from the Summer Solstice, and therefore the space of forty five days before the Summer Solstice they make it still spring. They make autumn from the Autumn Equinox, and therefore the space of forty five days before the Autumn Equinox they make it still summer. They make winter from the Winter Solstice, and therefore the space of forty five days before the Winter Solstice they make it still autumn. They only know about the seasons of warm and hot, cold and cool, but do not know about laws and the change into virtue of the rise and descent of the *telluric* and the *solar*. Therefore

[1231] *Node* 節, *setsu*, and *theory* 説, *setsu*, are homophonous words in Japanese. Most probably theory was meant here, in the same way as it is found some lines below, when referring to the Japanese and Chinese theory concerning Winter.

[1232] Unknown word, not listed in any dictionary consulted, made of two characters: *ka* 化, meaning influence and change, and *rei* 令, meaning order and law. Possibly it means change.

in what pertains to birds and animals, grasses and trees they do not see the virtues of the Four Periods and of the Creation. Biasedly they just remember that the body of people is warm and hot, cool and cold, and call to this the [unknown word[1233]] of the Four Periods. It should be known that Barbarian learning is just skin deep, and does not know the marrow[1234].

[1233] Unknown word, previously mentioned, made of two characters: *ka* 化, meaning influence and change, and *rei* 令, meaning order and law.

[1234] *Kotsuzui* 骨髄: marrow, true spirit ("Cotzui. Fone, zui. *Ossos, & tutanos. Vt*, Cotzui touoro, l, tessuru. *Penetrar teos ossos, & tutanos*." Vocabvlario, fl. 60. To not know the marrow is not to know the true spirit.

第二十九　天之高厚之事

夫諸天の高厚をみるに、地大の正中より一番の月の天迄の高さは、四萬二百十里あり、南蠻道の法を以て云、此天の厚さは三萬六千三百五十二里なり、二番の天の高さは七萬六千五百六十二里あり、此天の厚さは十二萬三千四百九十三里なり、三番の天の高さは二十萬五十五里也、此天の厚さは百十三萬七千九百十八里也、四番の天の高さは百三十三萬七千九百七十三里也、此天の厚さは十四萬六千三百六十七里也、五番の天の高さは百四十五萬千八里也、此天の厚さは九十一萬三千百二十五里也、六番の天の高さは千五十六萬四千二百三十三里也、此天の厚さは六百五十五萬千八百三十二里也、七番の天の高さは千七百十五萬五千九百六十五里也、此天の厚さは九百八十二萬四千二百五十七里也、諸星そなはる八番の天の高さは、二千六百九十八萬八百二十里也、此天の厚さはしれず、其故は七星の天はいづれも三重ありて、中の一重の正中と世界の正中とは、かくかくなるが故に、其道を以て天の高厚をしるもの也、然といへども八番の天に三重なきが故に、此天の厚さはしれず、八番の天の厚さがしれざる時は、九番十番の天高厚はしれざるもの也、

辨説、右南蠻學士の説如レ是、然るに上巻に第七四大大小の篇に云、地大の正中より一番の月の天までは、十萬里餘ありと云々、此編に云、地大の正中より一番の月の天までは、四萬二百十里ありと云々、二説不レ同と云へども、第七の編は日本の道の法を以て云、此編は南蠻道之法を以て云、南蠻道の一里は大方日本道の二里に近きものと云り、莊子には天の高さ九萬里と云り、醫書には天地の間八萬四千里と云々、是皆地の上面より云もの也、蠻學には地心より云、十萬里の説近し、然れども天の高厚わづかなる土圭、量天尺などを以て、日月星の光をうけて天の高さ厚さをはかり、其道里度數を云こと、今少いかにぞや、考辨を加ふるに及ず、學者詳レ之、

乾坤辨説貞巻終

[Paragraph] 29— On the Height and Thickness of Heavens

We now examine the height and thickness of the several Heavens. The height from the centre of element earth to the First Heaven [which is the Heaven] of the Moon has 40,210 *ri*. {Using the measurements of the Roads of South Barbary,} the thickness of this Heaven is 36,352 *ri*. The height of the Second Heaven has 76,562 *ri*, [and] the thickness of this Heaven is 123,493 *ri*. The height of the Third Heaven is 200,055 *ri*, [and] the thickness of this Heaven is 1,137,918 *ri*. The height of the Fourth Heaven is 1,337,973 *ri*, [and] the thickness of this Heaven is 146,367 *ri*. The height of the Fifth Heaven is 1,451,008 *ri*, [and] the thickness of this Heaven is 913,125 *ri*. The height of the Sixth Heaven is 10,564,233 *ri*, [and] the thickness of this Heaven is 6,551,832 *ri*. The height of the Seventh Heaven is 17,155,965 *ri*, [and] the thickness of this Heaven is 9,824,257 *ri*. The height of the Eighth Heaven, where the several Heavens are in-built, is 26,980,820 *ri*. The thickness of this Heaven is not known. The reason is that the Heavens of the Seven Stars all have three layers, where the centre of the middle layer and the centre of the World are different. Through the use of this way the height and thickness of Heavens can be known. Because the Eighth Heaven has not three layers, the thickness of this Heaven is not known. When the thickness of the Eighth Heaven is not known, the height and thickness of the Ninth and Tenth Heaven cannot be known.

Commentary. The above explanations by the Southern Barbarian scholar are like this. [While] it is said in the First Volume, Paragraph 7, "About the dimensions of the strata occupied by the four elements" that from the centre of element earth to the First Heaven [which is the Heaven] of the Moon, it is said that there are about 100,000 *ri*, in this Part it is said that from the centre of element earth to the First Heaven [which is the Heaven] of the Moon, it is said that there are 40,210 *ri*. It can be said that these are two dissimilar theories. In Paragraph 7 the exposition is made using measurement units of Japanese roads. In this part the exposition is made with measurement units of the roads of Southern Barbary. One *ri* of the roads of South Barbary is about 2 *ri* of the roads of Japan. In *Sō-shi* it is said that the height of Heaven is 90,000 *ri*. In the books of the Medical School it is said that [there are] 84,000 *ri* in the space between Heaven and Earth. All of these refer to the upper surface of the Earth. Barbarian Learning refers to [the distance from] the core of the Earth. [Thus] the theory of 100,000 *ri* is close. However, using a small gnomon and

ryōtenshaku[1235] [to measure] the height and thickness of the Heavens; taking the light of the Sun, the Moon and the stars to measure the height and thickness of the Heavens; concerning these ways and measures [I am] now brief [as this subject] does not call for additional considerations and explanations, as it is known to learned men.

End of the Fourth Volume of Explanations Concerning the Heavens and the Earth

[1235] *Ryōtenshaku* 量天尺: an instrument to measure the heavenly bodies (「天体を測量するのに用いる器械」, Nikkoku). The Nikkoku presents this sentence as an example of usage of this word.

PART 4 — REREADING THE BOOK

CHAPTER VII — LEARNING IN THE FOUR COUNTRIES

As its reading must have made clear, the *Kenkon Bensetsu*, does not present complex or advanced theories for its age. Still there are in it theories that were difficult to accept by Japanese schooled in the neo-Confucian tradition. Furthermore, much of what was presented there has become alien even to the people of the same scientific tradition, e.g. westerners, thanks to the evolution of knowledge and change of scientific paradigms in the past four hundred years. The commentaries to the text written by Genshō also make constant references to neo-Confucian theories that are almost ignored in the West and are in the process of being forgotten in the East. Therefore the *Kenkon Bensetsu*, for all the simplicity of the ideas there expounded, is not easy reading for the modern man, as it certainly wasn't for a seventeenth century Japanese, albeit for a different reason. Therefore it requires a second reading for most people interested in knowing what was at stake in the primary text and in the commentaries. This and the following chapters purport to guide that second reading and make it more meaningful.

Key to that reading is to understand Genshō objections. There is no doubt that, despite all concessions Genshō made to the correctness of some of its theories, the science the Christian priests had brought with them was appreciated by him as worthless. His reasons are presented in the commentaries, but they can be found in their most clear formulation in his short essay about the scholarship in four different cultures. The objective of this chapter is to unfold his views on these four different traditions of learning, with special emphasis on the Southern Barbarian and neo-Confucian ones, and provide the modern reader with more information on their basic framework. However, before attempting that we should establish what is the worth of the *Kenkon Bensetsu* as an object of study.

1. The worth of the *Kenkon Bensetsu*

The *Kenkon Bensetsu* is the oldest surviving text written in Japanese where Western cosmology is presented in a systematic way. We know that a dialogue between two different intellectual traditions, between neo-Confucianism and Aristotelism, started soon after the arrival of Xavier to Japan in the middle of the sixteenth century. For many years the conversation was literally an oral conversation, and in most

instances, a not much systematic one. In the 1580s western natural philosophy started to be taught in a structured way in the Jesuit colleges. The first text written in Japan concerning western natural philosophy was authored by Pedro Goméz, with his *De Sphaera*, written in 1592. But it was written in Latin and its use remained confined within the church and its colleges, and we do not know of any commentary that it might have generated from Japanese neo-Confucian scholars. Its Japanese translation, supervised by Pedro Ramón, was also used mainly by the students and professors of the Jesuit colleges, and thus remained outside the mainstream of the Japanese scholarly tradition. It resurfaced in Japan as the *Nigi Ryakusetsu* only almost one century after the composition of the original and a full generation after the *Kenkon Bensetsu*. Furthermore its circulation seems to have been quite restricted. Certainly some other written descriptions of *Nanban* philosophy existed in Japanese. The most famous is Hayashi Razan's account of his dialogue with Fabian Fukan, which was the record of an oral conversation, and not a very meaningful or fruitful one. There were also the books that started being produced in China by the missionaries, such as the *Kenkon Taigi,* which were written in Chinese and in China, and thus do not reflect what was the Jesuits' transmission of western science in Japan. In the *Kenkon Bensetsu*, on the other hand, we have side by side an exposition of western natural philosophy with the commentaries that exposition educed from a Japanese neo-Confucian. It certainly was not a balanced conversation, but nevertheless it was a conversation, and the *Kenkon Bensetsu*, is the best Japanese testimony to that conversation between neo-Confucianism and Aristotelism because it is the oldest, longest and most detailed that has survived.

The lack of balance resulted from two things. One was that the theories of only one school were being examined, there being a set of statements on one side and a set of critical comments on the other. To put it another way, there is no systematic exposition of the neo-Confucian system, just a set of statements advanced to contrast its position on a certain object. From this it resulted on one hand that the pace and structure of the conversation was set by the Aristotelians, and that the topics presented were chosen by them. And it resulted, on the other hand, that the Confucians had the last word, if we might say so, on any subject being raised.

Another evident lack of equilibrium is at the level each intervenient made his exposition. On one hand the exposition of Aristotelism was made at an elementary level: the exposition was plain, and intended to be made the clearest as possible,

numerous examples being given to make the point explicit; further, as is the usual case with this type of presentations, both technical topics and recent advances of natural philosophy and astronomy were left out. We may thus deduct that its intended audience was people with not much previous exposure to these topics, but interested in an introduction to its subject matter. On the other hand the commentator was an erudite, and he did not seem to have considered the possibility of lowering the level of his commentaries to that of the exposition.

Besides being important as a testimony to the intercultural transmission of natural philosophy, the *Kenkon Bensetsu* is valuable as evidence on the way western theories were actually presented to the Japanese. Knowing the difficulties the missionaries had in conveying in Japanese central ideas of Christian doctrine we might suspect that similar problems arose also when they attempted to transmit some tenets of Aristotelian theories. To know these difficulties and how they were overcome the *Kenkon Bensetsu* is of great value. Its importance also lies in allowing us to know how the Southern Barbarian theories actually *sounded* to the Japanese who learnt them directly from the missionaries.

Moreover, the *Kenkon Bensetsu* is of great import to know how a cultured Japanese and erudite neo-Confucian who wanted to remain within his cultural tradition reacted to western science. It allows us to perceive which theories were acceptable, and which were not, whether any of them could be adopted and integrated into his neo-Confucian basic framework, and why.

After establishing why the *Kenkon Bensetsu* is important it might also be of interest to define the areas of its worthlessness. First, we should note that the *Kenkon Bensetsu* has no value whatsoever in the quest to know the character, contents and methods of western natural philosophy in the sixteenth and seventeenth century. On one hand the exposition is too basic, because it was intended to be an introduction into the subject, and thus does not properly reflect the level or contents of academic discussion at the time in Europe. On the other hand there are dozens of texts produced in Europe similar to the *Kenkon Bensetsu* in level and contents, and thus its testimonial in this area is superfluous. These many texts were not only textbooks but also lecture notes of students taking natural philosophy courses throughout European universities. Therefore the *Kenkon Bensetsu* does not tell us anything worth knowing about western cosmology besides the fact that it was of interest to some Japanese.

Also the *Kenkon Bensetsu* is not an appropriate gauge of the level of knowledge the Jesuits in general had of these matters, not even of the level of those missionaries who worked in Japan had, just as a catechism does not reflect the level of theological expertise of its author.

Further, except for two paragraphs, the contents of the *Kenkon Bensetsu* cannot by themselves reveal what was the primary western source from where it was translated. First, it should be noted that there is enough internal evidence in the *Kenkon Bensetsu* to allow us to state that its final version was composed by someone with knowledge, if not actual experience, of East Asian geography. This points more to an author that was a travelling missionary in Asia and Japan, or otherwise had close contact with the geography of the region, than an armchair scholar in Europe. Furthermore, it also rules out a *pure translation* of a manual composed in Europe. Even if the *Kenkon Bensetsu* derived primarily from a treatise written in Europe, it suffered important changes before it became the treatise Genshō transliterated. If indeed it was a translation, it certainly belonged to the genre of adaptive translation, that was common in Europe and which the Jesuits followed, whereby the original work is adapted to the editorial purposed of the translator.[1236] Second, it must be considered that anyone with a good philosophical education could have written a book similar to the *Kenkon Bensetsu* and, as was already pointed out in Chapter II, there were many Jesuits in Japan and around it with that level of training. Therefore there is no strict need to postulate that the *Kenkon Bensetsu* was a translation of a treatise composed in Europe. Third, as the contents of the *Kenkon Bensetsu* belong to a scholarly tradition and are a very basic and simple formulation of that tradition, they most probably were composed by someone who was familiar with two or more treatises on the subject, or alternatively by someone who had heard lectures of someone else who was familiar with two or more books on the topic. Therefore it can be expected to find in it elements similar to those from two or more different European treatises. Lastly, it is not clear what one would gain in the understanding of the process of transmission of Southern Barbarian natural philosophy by knowing the book from where the *Kenkon Bensetsu* was translated. At the level of the exposition that was used

[1236] For a description of this tradition see William J. Farge, *The Japanese Translations of the Jesuit Mission Press, 1590-1614:* De Imitatione Christi *and* Guía de Pecadores, Studies in the History of Missions, no. 22, Lewiston, N. Y., The Edwin Mallen Press, 2002.

in the *Kenkon Bensetsu*, the contents and presentation of natural philosophy were pretty much homogeneous in the European intellectual tradition.

However, as noted above, there are two paragraphs that might be considered anomalous in that tradition, and it may help us confirm the result that was achieved in Chapter IV concerning its authorship, namely that Rubino was the author of the book on astronomy that Inoue Masashige reportedly received from the Southern Barbarian bonze apprehended in Ōshima. To this issue we will return later.

2. Making comparisons

In a short essay, most appropriately named "A Comparison Between the Learning in Four Countries", placed just before the main text of the *Kenkon Bensetsu*, Mukai Genshō sets to accomplish a difficult task: to make one of the first cultural comparisons after the world became integrated through the opening of sea routes in the sixteenth century. For the first time in history most cultures of the orb were within close reach of each other. Genshō lived in an age and place that allowed him access to information on many countries and regions his great parents could not have dreamt of. Therefore his choices have added interest and meaning: how would the peoples of the yet unheard countries, opened to the Japanese by the age of discoveries, rank in his hierarchy? Actually, not much. Besides his own Japan, he chooses the two wellsprings of civilization that were already known for generations in his country: China and India. The only new entrant from the new worlds was Southern Barbary.

As it was to be expected from a Confucian scholar, a country was viewed, just like a man was, to be worth what its learning is. According to him, even though there are many countries in the world, large and small, there are only four worth mentioning. All others, even though they might be large and with far reaching frontiers, "because of the imbecility, ignorance, barbarism and bestiality" of their sovereigns and people, "they are similar to small countries".[1237] Except for territorial extension, he does not mention any of those things that uncultivated minds usually associate with greatness in a country, such as population, riches, armies, trades and the like. It is obvious that he does not consider any of these dimensions to provide any distinction or eminence to

[1237] Unless stated otherwise, all the quotations in this chapter are from "A Comparison Between the Learning in Four Countries".

nations. As a result, and taking in consideration what was mentioned above about the geographic revolution, and the fact that Genshō was well versed in the history and geography of China and Japan, and also that he lived in a port city with extensive commercial links and intensive flow of travellers, he must have had in mind a considerable number of countries not worth the paper and the ink their names would require to be mentioned.

According to Genshō, the four countries worth mentioning can be divided into just two groups, those "where letters are written vertically and chopsticks are used when eating", which are Japan and China, and those "where letters are written horizontally and do not use chopsticks when eating", Southern Barbary and India. Not that Genshō believed that how letters were written and food was eaten was an essential distinction among cultures, but it was a handy way for him to tell apart the two major groups of civilizations. Genshō was a firm believer that what made people different was not wealth, health, or daily habits, but their cosmovision, that is, the way they saw and interpret the world in its physical, personal and societal realities. He must have known some Southern Barbarians and Indians, as well as some Japanese, able to write vertically and to eat with chopsticks that still saw and interpreted the world in a completely different way from his. And at the root of those different perspectives, and what was really important and distinctive between the two groups he thought worth mentioning, was their methods of "deepening knowledge".

In two short paragraphs he concisely presents the root of their differences. He first sets forth the fundamental components of what we today call East Asian civilization:

"The people of the countries where letters are written vertically and chopsticks are used when eating make as their central methods of deepening knowledge the *principle* and *vigour* [theory], the *telluric* and *solar* [theory] and the [theory of] *five phases*. These countries are Japan and China and their schools are Shintoism, Confucianism, and the Medical School. Astronomy, calendar making and *telluric* and *solar* [divination] practice are the branches [of these schools], and the hundred arts feed from their remains."

Then he introduces the basic characteristics of what might be called the Indo-European civilization:

"The people of the countries where letters are written horizontally and do not use chopsticks when eating, but instead use their hands directly while eating, do not know the methods for deepening knowledge that are the *principle* and *vigour* [theory] and the *telluric* and *solar* [theory] and doubt what pertains to the [theory of] *five phases*. Therefore they simply make the four elements earth, water, air and fire their main [theory]. These countries are India and Southern Barbary. The science of Holland is the same as that of Southern Barbary."

The root of their difference is epistemological. The most basic difference between East Asia and the Indo-European world is their different "methods of deepening knowledge", that is, their different ways to apprehend the reality and meaning of phenomena. While in Japan and China three basic theories, the *principle* and *vigour* theory 理氣, *ri-ki* in Japanese and *li-qi* in Chinese, the *telluric* and *solar* theory 陰陽, *in-yō* or *on-yō* in Japanese and *yin-yang* in Chinese, and the *five phases* theory 五行, *gogyō* in Japanese and *wuhang* in Chinese, serve as the basic framework to interpret all reality and reach its innermost significance, in Southern Barbary and India the lack of these three theories in their intellectual framework is the most striking and defining characteristic of their scholarship. As they lack these theories they use the four elements theory as their fundamental interpretative tool of all natural phenomena.

Why did different cosmovisions evolved from the four major civilizations? In this short essay Genshō seems to attribute their differences to their respective countries' natural customs and morals and therefore to their convenience:

"[T]he people of the four countries have their natural customs, as well as their natural moral behavior and virtues. Consequently their sciences are not uniform, and depending on the convenience of each country there is a [different] method of deepening knowledge."

It would thus seem that he believed that customs and morals, i.e., ritual, are more fundamental than the sciences and determine them. Later he will also attribute Southern Barbarian superior methods of estimating the dimensions of the world to their imperialistic tendencies. However it should be noted that at other places he makes the opposite relationship: the lack of basic explanatory tools like the *principle* and *vigour*, *telluric* and *solar* and the *five phases*' theories lead Southern Barbarians to accept a wrong religion:

"[I]t doubts what concerns the theory of the *five phases* and ignores the *principle* and *vigour* [theory] and the *telluric* and *solar* [theory]. Thus it is simply a means [of knowing about] the appearances of things. Consequently, concerning the meaning beyond appearances, they are dark without any light. […] In what pertains to the knowledge of the Three Ages they are dark, as they have gone astray with the theories of Paradise and Hell."

The consequence of not accepting these basic theories is also at the root of accepting a perverse morality and the accompanying wicked behaviour:

"Not knowing about the meaning of change, of advancement and of becoming, when he argues about the law of nature in Heaven and Earth and in the myriad things and about the virtues of the human heart, all his views cannot be said not to be wicked and perverse."[1238]

Further, it should be noticed that through all the commentaries Genshō constantly berates Southern Barbarian scholars' non acceptance of the three basic theories as the root of their entire devilry, and never refers to national customs as a problem. Instead the implied causality is that lacking the *principle* and *vigour* theory, the *telluric* and *solar* theory and the *five phases* theory their knowledge cannot capture the inner meaning of phenomena, and lacking this their morality is wrong and so is their behaviour. After presenting these preliminary considerations Genshō turns his attention to each of the four types of learning.

3. The learning of Southern Barbary

If we were to take Genshō's words in their strict sense, the four elements theory would be the only interpretative tool of Southern Barbarian scholars. However, as Genshō knew well, there were other important features in the learning of Southern Barbarians. For example, there were very well known beliefs about creation by one *Deus*, and also the theories dealing with the three types of soul of living beings. However, these ideas about Creation and soul had become so strongly associated with Christianity, and were not dealt directly in the *Kenkon Bensetsu*, that Genshō chose not to mention them. In what concerns him in this treatise, the Southern Barbarians

[1238] *Kenkon Bensetsu*, First volume, Introduction.

explained everything with recourse to the four elements, even creation and the workings of living beings:

"According to the theory of South Barbarian learning, the first cause of the myriad things is in the four elements earth, water, air and fire. From the combination of these four elements the myriad things are produced. Consequently, forming the bodies of the myriad things, the bones and flesh are in the category of earth, blood is in the category of water, [bodily] heat is in the category of fire, respiratory movements are in the category of air, and beside these four there is no other thing in the body of the myriad things."

As a matter of fact, the Southern Barbarian cosmology as presented in the *Kenkon Bensetsu* is purely Aristotelian, but with a striking characteristic for the age and its claimed provenance: it is a system devoid of theism. This may have to do with the expurgation that Chūan probably made of any reference found in the treatise brought by Rubino that might be considered an allusion to the Christian God. The result of taking out Christian references would thus have been the taking out also of God the First Principle. Another important point to note is that it is also an Aristotelian system devoid of its biological theories, what would be expected in a European treatise about the physical Universe, but still would have been felt lacking in completeness by a Confucian scholar used to see everything related to everything else in the big picture.

Moreover, Genshō commentary makes western knowledge seem like pure materialism, the origin of everything being attributed to the four basic material elements. This contrasts with the more idealist Confucian perspective according to which an immaterial principle is the pattern that gives form to matter. Genshō claims that because Southern Barbarian learning is focused entirely on matter and thus lacks the equilibrium between matter and a pattern giving *principle*, which is found in the learning of China and Japan, its adherents have to take refuge in the evil Christian doctrines when arguing about the nature of the Universe or the virtues of the human heart. Evil, according to the Japanese Confucian's view, because it does not respect the five basic social relations, and imposes an unnatural one between each man and God, or His representatives on Earth—which is made the all important relation. Concerning the Southern Barbarian

theories about creation and living things Genshō remains silent, as they would have been dealt with in several of his other works.[1239]

3.1 The roots

The theories described in the treatise composed by Chūan had originated some two thousand years before in Greece. A long tradition of thought on natural philosophy, their roots going back to ancient Egypt and Mesopotamia, already existed before the fourth century when Aristotle (384—322 BC) systematized and synthesized it together with his own powerful new insights and innovations.

Notwithstanding the fact that Mesopotamians, Egyptians, and early Greeks made important contributions towards a better understanding of the world their interpretation of natural phenomena relied heavily in magic, the supernatural and mythology.[1240] A new direction was opened starting in the sixth century BC by the Pre-Socratic philosophers that introduced two important innovations. One was the discovery of nature, that is, the Universe minus Man. Another was the distinction between natural and supernatural realms.[1241] Still another was "the practice of rational criticism and debate."[1242]

The first Pre-Socratics were monist because they explained diversity and change in nature, which was assumed permanent, with recourse to a single substance. Thales of Miletus postulated that all reality was reducible to the element water through its three states of gaseous, liquid and solid. Anaximander (*ca*. 610—*ca*. 547 BC) called upon the existence of an indeterminate substance called the *apeiron*, or boundless, from where all aspects of reality originated and into which they dissolved. He also introduced two ideas that would be used for over two millennia: one to explain change, namely that change is

[1239] See the Introduction.

[1240] Edward Grant, *A History of Natural Philosophy: From the Ancient World to the Nineteenth Century*, Cambridge, Cambridge University Press, 2007, pp. 1-8.

[1241] Or, as G. E. R. Lloyd, *Early Greek Science: Thales to Aristotle*, New York, W. W. Norton, 1970, p. 8, puts it, is "the appreciation of the distinction between the 'natural' and the 'supernatural', that is the recognition that natural phenomena are not the products of random or arbitrary influences, but regular and governed by determinable sequences of causes and effects".

[1242] *Ibid*.

the result of an interchange of opposite qualities like hot and cold, and another to explain why the Earth is unsupported in the centre of the universe, namely because it is equidistant from everything and therefore has no reason to move towards any direction. Anaximenes of Miletus (*fl.* 546 BC) assumed that it was from air that all things were made, differences being explained through various degrees of density and rarity, fire being rarefied air in extreme and stones thick air.

Against this postulate of the Pre-Socratics, later philosophers such as Parmenides of Elea (*ca*. 515—*ca*. 450 BC) and Zeno of Elea (*ca*. 490 BC? – *ca*. 430 BC?) argued that change is impossible and thus illusory, and that being could not originate from not-being. Their influence in later natural philosophy was profound. Monism was abandoned and pluralism of substance was introduced. One of the first and most important of the pluralists was Empedocles of Acragas (fl. 450 BC), who, according to Simplicius of Cilicia (*ca*. 490—*ca*. 560 AD) "makes the material elements four in number, fire, air, water, and earth, all eternal, but changing in bulk and scarcity through mixture and separation; but his real first principles, which impart motion to these, are Love and Strife. The elements are continually subject to an alternate change, at one time mixed together by Love, at another separated by Strife; so that the first principles are, by his account, six in number."[1243] The description found in the *Kenkon Bensetsu* of the composition of the sublunary world is quite similar to the description of Empedocles's basic theory as described by Simplicius. But it was Aristotle of Stagira (384—322 BC), "probably the most significant intellectual figure in the history of the Western thought up to the end of the sixteenth century,"[1244] who established the pluralism that would reach Japan at the same time as Christianity.[1245] And it was also through him, imbibed in his teachings that the Pre-Socratic theories were presented to the Japanese.

[1243] Translation by G. S. Kirk and J. E. Raven, *The Presocratic Philosophers: A Critical History with a Selection of Texts*, Cambridge, Cambridge University Press, 1957, pp 329-330, cited in Edward Grant, *A History of Natural Philosophy: From the Ancient World to the Nineteenth Century*, Cambridge, Cambridge University Press, 2007, p. 14.

[1244] Grant, *op. cit.*, p. 33.

[1245] For a presentation of the life and achievements of Aristotle see George Sarton, *A History of Science: Ancient Science through the Golden Age of Greece*, Cambridge, Harvard University Press, 1952, pp. 470-473.

3.2 The field

One of the important contributions of Aristotle was to establish and delimit the field where natural philosophy would develop. Although it had started been practiced much earlier it was Aristotle who defined what would be considered to be the objects of study of natural philosophy. His definition would have a lasting effect, delimiting and shaping the scope of nearly two thousand years of speculation and research on nature.

Aristotle classified human knowledge into the productive sciences, those directed to the production of useful objects; the practical sciences, those dealing with human conduct; and the theoretical sciences, where everything else felt.[1246] He further divided this last group into metaphysics, which deals with things that are unchangeable; mathematics, which concerns things that also are unchangeable but have no independent existence; and physics, or natural philosophy, which considers objects that exist separately, are changeable and subject to movement and rest.[1247]

For Aristotle and his followers down to the seventeenth century, the ground of natural philosophy consists of the motions and transformations of the four elements of the sublunary world; the generation and corruption of the compounded bodies there produced, including animals and plants; the phenomena in the upper region of air, just below the Moon; and the motions of celestial bodies.[1248] However, Aristotle did not consider that all change was the object of natural philosophy. Change related to the human body, or medicine, was excluded from the field of study of natural philosophy. This reflects the view that nature does not include Man, or that Man transcends nature. Further, Aristotle also excludes from natural philosophy the "branches of mathematics, such as optics, harmonics, and astronomy".[1249] Still, because he considered these branches of mathematics as the more natural of the mathematical sciences, and also because somehow his works on astronomy were included in the set of his *libri naturales*, astronomy was usually associated with natural philosophy. The canon of the *libri naturales*, in which were included *Physics*, *On the Heavens*, *On the Soul*, *On*

[1246] Grant, *op. cit.*, p. 38.

[1247] *Ibid*., p. 39; *Metaphysics*, book 6, chapter 1.

[1248] *Ibid*., pp. 41-42.

[1249] *Physics*, book 2, chapter 2.

Generation and Corruption, *Meteorology*, and *The Short Physical Treatises*, became the *de facto* definition of what was the field of natural philosophy.

3.3 The trunk

The Aristotelian natural philosophy never was a static theory, even during Aristotle own life. After his death, it underwent a slow interpretative and development process by later Greek, Arab and European philosophers, who seldom agreed with one another completely, and therefore it is hard to pinpoint what is the real Aristotelian thought on many matters of detail. Nevertheless there are some basic tenets that are common to most thinkers considered to belong to this school, and that were taught during several centuries in the universities throughout Europe. These basic teachings are the foundation of a vast literature in the tradition of the *De Sphaera Mundi* (*ca*. 1230) of Johannes de Sacrobosco (*ca*. 11995—*ca*. 1256) which included textbooks, lecture notes, and philosophical treatises.[1250] Let us now review them.[1251]

The most striking idea, as Genshō commentaries bear out, is that the universe is composed by two regions with completely different characteristics. This postulate was one of the great differentiators between European and East Asian natural philosophies, one that time and again will be attacked by Genshō in his commentaries. It fits the western tendency to see objects and phenomena in their isolation and goes counter the East Asian proclivity to see everything integrated with everything else.

One of these regions is the Earth, which is composed by four basic elements and constitutes the sublunary world. The Earth is spherical and motionless at the centre of the universe. In the *Kenkon Bensetsu* this part of the universe is dealt first, in the first book that in some manuscripts, namely manuscript (i), are divided in two volumes. This treatment of the sublunary world first was not unusual but neither was it standard

[1250] Concerning the vast medieval literature on the sphere see Lynn Thorndyke, *The Sphere of Sacrobosco and its Commentators*, Chicago, University of Chicago Press, 1949.

[1251] On writing the material that follows I drew mostly on Goméz' *De Sphaera*; Joseph de Tonquédec, *Questions de Cosmologie et de Physique Chez Aristote et Saint Thomas*, Paris, Librairie Philosophique J. Vrin, 1950; Edward Grant, *The Foundations of Modern Science in the Middle Ages*, Cambridge, Cambridge University Press, 1996; and David C. Lindberg, *The Beginnings of Western Science: The European Scientific Tradition in Philosophical, Religious, and Institutional Context, 600 B.C. to A.D. 1450*, Chicago, The University of Chicago Press, 1992.

practice. In Clavius' *In Sphæram Ioannis de Sacro Bosco*, the sublunary world was dealt first, but in Pedro Goméz' *De Sphaera* it appeared last.

The other region is the Heavens, which are composed by one quintessence completely distinct of the four elements. The Heavens are also spheres and are placed over the sphere of Earth enveloping each other, the superior covering the preceding one. In the *Kenkon Bensetsu* this is dealt with in the last two volumes.

Below the Moon

One important aspect of Aristotelian philosophy lays in trying to identify and explain the causes of change in the sublunary world. Aristotle assumed the existence of a basic undifferentiated matter, not mentioned in the *Kenkon Bensetsu,* which although real has not independent existence or properties. By taking on pairs of non-opposed qualities basic matter takes on the form of an element.

According to Aristotle, all earthly bodies are composed by the four elements of Empedocles: earth, water, air and fire, and each of these elements have their proper and appropriate place in the sphere of the Earth. Element earth, being the heaviest, is the lowest at the centre of the globe. Water envelops the earth, not completely, but partially. The air surrounds the water, and in turn is enclosed by the fire.

Each element has a natural tendency to its proper movement that it performs whenever there is no interposing obstacle that prevents it from happening. The end of the movement is the proper place of the element. Earth has a natural tendency to place itself below all the other elements, having a tendency to move downwards, to the centre of the universe, which is its proper place. On the other hand, air and fire are carried by accessional movements according to the degree of their own lightness and subtleness, fire rising up to the superior regions and air placing itself immediately below it. Like the earth, the water moves down, but with a weaker movement, and it covers the low regions of the surface of the Earth, its crevices and caves, but leaving uncovered its higher places, the elevations and mountains. The lump of each element gathered together in its proper place makes one sphere. However, while the sphere of the earth is a full sphere, the spheres of water, air and fire are hollow spheres enveloping the previous one.

Besides the movements proper to their own nature, the elements are induced to other movements depending of the place they occupy. This induction may be more or less strong depending on the distance between the inducing agent and the induced object, and also depending on the resistance made by the latter. For example fire, in its sphere, is induced into a circular movement by the heavenly sphere immediately above. Similarly air, in the upper region of its sphere, is in turn induced into a circular movement because of its contiguity with the sphere of fire. In an analogous way and attributable to similar causes, water is induced to the movement called tide, which is caused by the movement of the Moon. On the other hand, earth, because of its greater distance from the heavens and due also to its rigidity, is not sensible to these influences. From this it can be established that Heavens can determine some natural phenomena on the Earth.

The four elements oppose mutually through their fundamental qualities: hotness and coldness, dryness and dampness. In each element the qualities are joined in pairs, what allows the characterization of each element: earth is cold and dry, water is cold and humid, air is hot and humid, and fire is hot and dry. In each element one quality is active and the other is passive. Through its pairs of qualities each element can interact with the others.

In the region where men live it is rare to find an element in its pure state, it being usual to find them in mixtures. For example, in this region fire appears always in association with some solid or gaseous substance, that is, together with the nature of earth or of air: the flame is a dry vapour in ebullition. There are five degrees of things that arise from the mixture of the four elements. The lowest are meteorological phenomena, followed by minerals and stones without life, by plants, by animals and by Man.

Earth and fire oppose themselves in maximum degree, because they are the elements most extreme and most pure. Water and air are intermediate elements that mix more easily with the other elements. Earth is the element which is the most material, thickest, most dense, most passive, less luminous, heaviest and deprived of all lightness, and which occupies the lowest and most ignoble place of the universe.

On the other hand the characteristics of fire make it the most subtle element. Subtlety is the inverse of density. The former quality differs from the latter in the sense that the less matter per unity of volume a body has the more subtle it is. The more subtle

a body is the more light it is. Lightness is the opposite of heaviness; as heaviness is the tendency to the centre of the Earth, lightness is the tendency away from the centre. This is the reason why fire, being the most subtle of the four elements, takes the highest regions of the sublunary world. As shape is the positive aspect of being and the principle of all activity, the element whose shape is less limited by mater is the most active. Fire is the element that has the most intense activity: it consumes everything, burns the bodies formed by earth, boils and evaporates water, and rarefies air. Its intense activity protects it from mixtures and makes it the purest of all elements. The substance which is in direct contact with the Heaven of the Moon is not fire itself but fire in a potential state. This substance becomes fire inflamed through the movement it receives from the celestial bodies. Fire is the most luminous and the hottest of all elements. Light and heat are intimately related, heat being generated by light in direct proportion to its intensity. It is because of this that nights of full Moon are warmer than the others. As fire does not exist in isolation nor in its pure state at the surface of the Earth, but its appearance is always in conjunction with one of the other elements, what is usually called fire is not the element in its purity but earthly mater in ignition. In its sphere fire is also with other mater, but it is the less thick and lightest of all mater, except for itself: the highest air, rarefied and dry in extreme. This fire, attached to a minimal amount of mater is not visible and our knowledge of its existence does not depend on sensorial perception, but it is apprehended through reason.

Water and air are intermediate elements with less accentuated characteristics than either earth or fire.

Over the fire

Aristotle considered the regions above the sphere of fire, the Heavens, completely different from those below it, and so superior to them that their properties should be correspondingly different. As constant change is a property of the earthly regions, so does the absolute lack of change characterize the celestial regions. As linear movements are the natural movements of the four elements, so is the circular movement, closed and complete in itself, the natural movement of the heavenly mater.

Heaven begins with the sphere of the Moon, just above the sphere of fire, which is the first of the heavenly spheres. Above this first heaven there are the spheres of the

other celestial bodies, the orb of the fixed stars being the last which is perceived by the senses.

Heavens and the bodies therein included are not made up by the four elements of the sublunary world. The matter that fills the Heavens and all its parts is a first element different from the other four elements. It is called element, not only because it is part of the corporeal world but also because it is a body that is simple. However it is completely distinct from the elements that can be found in the sublunary world. Besides first element it is also sometimes called fifth element, fifth essence, ether; it is also named with designations borrowed from earthly substances like fire, crystal, water, etc, which are applied to it because it has with them similarities like luminosity and transparency, not because of similarity of natures.

The dissimilarity between the sublunary elements and the ether that is placed above fire derives from the continual change to which the former are subjected, in opposition to the immutability of the latter. In the terrestrial orb the size, colour, speed and other characteristics of the bodies are always changing. More fundamentally, all terrestrial bodies have a beginning and an end, they are composed and decomposed, they are born and they die. In opposition to this, in the Heavens nothing changes except for spatial positioning: the Sun, the Moon, and the planets always present the same appearance and periodically fulfil the same movements. The changes that seem to occur in the Heavens actually happen in other regions. Comets, shooting stars and meteors that appear intermittently do not belong to celestial phenomena but take place in the sublunary region, in the sphere of the fire. Therefore Heavens are made by an incorruptible substance, unchangeable and eternal. Change means an alteration of quality. Un-changeableness in the celestial bodies is not the lack of all qualitative change but the lack of loss. Therefore it can be observed, for example, that the luminosity of the Moon changes according to its relative position to the Sun, but that is not thanks to any loss that it might suffer.

Another reason for the intrinsic dissimilarity between ether and the four elements is the type of movements each performs: different natural movements denote an essential difference in the nature of the substance. While all the movements in the Heavens are circular around the centre of the universe, those of the bodies in the earthly orb are straight and are by nature downwards or upwards. Therefore this shows that the celestial substance is essentially different from the substance of the terrestrial elements.

The circular movement of the heavenly bodies is the only change they are subject to, as they are not subject to generation or corruption, growth or diminishing, changes that affect every object in the earthly sphere. Therefore, this movement leaves intact the intrinsic properties of being.

Contrary to the substances in the sublunary world, the substance of the heavenly spheres does not have weight or lightness, not even the extreme lightness proper to fire, because its nature hasn't the tendency to get away from the centre of the World. Needless to say, its absolute lack of weight can be deduced from its complete absence of propensity to advance towards that centre. Furthermore, because it does not move towards any other place, nor does it remain still, the fifth element cannot be said to have its proper place, as have the earthly elements which naturally come to a halt and stay unmoved once having reached the end of their movement. Not only it cannot be said that it has a proper place but even it cannot be said that it occupies some place because place is by definition a limited space and beyond the heavens there in nothing that makes any bound or in any way limits it. The celestial matter is from its beginning, and forever, in its definite state. Its shape has from that first moment, and for all time, the utmost perfection it is capable of having. Therefore the heavenly bodies remain unchangeable forever. To stress this point again, the only change that their nature allows is their circular movement.

Like the earth, water, air and fire in their proper places, Heaven is a sphere. It is constituted by several concentric hollow spheres that nest one into another. Just as the regions of the four elements overlap each other without any aperture between them, all celestial spheres are in absolute continuity. The sphere of the Moon is contiguous to the sphere of fire and in direct contact with it so there isn't any void in the universe. The heavenly bodies are not free in space nor do they move in an independent way. They are attached to their respective spheres, move with them, and besides this movement do not have any other type of motion. Just like the spheres where they are placed, the heavenly bodies are spherical and made by the fifth element. Concerning whether the ether is homogeneous or not, which was a question that Aristotle did not answer in a categorical fashion, there was not uniformity of position among philosophers for a long time. However, after Thomas of Aquinas, it became accepted that the quintessence is susceptible of having different states. This was concluded from the fact that though the celestial spheres are pellucid, the bodies attached to them, the Moon, the Sun and the

stars, are opaque, as it is evident from the eclipses. This opacity was attributed to a condensation of the ether. The ether, both in the spheres and in the bodies therein placed is a solid and extremely hard substance.

There are in the Heaven two kinds of movements. The first is the joint rotation of all the Heavens. The second is the particular movement which each individual Heaven exhibits and which have their own proper duration, direction and amplitude. The stars that haven't specific movements and whose relative position remains invariant are placed in the same sphere, called the sphere of the fixed stars. They are the celestial bodies furthest away from the Earth, and contrary to the wandering stars they twinkle, what is no more than an apparent dimming to their brightness which is caused by their great distance.

But there are seven bodies that have their own movements. To explain these particular movements Aristotle, following Eudoxus and Calippus, assumed the existence of three concentric spheres for each wanderer, a system altered by Ptolemy who assumed the three spheres were eccentric, each one with its own centre. In this later system the centre of the eccentric spheres turns around the centre of the Universe. Therefore it could still be said that the centre of the movement of each celestial body was the centre of the Universe. The set of spheres related to the movement of a planet are called the sphere of that planet.

All together there are seven Heavens with just one celestial body. Though there was a major variant, the main view held that the order of these Heavens is Moon, Mercury, Venus, Sun, Mars, Jupiter and Saturn. The highest Heaven is that of the fixed stars, which is the Eight Heaven. This Heaven is the first mobile, the Heaven that executes the first rotation and is not under the influence of nothing but the first immobile motor. Its rotation draws along all other Heavens in a movement from east to west. The existence of Ninth Heaven was deduced by Ptolemy to explain the precision of the equinoxes, a slow movement in opposite direction to that executed by the Eight Heaven.

3.4 The branches

The cosmological system briefly outlined above, and made known in a simplified way to seventeenth and eighteenth century Japanese through the *Kenkon*

Bensetsu, slowly matured through the centuries after Aristotle first systematized and taught it. New observations, ideas and interpretations were incorporated into it by Greek astronomers and natural philosophers such as Eratosthenes (276—194), Hipparchus (*ca*. 190—*ca*. 120), and Ptolemy (*ca*. 90—*ca*. 168), by Arab scholars such as al-Farghānī (*ca*. 800-870) and al-Battānī (*ca*. 850-929), and by scholastic philosophers such as Thomas of Aquinas and John of Hollywood (*ca*. 1190-1236), but as a whole the system remained recognizably Aristotelian.[1252]

This system was received by the Jesuits who adopted it in their teaching. It was taught by them in the Coimbra College, where Pedro Goméz was a teacher and Pedro Ramón, Christovão Ferreira and Christopher Clavius were students. It was taught in the Roman College by Clavius to Mateo Ricci and Spinola. It was taught in the Goa College by Antonio Rubino. It was taught in Macao to Ferreira. [1253] And it was taught in Japan by Goméz.

As was already described, arising from this teaching by the Jesuits several written works were produced that were studied by the Japanese. This is nothing more than the transposition to East Asian of ancient European tradition of writing books on *De Sphaera*.

Some were written in China and were imported into Japan both before and after the closure of the country. Among these we may briefly point the *Kenkon Taigi* 『乾坤體義』 of Mateo Ricci, of 1604, which Genshō and Razan must have read, the *Konten Gisetsu* 『坤天儀説』 of Johann Adam Schall von Bell, of 1638, the *Tenmon Ryaku*

[1252] For the evolution of natural philosophy from late antiquity to the middle ages see Edward Grant, *op. cit*., especially chapters 1, 2 and 3, and Edward Grant Grant, *A History of Natural Philosophy: From the Ancient World to the Nineteenth Century*, Cambridge, Cambridge University Press, 2007.

[1253] It was taught in the Macao College for many years. In the *Catálogo das Informações Commuas dos Padres e Irmãos do Collégio de Macao, feito a 25 de Janeiro de 1604*, found in Josef Franz Schütte S.J., "Monumenta Historica Japoniae I: Textus Catalogorum Japoniae Aliaeque de Personis Domibusque S. J. in Japonia Informationes et Relationes, 1549-1654," *Monumenta Historica Societatis Iesu*, vol. 111, Roma, Apud Monumenta Historica Soc. Iesu, 1975, p. 485 and 487, we can deduct that it was being taught by Father Francisco Lopes ("P. Francisco Lopes, Português, natural de Proensa a Nova, do priorado do Crato, de idade de 30 annos, da Companhia 15, de boas forças. Acabou os estudos de philosophia e theologia. Lê agora curso.") to Brother Christovão Ferreira ("Irmão Christóvão Ferreira, Português, de Torresvedras, do arcebispado de Lisboa, de 24 annos de idade, da Companhia 7, de boas forces. Vai no derradeiro anno de philosophia.").

『天文略』 of Manuel Dias, written in 1614[1254], and especially the *Tenkyo Wakumon* 『天經或問』 of Yu I (1675), which, together with the *Kenkon Bensetsu* was one of the books on western cosmology most widely read in Japan, if we consider the number of copies that have arrived to our day.

Of those written in Japan, the first was *De Sphaera* by Pedro Goméz (1593), which was already mentioned in Chapter III. It was written originally in Latin, but it was translated some months later into Japanese, under the guidance of Pedro Ramón, into what is now known as the *Kōgi Yōkō* 『講義要綱』 (1595). This *Kōgi Yōkō* was actually the first systematic treatise of cosmology written by the Jesuits in East Asia. The Japanese translation of *De Sphaera* is now lost, but in all probability it was adapted, through the deletion of its references to Christianity, into what now is known as the *Nigi Ryakusetsu* 『二儀略説』.

The *Nigi Ryakusetsu* is attributed to Kobayashi Kentei 小林謙貞, also known as Yoshinobu 義信, an astronomer and surveyor resident in Nagasaki. It is generally assumed that Kentei and Higuchi Gon-uemon 樋口権右衛門, a famous Nagasaki surveyor know to have had close contacts with the Dutch, are the same person. He seems to have been a disciple of Hayashi Kisaemon 林吉差衛門. When Hayashi was arrested, under suspicion of being Christian, Kobayashi was also taken by the authorities. Contrary to his master, who was executed, Kobayashi was spared and remained arrested for over twenty years until 1664. He seems to have assumed a new name after his release, and at the urging of the Nagasaki Bugyō Ushigome Chūzaemon, opened his own school where he taught astronomy and surveying. He seems to have had an unfortunate end, dying at the sword of a distressed friend he was trying to console from a business misfortune.[1255] The very similar pattern of exposition to the *De Sphaera* of Goméz together with the literary qualities of the *Nigi Ryakusetsu*, written in a much more elegant Japanese than the *Kenkon Bensetsu*, seem to indicate that it has its origin in the Japanese version of the work of Goméz. Concerning the first

[1254] Concerning this work see Henrique Leitão, "The Contents and Context of Manuel Dias' Tianwenlüe", *The Jesuits, the Padroado and East Asian Science (1552—1773)*, Luís Saraiva and Catherine Jami (ed.), History of Mathematical Sciences: Portugal and East Asia III, Singapore, World Scientific Publishing, 2008, pp. 99-121.

[1255] This episode was related to me by Hiraoka Ryuji.

point, it can be said not only that in both cases the Heavens are dealt first and the sublunary world last, but also that the chapters and the order of their paragraphs are almost identical, except for the expurgation of references to Christianity; and concerning the second it should be pointed that the Jesuits translators were masters of the language, what was not probably the case of Kentei, whose interests certainly were less in literature than in the nature of the Heavens and the Earth.

Finally, from the Jesuit tradition appeared a family of books on cosmology attributed to Sawano Chūan. Historically, the most important is the *Kenkon Bensetsu*. It is the only one, in this extensive family, where the contrarian view of Genshō is conserved. It is also the one with more extant copies, what is usually taken to mean a wider reach and influence. These manuscripts are presented in the next section.

Additionally, it should be noted that cosmological ideas were also transmitted together with astronomical navigation techniques of Portuguese origin, by Portuguese and Spanish seamen making regular commercial trips between Macao and Japan and Manila and Japan. Astronomical navigation had originated in Portugal in the fifteenth century to provide a way to seamen to estimate their location on the terrestrial sphere through the measurement of the position of certain stars, notably the Sun and the Polaris, in the celestial sphere. This knowledge later was adopted by the mariners of other European nations, namely the Spanish. Evidence that it was also transmitted to the Japanese and adopted by them is found in *Genna Kōkaisho* 『元和航海書』, a treatise dated of 1618 authored by Ikeda Kōun, and in a set of numerous variants or even similar works such as *Funanori Hirauto* 『船乗ひらうと』, *Banreki* 『蛮暦』, *Ihō Funanori* 『異方船乗』, *Sanpō Nichigetsu kō* 『算法日月考』, *Nanbanryū tenmon* 『南蛮流天文』, and *Pirōto* 『比呂宇土』. These works, though compiled having in mind the Japanese sailors, probably reached those Japanese who had interest in surveying and the more practical aspects of astronomy. The techniques presented in Watanabe Gunzō's *Sokuryō Higen* 『測量必言』 (1727) certainly bear much in common with those described in these books.

All these works bear testimony to the transmission of European cosmological ideas. They reached, with more or less accuracy, with greater or weaker impact, a host of Japanese, such as private astronomers as Iguchi Tsunenori 井口常範 (fl. seventeenth century), author or *Tenmon Zukai*, of 1689, philosophers of the *Kogaku*

school as Nishikawa Seikyu 西川正休 (Genroku 6—Hōreki 6, 1693—1756), Buddhist philosophers like Monno 文雄 (Genroku 13—Hōreki 13, 1700—1763) author of *Hi-Tenkyo Wakumon*『非天經或問』, of 1756, and neo-Confucian scholars such as Arai Hakuseki.

3.5 The leaves

As was mentioned above, the textual tradition of the *Kenkon Bensetsu* includes several variants, other texts whose contents and style are related to and depend on the *Kenkon Bensetsu*. Together with the number of extant manuscripts, the number and quality of these variants is an indicator of the diffusion of this treatise. A study of these variants, of their mutual dependency and evolution in time during more than two centuries of this textual transmission, as well as of their diffusion among the Japanese scholars of the Edo period, is of the greatest importance for at least two reasons. One is that it is an essential work for the understanding of the influence of Southern Barbarian natural philosophy on the evolution of Japanese thought on nature. Another reason is the insight that its study would provide to the phenomenon of the evolution of a textual tradition inserted in the environment of an alien culture. Although such a study is beyond the purpose of this work, a brief reference should be made that after almost a century of neglect this study was started recently by Hiraoka Ryuji.[1256]

As can be observed in Appendix 2 there are fourteen known manuscripts with the name of *Kenkon Bensetsu*, twelve of which were in all probability made in the seventeenth and eighteenth century. From a colophon in the first volume of manuscript [A3] we are informed that it was copied in 1912 from the Osokawa manuscript [A13] and collated with the Kanō manuscript [A5]. Manuscript [A3] was used in preparing the *Bunmei Genryu Sosho*[1257] edition of the *Kenkon Bensetsu*, and these two manuscripts are there referred respectively as manuscripts ア and イ. They are referred to here as

[1256] See Hiraoka Ryūji 平岡隆二, *Kinsei Nihon ni Okeru Nanban-kei Uchūron no Genten Kenkyū* 『近世日本における南蛮系宇宙論の原典研究』, Ph. D. Thesis, Kyushu University, 2010. Much of information in the paragraphs that follow was obtained from this work.

[1257] After the publication of the *Kenkon Bensetsu* in *Bunmei Genryu Sosho* in 1914 most researchers have used primarily, if not exclusively, this edition.

manuscripts (a) and (i), respectively. Note that only manuscript [A3] includes all the paragraphs of the treatise.

The *Tenmon Biyō*, or *Details on Astronomy*, is dated Shōhō 1, or 1644. It has ninety-four written pages with a preface, a list of contents and text and figures divided into two parts. The first one, with six paragraphs, is "About the Four Elements". The second one, with twenty chapters deals "About the Heavens". Its text is different and is shorter than that of the *Kenkon Bensetsu*: it has a smaller number of paragraphs and each paragraph is generally shorter than the corresponding paragraph in the *Kenkon Bensetsu*. The number of its figures is also smaller than that of the *Kenkon Bensetsu* but they are similar in the two treatises. However, in at least two cases, those concerning the position of the four elements and solar eclipses, they bear a closer resemblance with the figures found in Gómez's *De Sphaera*, and Kentei's *Nigi Ryakusetsu* than those in the *Kenkon Bensetsu*.

The *Shidai Zensho*, or *The Complete Book on the Four Elements*, probably originated in the second half of the eighteenth century. It does not include Genshō's preface, nor his "A Comparison Between the Learning in Four Countries". The text is, except for a few minor differences, that of the *Kenkon Bensetsu*, but it does not include Genshō's commentaries. Manuscript [C3] belonged to a merchant of Ise, Inagaki Teikoku 稲垣定穀 (Hōreki 14.3.5—Tenpō 6.11.9; 1764.4.5—1835.12.28), who had an interest in astronomy and geography. From a colophon it can be established that it was copied in 1794, and from an after word attributed to Tachibana Nankei 橘南谿 (Hōreki 3.4.21—Bunka 2.4.10; 1753.5.23—1805.5.8), also found in manuscript [C1], it can be deducted that the origin of this family of variants of the *Kenkon Bensetsu* is in some way linked with this scholar.

The *Bensetsu Nanban Unkisho*, or *An Exposition on a Southern Barbarian Book on Natural Fortune*, can be dated back to before 1671 because it was kept in an envelope bearing the date of Kanbun 10.12.13, or January 23, 1671. It belonged to the descendants of Matsudaira Isu no Kami Nobutsuna, the son-in-law of Inoue Masashige's brother and a key personage in the quelling of the Shimabara Rebellion.[1258] According to some scholars it was written by Kai no Kami Terutsuna 甲斐守輝綱 (Genna 6.8.5—Kanbun 11.12.12; 1620.9.1—1672.1.11), the son of Nobutsuna and kept

[1258] See Chapter IV.

for successive generations by his family, the Ōkōchi 大河内.[1259] It does not include the front matter found in the *Kenkon Bensetsu*: neither Genshō's preface, nor Chūan's preface, nor Genshō's "A Comparison Between the Learning in Four Countries". It starts with the part on the Heavens and ends with that on the Earth. In fact this order would seem to be more appropriate to the *Kenkon Bensetsu* itself, given that its name is *Exposition on the Heavens and the Earth*. The name of the chapters and their contents are those of the *Kenkon Bensetsu* with some minor variants like the omission or the introduction of different characters.

The oldest manuscript of *Nanban Unkiron*, or *Southern Barbarian Theories on Natural Fortune*, [E3] was also kept by the Ōkōchi. Its contents are reproduced and translated in Annex 3. As it can be observed it is divided into two books: the first book is named Ken 乾, or Heaven, and the second Kon 坤, or Earth. Like the *Bensetsu Nanban Unkisho* it the does not include the front matter found in the *Kenkon Bensetsu*: neither Genshō's preface, nor Chūan's preface, nor Genshō's "A Comparison Between the Learning in Four Countries". Genshō's commentaries are also lacking. Although the name of many chapters are similar to those found in the *Kenkon Bensetsu* it can be noticed that some chapters are lacking and that some matters that were discussed together in one paragraph in the *Kenkon Bensetsu* are divided into several paragraphs of the *Nanban Unkiron*.

The *Tenmon-sho*, or *Book on Astronomy*, belonged to Rakusaidō Bunko 楽歳堂文庫, a domain library founded by Matsūra Kyoshi 松浦清 (Hōreki 10.1.20—Tenpō 12.6.29; 1760.3.7—1841.8.15), the ninth daimyo of Hirado. Its contents are identical with the first book of *Nanban Unkiron*, lacking the exposition concerning the four elements. From several characteristics of the text, namely the lack of titles for the paragraphs and the use of small *kana* shifted to the right of the column, it can be assumed that it dates back to the first half of the eighteenth century or before, or that it is a faithful copy of a manuscript dating back to that period.[1260]

[1259] See Mikami Yoshio 三上義夫, "Matsudaira Kai no Kami Terutsuna no Sūgakujō no Jiseki Narabini Sanshū Yoshida (Toyohashi) no Sūgaku"「松平甲斐守輝綱の数学上の事蹟並びに三州吉田(豊橋)の数学」, *Tokyo Butsuri Gakkō Zasshi*『東京物理学校雑誌』, no. 517, 518, 519, 1934-1935; Fukui Hisakura 福井久蔵, *Sho Daimyo no Gakujutsu to Bungei no Kenkyū*『諸大名の学術と文芸の研究』, Tokyo, Koseikaku 厚生閣, 1937, pp. 319-320; Hiraoka, *op. cit*., 2010, pp. 110-114.

[1260] Hiraoka, *op. cit*. p. 144.

The *Tenmon Unkiron*, or the *Astronomical Theories on Natural Fortune*, belonged to the private library of Toita Yasusuke 戸板保佑 (Hōei 5.1.27—Tenmei 4.9.7; 1708.2.18—1784.10.20), the official astronomer of the Sendai fief, who participated in the calendar reform of Hōreki. He included the two books of *Tenmon Unkiron* as volumes 44 and 45 of the series *Tenmon Hisho* 天文秘書, or *Secret Books on Astronomy*, now in the University Library of Tenri University. Except for some minor differences, namely not including the numeration error in the ninth paragraph of the first book, it is the same text as the *Nanban Unkiron* already seen above.

The *Nanban Tenchiron*, or *Southern Barbarian Theories on the Heaven and the Earth*, and the *Tenmon Yōkai*, or *Essential Explanations on Astronomy*, are both versions of the *Nanban Unkiron*.[1261]

From the number and variety of all these manuscripts we can infer the interest Japanese scholars had about the Southern Barbarian knowledge concerning nature. However, other traditions about the natural world had been introduced much earlier into Japan.

4. The learning of India

While Genshō had to briefly describe the theories of Southern Barbarian Learning, so that his readers might understand what he was referring to, when he comes to the learning of Asian countries a simple sentence was enough for them to understand what he was speaking about. Actually he would elaborate on it but the essential would have been done. Concerning India he states:

"The science of India is that of Buddhist learning."

The primary and fundamental doctrine of Buddhism is that all existence on Earth is suffering.[1262] To be released from the wheel of suffering a being has to relinquish

[1261] *Ibid*, pp. 145-151.

[1262] Despite many conversations with Buddhist monks in Japan, some of them very friendly, as that between Xavier and Ninshitsu (see Documentos I, p. 147), others less so (see Documentos I, pp. 242-260), Jesuits took a long time to understand the gist of Buddhism. However, as early as 1556 a missionary would present the following Buddhist image of suffering as the natural state of sentient beings: "Damdo-lhe outra pergumta em meditação, que qual hé a boca por omde vão ao imfernno. E depois de bem meditado acerta com dizer que o luguar por omde sahe a criatura do vemtre de sua mai hé a boqua do imferno. Querem dizer que não hay outro imfernno sennão este mundo." *Sumário dos erros en que os*

every worldly desire. This can be achieved by meditation, whose objective is the attainment of nothingness. Human conduct may be object of meditation but nature is considered to be subjective and valid insofar as it is the setting for human behaviour. The importance of nature is thus marginal and is taken into consideration only because it happens to be there.[1263] Therefore Buddhism and most Buddhists did mot pay much attention to nature, and viewed natural phenomena in general, and astronomy in particular, with indifference, and considered it the realm of subjectivity.[1264] In ancient India the study of astronomy was discouraged among Buddhists.[1265] In China, only one native Chinese Buddhist monk made it to the *Chūjin-den*『疇人傳』, *Chou-ren Zhuan* in Chinese, the monumental compilation made in 1799 of the lives of astronomers and mathematicians active in China.[1266] Nevertheless from Buddhism sprang a cosmology. But it was vague and it betrayed a lack of conviction concerning the existence of an underlying regularity in the natural world.[1267]

Japanese Buddhists interest in astrology originated thus, not from original Buddhist practice, but from knowledge and practices that were taken from later Indian developments.[1268] This Buddhism had evolved into Tantrism, which came to resemble Hinduism, and was imported into Japan through China under the form of *Shingon Mikkyō* 真言密教. This form of Buddhism encouraged the pursuit of prosperity and other worldly blessings through the worship of Buddhist deities such as Dainichi, which Xavier poorly tutored by Yajirō had for a short time identified with God, and was compatible with the native Shintō system, with whom it merged by identifying the Shintō *Kami* with incarnations of the Buddha and the Bodhisattvas.[1269] Likewise,

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gentios do Japão vivem e de algumas seitas gentílicas en que principalmente confiã, Documentos I, p. 666. Concerning the identity of the author of this *Sumário* see Documentos I, p. 653.

[1263] Nakayama, *op. cit*., p. 75.

[1264] *Ibid*.

[1265] *Ibid*., p. 203.

[1266] *Ibid*.

[1267] *Ibid*., p. 204.

[1268] *Ibid*., p. 75.

[1269] Jennes, *op. cit.*, p. 6; Nakayama, *op. cit*., p. 76.

Japanese Buddhists interest in cosmology depended on intellectual traditions originating outside Buddhism, as Buddhist sacred texts were mostly silent on this subject.[1270]

According to Buddhist learning, the set of the myriad things, *hokkai* 法界, or universe, was considered as coextensive with the material and spiritual body of Dainichi.[1271] Its essence, *hosshō* 法性 or real nature, was established in the material world through the four elements together with space and consciousness, sometimes referred together as the six elements. The four elements are the same four as in the Southern Barbarian theory.[1272] Cyclical change, however, assumes in Buddhist thought a central place it had not in the Southern Barbarian cosmogony, and it is represented by birth, life, destruction and void, the *cycle* every sentient being experiences. The recognition by Buddhist philosophy that change is permanent is the point of similarity that draws it close to Chinese philosophy. However, by overemphasising change Buddhists deny the significance of the sensible world, going so far as arguing that it is a mere illusion, and instead they attribute all reality to the spiritual world. Such they equate with void and make it the ultimate reality. To the World of the four elements and to that of void several names are applied, each revealing in a mystical way some fundamental aspect of it. However, Buddhist philosophy "does not have from the outset the *principle* and *vigour* [theory] and the *telluric* and *solar* theory", and this is its most fundamentally damning characteristic, according to Genshō.

One of the most defining elements of the knowledge of India is its postulate of many worlds, or in Genshō's words "[t]he Four States of Sumeru, the Thirty-Three

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[1270] "In Japan, cosmology was essentially a Buddhist province until the late medieval period", states Fabio Rambelli, "Before the First Buddha: Medieval Japanese Cosmogony and the Quest for the Primeval Kami", *Monumenta Nipponica*, Vol. 64(2), 2009, pp. 235-271. He proceeds by noting that "[w]e can distinguish among at least four cosmogonic models available to medieval Japanese authors; these might be defined as, respectively, generation, fragmentation, emanation, and concretization." But then all sources presented for these four "models" are Shintō, Vedic, Puranic, Daoist and neo-Confucian. Therefore it is natural that a missionary would write in 1556 the following: "Perguntando-lhes a estes destas seitas [Amidist Buddhists] polo princípio do mundo nenhuma rezão sabem dar diso." *Sumário dos erros en que os gentios do Japão vivem e de algumas seitas gentílicas en que principalmente confiã*, Documentos I, p. 661.

[1271] Rambelli, *op. cit.*, p. 250.

[1272] "[Xaqua] declarou muito meudamente que não avia nada mais que ha matéria dos alementos, a qual lhe pos nome fombum, dizendo que este fombun não vivia nem morria nem sentia, e que avia a forma alementos, a qual chamou Genpo." *Sumário dos erros en que os gentios do Japão vivem e de algumas seitas gentílicas en que principalmente confiã*, Documentos I, p. 664.

Heavens, the Three Worlds, the Ten Worlds, and the theory of the Three Thousand Worlds". João Rodrigues gives a more detailed account of this multiplicity in his *História da Igreja do Japão*:

"Xaca, ou Xakia, e por outro nome Budda, cabeça da seita dos gimnosofistas da Índia, poem tres mundos, e depois tres mil, e finalmente quazi infinitos mundos, [...]. Nos primeiros tres mundos que Xaca poem, que chama Sangay, idest, tres mundos, poem em cada hum certo numero de Ceos, que ao todo são 33 com seus habitadores, huns de menos, outros de mais longa, e outros de vida eterna sem fim. O primeiro dos tres Mundos chama Yoccay, idest, mundo da concupiscencia; o mundo Xikicay, mundo corporeo, ou com cor, que he o mesmo a modo entre elles, e mundo incorporeo o sem cor. [...] alem destes tres mundos, poem mais outros tres mil. O primeiro se chama os mil mundos pequenos, o qual consta de mil montes destes [see below], e de mil soes, e mil luas. O segundo chamase os mil mundos do meyo, o qual consta dos mil mundos menores. O terceyro chamase os mil mundos grandes, que consta de mil mundos dos meãos. Isto hé a forma do mundo que poem Xaca, e os muitos Mundos que assinala, ss. tres mil no modo sobredito."[1273]

Concerning the Heaven and the Earth sensed by humans, the *shaba sekai* 娑婆世界 or the world of suffering that should be endured with patience, the Buddhists in Japan had adopted and followed mainly the Jaina cosmology.[1274] It assumed that the earth was a disk, or a square, with a high mountain at the centre, called Mount Sumeru, *Shumisen* 須弥山 in Japanese. Japan was located in the far eastern periphery of the southern continent of *Nansenbushū* 南瞻部州, or Jambudvīpa.[1275] Around this mountain the Sun, the Moon, and the other stars revolved. As the height of Mount Sumeru exceeded that of the planets, the movement of the Sun around the mountain would produce the day and the night, according to the time the mountain concealed the Sun or did not. Moreover, some times the circles performed by the Sun would be broader, the Sun circling farther away from Mount Sumeru, other times closer to it. Narrower circles corresponded to the summer, broader ones to winter.[1276] Originally, Mount Sumeru was

[1273] Fl. 160v.

[1274] Nakayama, *op. cit*., p. 205.

[1275] Rambelli, *op. cit*., p. 250.

[1276] See description in História, vol. I, pp. 219-220, already cited in Chapter III.

thought to correspond to the Himalayas, India being placed in the southern part of the Earth. In Japan Mount Sumeru was also supposed to lie to the north. This cosmology postulated that Mount Sumeru had nine levels, each one consisting of a crater filled with a sea having in its middle the rising mountain. Further, a hierarchy of different creatures had its world in each level. Borrowing again from the *História da Igreja do Japão*:

"Nestes tres mundos poem Xaca hum monte a modo de piramide muy alto chamado Xumixen, e o China Xumixon, com quatro lados ao pé, hum para o Sul, outro para o Norte, e outro para o Oriente, e outro finalmente para o poente, e em cada hum delles seus habitadores com differentes figuras do rosto, e corpo conforme a parte a que assinalão particular figura .ss. a parte do Sul que he quente na qual imaginão o elemento fogo, a figura piramidal na qual habitão os homens do nosso Mundo; a parte do Norte onde hé o lugar natural do elemento da agoa dão figura redonda; a parte do poente he quadrada, ou cuba de seis lados onde colocão a agoa[1277]; a do Oriente semicirculo onde poem o vento, ou a virtude locomotiva. Este monte tem Xaca que está apartado de nós por grande distancia para a parte do Norte. Diz que está fundado sobre tres Orbes que o sustentão: o primeiro, o mais baixo sobre o Orbe do vento e sobre este o de agoa, que cerca todo este monte. Tem este monte de altura fora da agoa 46080 legoas, e debaixo da agoa em profundo outro tanto que hé ao todo a altura 92160 legoas: sobre este monte estão 33 Ceos repartidos em tres ordens; e o Sol, e Lua, e estrellas andão, ou se movem ao redor deste monte, o qual no meyo hé mais delgado, e no baixo, e na parte superior mais largo ao modo de hum relogio de area donde vem a distinção do dia, e noite mayor, ou menor conforme ao lugar mais, ou menos grosso onde se movem [...].

Porem na verdade assim Xaca, como os Philosophos antigos que puserão muitos mundos in re poserão hum só verdadeiro habitado dos homens, e animaes com hum só Ceo, hum Sol, hũa Lua, e estrellas, e todos os demais forão fabulos, metaforicos, e misteriozos, a respeito do que passa dentro do homem. O que claramente se collige da doutrina doutrina de Xaca, e de seus textos, e interpretes onde declara que estes muitos mundos são egnimaticos, e simbolicos."[1278]

As it has been remarked by a modern author, "[t]he detail of the Buddhist cosmos were derived a priory from religious concepts, not observation; various fantastic

[1277] This is certainly a transcription error; earth must have been the intended meaning.

[1278] *Historia da Igreja do Japão,* fl. 160v-161.

numbers indicated the bulk of this imaginary world. Consistency with the visible world was not a primary concern."[1279] This was not the case with the learning of China.

5. The learning of China

China is an ancient country, one of the birthplaces of civilization. During its long history many schools of thought have flourished. These many intellectual streams have fed its largest, longest and strongest current, Confucianism. Therefore Genshō could properly define the learning of China as the learning of Confucians: "[i]n China [there] is the teaching of the saints, the learning of Confucians."

The learning of Confucians concerning the physical world is exact, or detailed, and uses three main conceptual tools: "[t]his teaching discoursing about Heaven and Earth and the myriad things is detailed in the *principle* and *vigour* theory, the *telluric* and *solar* theory, and the *five phases* theory." With these three theories *one can reach the uttermost of principle*. Therefore they are sufficient for a detailed understanding of Heaven and Earth. Not only that, but the very reality collapses into them, both the physical reality and the moral and religious reality:

"Besides the *principle* and *vigour* [theory], the *telluric* and *solar* [theory], and the *five phases* [theory] there is neither Heaven or Earth, Sun or Moon, neither humanity nor the myriad things. Besides the *principle* and *vigour* [theory], the *telluric* and *solar* [theory], and the [theory of the] *five phases* there is no morality. Besides the harmony and the interdependence between the *principle* and *vigour* [theory], the *telluric* and *solar* [theory], and the *five phases* [theory] there is no endowed characteristic. Besides the *principle* and *vigour* [theory], the *telluric* and *solar* [theory], and the *five phases* [theory] there is no past and there is no future [and the knowledge of this] is discernment and enlightenment. Hence [these theories] exhaust the *principle* of Heaven and Earth and of the myriad things, of departed spirits and of the Present and the Other World, of life and death, souls and spirits, of a Thousand Changes and Ten Thousand Transformations, to its limits, this is without any doubt."

Genshō points also that the *principle* and *vigour* theory, the *telluric* and *solar* theory and the *five phases* theory are common to three different schools, Shintoism,

[1279] Nakayama, *op. cit.*, p. 205.

Confucianism and the Medical School, and that not only "astronomy, calendar making and *telluric* and *solar* divination practice" but also "the hundred arts" feed from them. From this list we can conclude that Genshō believed in their universal appeal and richness of application. In contrast, the theory of four elements is simply the basis of the learning of the peoples who eat with their bare hands, and, as an afterthought, of one of those small countries not worth to mention, Holland. No mention is made in this "Comparison of the Learning of the Four Countries" of its possible application in any particular science.

In the commentaries of the *Kenkon Bensetsu* everything that is presented in the main text is evaluated by Genshō from the perspective of these three theories. What are they and what do they mean?

5.1 The origins

Before answering this question let us look briefly to the pre-Confucian origins of these theories. The *telluric* and *solar* theory and the *five phases* theory were not always closely linked together as they would become under Neo-Confucian influence. Master Lao was probably the first to use the *telluric* and *solar* theory to explain the process of development of the universe and the continuous change found therein.[1280] In a famous passage he describes the gradual differentiation of phenomena:

"The Way generates the One, the One generates the Two, the Two generates the Three, [and] the Three generates the Myriad Things."[1281]

This highly synthetic expression means that from the Way, or *Dao* as it is usually called, the undifferentiated *vigour*, or the One, is generated. Then from the One the differentiated *telluric vigour* and *solar vigour*, which are the Two, are generated. From these Two the Heaven, the Earth and Man are the Three that are generated. From the Heaven, the Earth and Man the Myriad Things come into being.

[1280] He certainly was not the first to use the words *yin* and *yang*. They already appear in the *Shijin*『詩經』, the *Book of Odes*. For a discussion on the oldest sources where these terms were employed see Forke, *op. cit*., pp. 163-170.

[1281] 「道生レ一、一生レ二、二生レ三、三生二万物一。」, *Rōshi, Sōshi Jō* 「老子・荘子上」, *Shin-yaku Kanbun Taikei*『新訳漢文大系』, Tokyo, Meiji Shoin, 明治書院, 1966, p. 78.

The concept of *five phases* is also very ancient. One of the first references is probably in the Book of Documents, the *Shangshu*,[1282] but it was a frequently referred theory throughout the ages.[1283] By late third century BC the *five phases* are systematically connected with the *telluric* and *solar* theory in the *Ryoshi Shunshū*『呂氏春秋』, *Luzhi Chunqiu* in Chinese, and some time later, Jing Fang 京房 (77-37 BC) adopted both theories to explain the change of trigrams of the Book of Changes.[1284]

5.2 The diagram

The text that definitely established the interconnection between the *principle* and *vigour* theory, the *telluric* and *solar* theory and the *five phases* theory theories and that concisely describes it is *Explanation of the Diagram of the Supremely Limited*[1285] 『太極図説』of Shū Ton-I 周敦頤 (1017—1200, Zhou Dunyi). It became a fundamental and obtrusive text ever since Zhuzi and Ro Soken 呂祖謙 (1137—1181, Lu Zuqian) placed it at the beginning of their anthology *Reflections on Things at Hand* 『近思録』 (1175, *Jinsi lu*). It reads:

"Unlimited 無極 yet *Supremely Limited* 太極! The *Supremely Limited* in activity generates the *solar* 陽; yet at the limit of activity it is still. In stillness it generates the *telluric* 陰; yet at the limit of stillness it is also active. Activity and stillness alternate; each is the basis of the other. In distinguishing the *telluric* and the *solar*, the Two Modes are thereby established.

The alternation and combination of the *solar* and the *telluric* generate water, fire, wood, metal, and soil. With these *five* [*phases*] of *vigour* 氣 harmoniously arranged, the Four Seasons proceed through them. The *five phases* 五行 are simply the *telluric* and the *solar*; the *telluric* and the *solar* are simply the *Supremely Limited*; the *Supremely*

[1282] See De Barry and Bloom, *op. cit*., p. 31

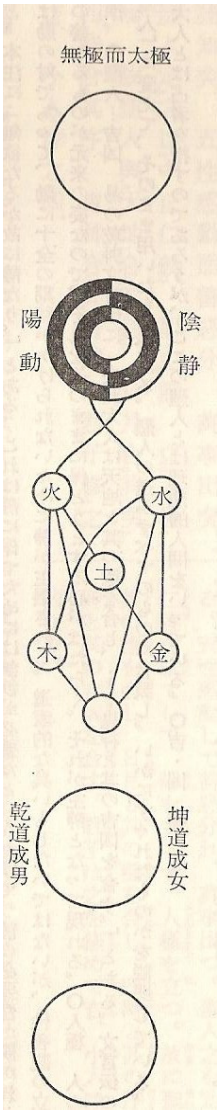
[1283] See Forke, *op. cit*., especially pp. 227-239.

[1284] Hsu Kuang-Tai, "Four Elements as *Ti* and Five Phases as *Yong*: The Historical Development from Shao Yong's *Huangji jingshi* to Matteo Ricci's *Qiankun tiyi*," EASTM, vol. 27, 2007, pp. 13-62.

[1285] Alternatively also known as "Explanation of the Diagram of the Supreme Polarity." The reason for this rendition will be explained below.

Limited is fundamentally the *Unlimited*. [Yet] in the generation of the *five phases*, each one has its nature.

The reality of the *Unlimited* and the essence of the two [modes] and *five* [*phases*] mysteriously combine and coalesce. "The Way of Heaven 乾 becomes the male; the Way of Earth 坤 becomes the female"[1286]; the two *vigours* stimulate each other, transforming and generating the myriad things. The myriad things generate and regenerate, alternating and transforming without end.



Only humans receive the finest and most spiritually efficacious [*vigour*]. Once formed they are born; when *spirit* 神 is manifest, they have intelligence; when their fivefold natures are stimulated into activity, good and evil are distinguished and the myriad affairs ensure.

The sage settles these [affairs] with centrality, correctness, humaneness, and rightness (the Way of the Sage is simply humaneness, rightness, centrality, and correctness) and emphasizes stillness. (Without desire, [he is] therefore still.) In so doing he establishes the ultimate of humanity. Thus the sage's 'virtue equals that of Heaven and Earth; his clarity equals that of the Sun and the Moon; his timeliness equals that of the four seasons; his good fortune and bad fortune equals those of ghosts and spirits.' The superior person cultivates these and has good fortune. The inferior person rejects these and has bad fortune.

Therefore [the Book of Changes says], 'Establishing the Way of Heaven, [the sages] speak of *telluric* and *solar*; establishing the Way of Earth they speak of yielding and firm [hexagram lines]; establishing the Way of Humanity they speak of humaneness and rightness.' It also says, '[The sage] investigates beginnings and follows them to their ends; therefore he understands death and birth.' Great indeed is [the Book of] Changes! Herein lays its perfection."[1287]

[1286] This is a citation of the "Commentary on the Appended Phrases", *The Book of Changes*. Heaven and Earth, *Ken* and *Kon*, was the name Genshō choose for his treatise.

[1287] Excerpt translated based on the rendition in Wm. Theodore de Barry and Irene Bloom (compilers), *Sources of Chinese Tradition: From Earliest times to 1600*, Second Edition, vol. 1 pp. 673-675. The

This text is a key to understand the commentaries written by Genshō in the *Kenkon Bensetsu*. It should also be stressed that it has a unity in it. It should not be considered that it is composed of two separate and independent parts: the first paragraphs dealing with the physical world from the *Unlimited* to the myriad things, and the last ones discussing human beings and the principles of their proper behaviour. Rather, the second part is so dependent on the first, and the first on the second, as the *solar* is dependent on the Supremely Limited. The importance of understanding the relationship of Heaven and Earth with male and female lies in it allowing humans, sovereign and vassal, husband and wife, to discern their Way, their proper conduct.

5.3 What is Polarity?

The two opening terms of this text, here translated as *Unlimited* and *Supremely Limited*, do not appear in the *Kenkon Bensetsu*.[1288] However the second appears under another name: *principle* 理 (*ri* in Japanese, *li* in Chinese). The Diagram explained by Shū Ton-I was of Daoism origin as were the terms "Unlimited" and "Supremely Limited". *Unlimited*, *mukyoku* 無極, had been used in the classical Daoist scriptures such as the *Laozi* 『老子』 and *Zhuangzi* 『荘子』. *Mu* is a negation, equivalent to "without" or "not." *Kyoku* means the ridgepole of a peaked roof and usually means "limit" or "ultimate."[1289] Therefore *mukyoku* originally means "unlimited" or, less precisely, "infinite," but in later texts of Daoism it came to denote the state of primordial chaos before the differentiation of *telluric* and *solar.*

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original reads: 「無極而太極。太極動而生レ陽、動極而靜。靜而生レ陰、靜極復動。一動一靜、互爲二其根一、分レ陰分レ陽、兩儀立、焉。陽變陰合、而生二水・火・木・金・土一、五氣順布、四時行焉。五行一陰陽也。陰陽一太極也。太極本無極也。五行之生也、各一二其性一。無極之眞、二五之精、妙合而疑。乾道成レ男、坤道成レ女、二氣交感、化二-生萬物一。萬物生生、而變化無レ窮焉。惟人也、得二其秀一而最靈。形既生矣，神發知矣。五性感動而善惡分、萬事出矣。聖人定レ之以二中正仁義一、而主レ靜。立二人極一焉。故聖人與二天地一合二其德一、日月合二其明一、四時合二其序一、鬼神合二其吉凶一。君子修レ之吉、小人悖レ之凶。故曰、立二天之道一、曰二陰與一レ陽、立二地之道一、曰二柔與一レ剛、立二天之道一、曰二仁與一レ義。又曰、原レ反レ終、故知二死生之説一。大哉易也、斯其至矣。」.

[1288] They are sometimes also translated as "Non-Polar" and "Ultimate of Non-Being" the first, and "Supreme-Polarity" "or "Supreme Ultimate" the second, or left in the original words *wuji* and *taiji*. The Japanese pronunciation for each one is *mukyoku* and *taikyoku*.

[1289] De Barry and Bloom, *op. cit.*, p. 672.

Tai 太 means "exceedingly" and thus *taikyoku* is the *Supremely Limited*. It was a concept more widely used among the several currents of thought, and it even appeared in the *Book of Changes*: "In change there is the *Supremely Limited*, which generates the *telluric* and the *solar*." Generally, Neo-Confucians never at ease with chaos, were never quite comfortable with the use of these concepts and Zhuzi made the conversion: "The Supremely Limited is Principle" 「太極只是理」[1290]. Therefore the first circle of the diagram represents *principle*.

Principle together with *vigour* are two central and closely linked concepts of neo-Confucianism and two of the mostly frequently used words in the *Kenkon Bensetsu*. They are difficult to understand independently, without recourse to each other. Zhuzi describes their relation as follows:

"In the universe there has never been any *vigour* without *principle* or *principle* without *vigour*.

Question: Which exists first, *principle* or *vigour*?

Answer: *Principle* has never been separated from *vigour*. However *principle* is above the realm of corporeality, whereas *vigour* is within the realm of corporeality. Hence when spoken of as being above or within the realm of corporeality, is there not a difference of priority and posterity? *Principle* has no corporal form, but *vigour* is coarse and contains impurities."[1291]

5.4 *Vigour*: The Dao generates the One

The One is *vigour* 氣 (*ki* in Japanese, *qi* or *chhi* in Chinese), which has long been considered one of less amenable concepts of Chinese philosophy to a Western language. One author notes:

"The significance of Chu Hsi's *chhi* cannot be expressed by one single English word: it could be a solid or gas or vapour, but equally well an influence as subtle as those which phrases like 'electro-magnetic waves' or 'fields of force' have for modern

[1290] This quotation is from Chu Hsi, 49, 32v, and is cited from Alfred Forke, *The World-Conception of the Chinese: Their Astronomical, Cosmological and Physico-Philosophical Speculations*, London, Arthur Probsthain, 1925, p. 201.

[1291] *Zhuzi quanshu*, translation based in De Barry and Bloom, *op. cit*., pp. 699-700.

minds. Sinologists themselves generally translate Chu Hsi's use of *chhi* simply as 'matter', yet he uses another term chih for matter in its solid, hard and tangible state. Though *chih* is a form of *chhi*, *chhi* is not always *chih*, because matter can exist in tenuous non-perceptible forms. Perhaps, then, 'matter-energy' is a better translation, if one must be used."[1292]

Ki is a kind of matter but it cannot ordinarily be touched or otherwise perceived through the senses. So it is frequently described as a gas, or gaseous matter, but it is not so immaterial as to be a spirit, either in the sense of Plotinus or of Aristotle.[1293] Still *ki* is able of self-induced motion though it is devoid of volition. As it will be referred shortly, through this movement it becomes *yin* and *yang* and it also becomes the *five phases*, wood, fire, earth, metal, and water, which determine the shape and quality of all things. Yet the basis for the functioning of *ki* is found outside itself either in the *Dao*, or the Way, according to Master Lao, or in the *ri*, or *principle*, according to Master Zhuzi.

Therefore it is evident that the word "matter" alone is insufficient as an equivalent because *ki* in some way implies change and movement. "Energy", in the traditional meaning of the word, would be a better choice, but the term has acquired new senses that have become dominant and are utterly inappropriate.[1294] Therefore, instead of the more precise but cumbersome "matter-energy" that has become popular during the past decades, *vigour* will be used here to express that significance that cannot be expressed in one single English word.[1295] The reason for this choice is that the meaning of "vigour" includes both corporality (i.e., matter) and movement (a concept

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[1292] Ronan, *op. cit.*, pp. 238-239.

[1293] Plotinus conceived the existence of purely intelligible beings, which are pure intelligences without any association of matter, but he did not think that they could have any power or action beyond that of knowledge. Aristotle, on the other hand, envisaged pure intelligences that are also motors, in particular the movers of the heavenly bodies.

[1294] The Concise Oxford Dictionary presents the following definitions: "energy n. 1. the strength and vitality required for sustained activity. 2. power derived from physical or chemical resources to provide light and heat or to work machines. 〈Physics〉 the property of matter and radiation which is manifest as a capacity to perform work." The first definition is quite close to one of the main philosophical meanings of *ki*, and certainly very close to that meant by the word in everyday conversation. The second could hardly belong to pre-sixteenth century Chinese or European philosophy.

[1295] "vigor, *n.* [L., from *vigere*, to be strong.] 1. active physical or mental force or strength;" Noah Webster, revised by Jean L. McKechnie, *Webster's New Universal Unabridged Dictionary*, [date and place not available; circa 1990, USA] Dorset & Barber.

closer to the thought of Zhuzi than the modern image of "energy"). The three concepts included in the dictionary definition of "vigour", viz., 1) active; 2) physical or mental, and 3) force or strength make it perfectly fit for expressing in English what Zhuzi meant by *ki*. In fact *ki* must be active as it is the origin of movement. Going one step down on the chain of causality this also holds. It does not need elaboration in the case of the *solar* (*yang*) aspect of *ki*, but it is also true of its *telluric* (*yin*) side, as rest "is active" producing *telluric*, and anyway, as soon as absolute rest is reached movement is originated. *Ki* not only has a physical component but also a mental or spiritual one, both when applied to the physical world or to human beings. Finally *ki* is basically a force or strength that creates everything and generates the movement of everything. It should also be noted that the Jesuit compilers of the *Vocabvlario da Lingoa de Iapam* choose the Portuguese word *vigor* for *ki*.

What is therefore *ki*? *Ki* is that [*vigour*] which makes the myriad things through the movement of the *telluric* (*yin*) and the *solar* (*yang*). Does *ki* make the myriad things alone? No, the source of its movement is the *Supremely Finite* as *Principle*. Therefore, according to Zhuzi, there is a duality in generation.[1296] In his own words:

"The uppermost figure represents that of which it is said, 'That which has no Pole![1297] And yet [itself] the Supreme Pole!'[1298] It is the original substance of that motion which generates the Yang [force], and that rest that generates the Yin [force]. It should be regarded neither as separate from, nor identical with the Two Forces."[1299]

This last idea is fundamental in the thought of Zhuzi: *Principle*, or the *Supremely Finite*, is not separated from *vigour*; therefore there is no *principle* without *vigour*, or *vigour* without *principle*. Still the two are not identical. Later thinkers such as Ra Kin-jun 羅欽順 (1465—1547, Luo Qin Shun) would give relatively more importance to *vigour* and would end by subsuming *principle* in *vigour* and teach a monist version of neo-Confucianism, but that was not a path that Genshō would follow.

[1296] See Yamada Keiji 山田慶児, *Shushi no shizen-gaku*『朱子の自然学』, Tokyo, Iwanami Shoten 岩波書店, 1978, especially pp. 80-138.

[1297] *Mukyoku* 無極, *wuji*, or the *Unlimited*.

[1298] *Taikyoku* 無極, *taiji*, the *Supremely Limited*.

[1299] Zhuzi commentary on the "Explanation of the Diagram of the Supremely Finite." Excerpt from Ronan, *op. cit*., p. 234.

5.5 *Telluric* and *Solar*: the One generates the Two

Then, in the next conceptual step, there is the differentiation of *vigour* into two opposite but inseparable aspects of *vigour* itself. These are the *telluric* and the *solar*, which are represented by the second circle of the diagram commented upon by Shū Ton-I. *Telluric* and *solar* are the two opposite aspects of *vigour*:

"Although the *telluric* and the *solar* are two different words, it is actually but the extinguishing and inflation of one *vigour*, an advancing and retreating, an extinguishing and expanding. The advancing is *solar*, the retracting *telluric*; the growing is *solar* and the extinguishing is *telluric*. It is only a process taking place between Heaven and Earth, incessantly from times immemorial through the extinguishing and the expansion of this one *vigour*. Therefore one may say, *telluric* and *solar* are one, but one may also say that they are two things."[1300]

Telluric is *vigour* and so is *solar*. *Telluric* is not all of the *vigour*, neither is *solar*. This is one of the clearest examples of the centrality of change in neo-Confucian thought. Let us consider another explanation by Zhuzi concerning how *telluric* and *solar* come into being:

"The concentric circles in the second figure symbolise the motion giving rise to Yang and rest giving rise to Yin. The complete circle in the centre symbolizes the substance which does this [equivalent to the circle in the first figure]. The semicircles on the left indicate the motion which produces Yang; this is the operation of the Supreme Pole when moving. The semicircles on the right indicate the rest which produces Yin; this is the substance when at rest. Those on the right are the foot from which those on the left are produced, and vice versa [i.e. Yang generating Yin, and Yin generating Yang]."[1301]

Zhuzi further "calls the activity of Yang an expansion and dispersion, that of Yin a contraction and accumulation."[1302] The *solar* is the breath issuing from the nose and the *telluric* the breath reverting to it. The *solar* is a snail getting out of its shell and the

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[1300] 「陰陽。曰陰陽雖是兩箇字然却只是一氣之消息一進一退一消一長進處便是陽退處便是陰長處便是陽消處便是陰只是這一氣之消長做出古今天地間無限事來所以陰陽做一箇説亦得做兩箇説亦得。」Translation based on that of Forke, *op. cit.*, p. 203.

[1301] Ronan, *op. cit.*, I, p. 234.

[1302] Forke, *op. cit.*, p. 203.

telluric is the snail revering back to it.[1303] *Solar* and *telluric* take many forms: sunny and shadowy, male and female, above and below, master and disciple, anterior and posterior, hard and soft, light and heavy, hot and cold, dryness and humidity, fire and water, any two opposites in nature, social or human life is an expression, or belong to, either *telluric* or *solar*. Therefore they can be translated by these and many other different words as appropriate to the context.

5.6 Give me five

In turn, "the alternation and combination of the *telluric* and *solar* generate" the *five phases*[1304] of *vigour*, shown by the third and middle circle of the diagram, itself containing other five circles. No one explains better than Zhuzi this alternation and combination:

"The third figure symbolises the transformations of the Yin and Yang forces in union with each other, and thus the generation of the Five Elements. The diagonal line from the left to right symbolizes the transformations of the Yang, and that from right to left symbolises the unions of the Yin.

Water is predominantly Yin and its place is therefore on the right. Fire is predominantly Yang and its place is therefore on the left. Wood and Metal are modifications [literally "tender shots"] of the Yang and the Yin respectively, and therefore they are placed to the left and right under Fire and Water. Earth is of a mixed nature, therefore it is placed centrally. The crossing of the lines above the positions of Fire and Water indicates that the Yin generates Yang and vice versa. [the order of their generation is indicated by the intersecting lines connecting the Five Elements], Water being followed by Wood, Wood by Fire, Fire by Earth, Earth by Metal, and Metal again

[1303] In words attributed to Zhuzi in the *Shushi Gorui* 『朱子語類』: 「又問氣之發散者爲陽收斂者爲陰否曰也是如此如鼻氣之出入出者爲陽收回者爲陰入息如螺螄出殼了縮入相似是收入那出不盡底若只管出去不收便死矣・・・那氣又只管生」, excerpt from Forke, *op. cit*., pp. 203-204.

[1304] This expression is also frequently translated as "five elements."

by Water, in an endless unceasing round, so that the Five Chhi[1305] spread abroad and the four seasons revolve."[1306]

Are water, wood, fire, soil and metal, as used by the Chinese philosophers, elements in the same sense used by the Greeks? Do they mean substance? Almost certainly they do not. It has already been noted by historians of Chinese science that "whereas European philosophy tended to find reality in substance, Chinese philosophy tended to find it in relation."[1307] This conclusion has been confirmed and extended by other social scientists, namely cognitive and social psychologists, who have found through laboratory experimentation that Westerners, Europeans and Americans, are more likely to pay attention to objects and their qualities, and use analytic reasoning while Easterners, Chinese, Japanese, and Korean are more likely to be attracted by relations and interdependencies, and use holistic thought processes.[1308] Thus, while natural philosophers in the tradition of Plato and Aristotle considered the four elements in their essential characteristics and did not give much credence to the possibility of one element being changed into another, the philosophers in China preceding and following Zhuzi considered the *five elements* basically as stages of transition of the *vigour*, through cyclical changes of *telluric* and *solar*. Therefore it seems more appropriate to refer to these five states of matter as *five phases* instead of *five elements*. In the *Kenkon Bensetsu*, Chūan and Genshō use different words to denote the two different conceptions of the basic components of the material world: *dai* 大 for the four elements, *shidai* 四大, and *gyō* 行 for the *five phases, gogyō* 五行, though sometimes Chūan bungles their use.

Before proceeding to describe the various ways the *five phases* may be ordered let us make clear that the distinction just made between *phase* and *element* only became widely accepted some fifty years ago. Before that many scholars translated *gyō* as

[1305] I.e., the *five vigours*, what means the *five phases*.

[1306] Ronan, *op. cit*., I, pp. 234-235.

[1307] Ronan, *op. cit*., p. 78.

[1308] See, for example, R. E. Nisbett, K. Peng, I. Choi, and A. Norenzayan, "Culture and systems of thought: Holistic vs. Analytic Reasoning", *Psychological Review*, vol. 108, 2001, pp. 291-310, and Richard E. Nisbett, The Geography of Thought: How Asians and Westerners Think Differently…and Why, New York, Free Press, 2004.

element.[1309] And certainly, in the seventeenth century the Jesuits and most Chinese and Japanese scholars considered *dai* and *gyō* two names for similar things.

Two important aspects of the *five phases* should be delved with, even if briefly. The first is the enumeration order of the *five phases*. Since ancient times the *five phases* haven been arranged according to different sequences. For example in the passage of Zhuzi cited above the *five phases* were ordered according to the *Mutual Generation Order*:

Wood—fire—soil—metal—water

The rationale is that from wood fire is produced, from fire [ashes are] produced [which become] soil, from soil metal is produced, from metal water is produced and the circle completes itself with water producing wood.

Master Sū 騶子, in a passage cited above[1310] was using a different enumeration order, usually called the *Mutual Conquest Order*:

Wood—metal—fire—water—soil

The idea behind this order is to place successively the element that conquers its successor: metal fells wood, fire melts metal, water quenches fire, soil absorbs water, and wood rises from, and above, soil.

The *Cosmogonic Order* places the phases according to the order they were supposed to have come into being, which was also the first enumeration in the passage of Zhuzi cited above when explaining the lines in the "Diagram of the Supremely Limited":

Water—fire—wood—metal—soil

Finally, amongst the more frequently used, there is the *Modern Order*:

Metal—wood—water—fire—soil

This order is "of obscure significance".[1311]

[1309] Forke, *op. cit*., is but one example.

[1310] Chapter IV, pp. 223-224.

[1311] Ronan, *op. cit*., p. 151.

Another idea that can be frequently found in Chinese and Japanese philosophers is that there is a correlation between the *five phases* and most natural phenomena and objects. Therefore, from ancient times these have been classified in groups of fives and each element of the group was made to correspond to one *phase*.[1312] For example there are five directions or cardinal points: south, corresponding to fire, north, corresponding to water, east corresponding to wood, west corresponding to metal, and centre corresponding to soil. There are also five seasons: spring with wood, rainy summer with earth, summer with fire, autumn with metal, winter with water. This effort of classification extended also to human affairs. One example already seen in Chapter IV was the classification of the dynasties of Chinese history attempted by Master Sū. Just one more example is the number of ministries that govern the country: the Ministry of Agriculture, which corresponds to wood, the Ministry of War, which corresponds to fire, the Ministry of the Capital City (or Palace), which corresponds to soil, the Ministry of Justice, which corresponds to metal, and the Ministry of Works, which corresponds to Water. The *five phases* were also correlated to the decathedral (ten stems) and to the duodenary (twelve branches) cycles of the Chinese and Japanese calendars and through them played also an important role in the determination of lucky and unlucky prospects for days and years.[1313]

Finally, let us consider the basic characteristics of the *five phases*, which become by extension the characteristics of the corresponding phenomena and objects:

"Water is described as soaking and descending, fire as blazing and rising, wood as crooked and straight, metal as yielding and changing, whereas the nature of earth appears from sowing and reaping. That which is soaking and descending becomes salt, that which is blazing and rising becomes bitter, that which is crooked and straight becomes sour; that which is yielding and changing becomes acrid, and the produce of sowing and reaping becomes sweet."[1314]

[1312] For more complete, though not exhaustive, lists see: De Barry and Bloom, *op. cit*., p. 348; Forke, *op. cit*., pp. 240-241; Ronan, *op. cit*., pp. 154-155.

[1313] See Masayoshi Sugimoto and David L. Swain, *Science and Culture in Traditional Japan: A.D. 600—1854*, Cambridge, The MIT Press, pp. 61-63.

[1314] *Shuking*, translation from Forke, *op. cit.*, p. 230.

5.7 *Kenkon* explained

Heaven and Earth follow in the *Explanation of the Diagram of the Supremely Limited*, and are represented by the fourth circle. Zhuzi explains:

"The fourth figure represents [the operations of the chhi[1315] of Yin and Yang exhibited in] the principles of [heavenly] maleness and of [earthy] femaleness [which pervade the universe], each having their own natures, but [both going back to] the one Supreme Pole[1316], [as indicated by the reproduction of the original circle]."[1317]

In other words, Heaven and Earth are the result of the operations of *vigour*. *Vigour* through its two aspects of *telluric* and *solar*, produces the *five phases* that constitute both Heaven and Earth. The *solar* aspect of *vigour* dominates in the Heaven, the *telluric* aspect predominates in the Earth. It is "the rise and descent of the *telluric* and the *solar* governs the Way of Heaven that produces the myriad things."[1318] However, the natures of both Heaven and Earth go back to the original *principle*, or the *Supremely Limited*.

It should not be necessary to stress the importance of Heaven and Earth in the world view of the Chinese and Japanese. They were nearer to them than the *five phases*, the *telluric* and the *solar*, and *principle* and *vigour*. Both had a natural aspect that was studied by the philosophers and attracted much curiosity even among ordinary people in Japan, and had a place as a religious and mythological aspect. Both aspects frequently blended and it is not always easy to isolate one of them for scholarly investigation without losing the all important relationships that gave importance to the object we want to study.

Before presenting in some detail the conceptions concerning the natural, as opposed to human and spiritual aspects, of Heaven and Earth, it is important to emphasise the holistic world view the Chinese and Japanese had, with one fundamental excerpt from one of the most important early Han political thinkers, Lu Jia (?— 170

[1315] Vigour.

[1316] Supremely Finite.

[1317] Ronan, *op. cit*., p. 235.

[1318] Genshō in the *Kenkon Bensetsu*, book 2, ch. 24.

BC). It is especially apt to show how close were the relationships between the natural and human orders in Chinese thought.

"Tradition has it that Heaven gives birth to the myriad things to be nurtured by Earth and brought to completion by sages. When our deeds and virtues accord with Heaven and Earth, the practice of the Way emerges.

Therefore it is also understood how the Sun and the Moon are displayed, the stars arrayed, the four seasons set in order, yin and yang regulated, energies distributed, and the nature of things put in tune, the Five Phases set in proper order, with growth during spring, flourishing during summer, harvest in autumn, and hibernation in winter. Yang gives forth thunder and lightning, while yin forms frost and snow, nurturing all living beings as they wax and wane. Winds and rain moisten living things, and the Sun parches them; the seasons modulate [living things], and the killing frost reduces them. The stars show their various locations, and the north polar star points out directions to them. The six directions envelop them, and the moral precepts give them warp and woof. Disasters and change alter them, and propitious signs inform their life; life and death keep them in motion, and patterns and order awaken them.

Thus, what is in Heaven can be discerned; what is on Earth can be measured. What is in the material world can be ordered; what is in the human world can be contemplated. […The Earth] maintains all things and sustains the species. It establishes all living beings, keeping their essences while exhibiting their forms. In establishing all living forms, it does not go against the seasons or the nature of things, and it conceals neither their feelings nor deceptions.

For these reasons, those who know Heaven raise their heads and observe the patterns of Heaven, and those who know Earth bend their heads and study the principles of Earth. All species that walk and breathe, those that fly and crawl, those on land or on sea, and deep-rooted plants with leafy crowns, all will be peaceful of mind and calm of nature; all will be brought to completion when Heaven and Earth interact, and the vital energies[1319] 氣 (*qi*) resonate with each other.

[1319] E.g., *vigour*.

The former sage [Fuxi] thus raised his head and observed the patterns of Heaven and looked down and studied the principles of Earth, charting the Universe[1320] 乾坤 and setting the human way. Thus enlightened, the people came to know filiality between parent and child, rightness between ruler and minister, the properties of husband and wife, and the order between elder and younger. Henceforth the offices of state were established and the Way of Kinship arose. […]

When the people only feared the laws, they could not know rites and rightness. Thus the middle sages [Emperor Wen of Zhou and the Duke of Zhou] set up various levels of schools and academies, so as to rectify the principles governing superior and inferior and make manifest rites between parent and child, as well as bonds between ruler and minister. This way, the strong would not oppress the weak, the many would not victimize the one, while greed and avarice would be replaced by pure and refined conduct.

When rites and rightness were not practiced and regulations and disciplines were not maintained, succeeding generations became weak and decadent. Thus the later sage [Confucius] defined the Five Classics[1321] and taught the Six Arts,[1322] following the principles of Heaven and Earth, all the while exhaustively pursuing the minutest ways of things and events. Studying human sentiments and establishing the basis, he ordered interpersonal relationships. Basing himself on the principles of Heaven and Earth, he edited and revised the classics to be passed on to future generations, benefiting even the world of birds and beasts. All of these he did to correct decay and disorder. So that the Heavenly and the human [orders] would be one, so that the original Way would be fully manifest, so that the wise would maximize their minds, and the handy extend their skills, the sage harmonized all with the sounds of flute and strings and established music for bells, drums, and dance. This way he curbed extravagance, rectified customs, and extended true culture.

[1320] Literally *Kenkon*, the Heavens and Earth, therefore the Universe. Tradition has it that Emperor Fuxi, having observed Heaven and Earth devised the Eight Triagrams, of which *Ken* and *Kon* are the most important ones. *Ken* represents Heaven and all *solar*-related things, and *Kon* represents the Earth and all *telluric*-related things.

[1321] Lu Jia was the first to refer to the Five Classics as consisting of the *Book of Odes*, the *Book of Documents*, the *Book of Rites*, the *Book of Changes*, and the *Spring and Autumn Annals*.

[1322] These are ritual, music, archery, charioting, calligraphy, and mathematics.

Later generations became self-indulgent and wicked, made still worse by the music of the states of Zheng and Wei. The people forsook what is basic [i.e., agriculture] and pursued what is secondary [i.e., commerce]. Proceeding from various intentions, they indulged in unnecessary ornamentation, adding excessive glue and lacquer, and mixing unusual and strange colors, all with the purpose of pleasing the senses and satisfying the artisan's penchant for craftiness. […]

The sagely deed accorded with Heaven and Earth, and sagely virtue meshed with yin-yang principle. They obeyed Heaven and eradicated evil, overcame violence and eliminated disaster. They nurtured vital energy and nourished the myriad things. They illuminated all with knowledge and gave sight, hearing from and looking into all directions. As a result the upright prevailed and debauchery ceased. Such good and bad qualities cannot flourish together. Follow the original principles and nip [bad] things in the bud." [1323]

From this highly compact text the following central ideas emerge. One is that the practice of the Way in Man is achieved by patterning his actions in accord with the imperatives of Heaven and Earth, that is, nature. It bears repeating that this principle is at the core of all the main Chinese philosophical schools. It is expressed in the Daoist "the Two generate the Three," meaning that Heaven, Earth and Man arise from the *telluric* and *solar*. It is also central to the Confucian value system and its implications branch into far reaching fields: "At the core of this [cosmological] morality, of course, was a belief in the substantial unity of the central values and norms of the existing social order with the structure of the cosmic order. This belief could generate tensions with the existing socio-political condition, but its more important effect was to freeze the normative order of state and society and render its absolute."[1324] Therefore Fuxi "observed the patterns of Heaven and […] studied the principles of Earth, charting the Universe and setting the human way." Thus enlightened by Fuxi, the people came to know the basic social relationships and the accompanying social responsibilities: "filiality between parent and child, rightness between ruler and minister, the properties of husband and wife, and the order between elder and younger"

[1323] Translation in De Barry and Bloom, *op. cit.*, p. 285-288, with some adjustments.

[1324] Chang Hao, "Neo-Confucian Moral Thought and its Modern Legacy", *Journal of Asian Studies*, vol. 39, 2, pp. 259-272.

Another important idea is that the sages cooperate with Heaven and Earth in the establishment of the natural order by helping other men to understand the Way of Heaven and Earth. This happens not only when "Heaven gives birth to the myriad things to be nurtured by Earth" and these are "brought to completion by sages," as when Fuxi "raised his head and observed the patterns of Heaven and looked down and studied the principles of Earth, charting the Universe and setting the human way." It also happens whenever order is brought back to human affairs through the agency of the sage. This happened when the "rites and rightness were not practiced and regulations and disciplines were not maintained" throwing human relations and natural affairs into disorder and Confucius "basing himself on the principles of Heaven and Earth […] edited and revised the classics to be passed on to future generations, benefiting" not only human society but also "even the world of birds and beasts." It happened again when men "became self-indulgent and wicked" and sages "obeyed Heaven and eradicated evil, overcame violence and eliminated disaster. They nurtured vital energy and nourished the myriad things. They illuminated all with knowledge and gave sight, hearing from and looking into all directions. As a result the upright prevailed and debauchery ceased." Genshō certainly believed that now was his turn to "[f]ollow the original principles and nip [bad] things in the bud." To this end his mission was to make "understood how the Sun and the Moon are displayed, the stars arrayed, the four seasons set in order, yin and yang regulated, energies distributed, and the nature of things put in tune, the Five Phases set in proper order, with growth during spring, flourishing during summer, harvest in autumn, and hibernation in winter."

Still another idea is that Heaven and Earth, are not entities beyond human comprehension, but can be understood: "what is in Heaven can be discerned; what is on Earth can be measured." Still they need to be observed and studied: "those who know Heaven raise their heads and observe the patterns of Heaven, and those who know Earth bend their heads and study the principles of Earth."

Let us now turn then to what the Chinese came to know about Heaven and Earth. In their effort to understand the heavenly bodies and their movements the Chinese have developed several theories. Though seldom they can be found in a pure form, instead appearing frequently fused together in the writings of the same author it is useful to consider them separately. The more important are the following.

The *Gai Tian* 蓋天, or Hemispherical Dome theory, is presented in its most orthodox forms in the *Shūhisankei* 『周髀算經』 (dated before the end of the Zhou dynasty, 1046—256, *Zhoubi suanjing* in Chinese).[1325] The older version, supposed to have originated between the sixth and fourth century B.C., presented the Heaven and the Earth as flat and parallel, the Heaven being circular and the Earth square. A later version, probably dated from the first or second century A.D., also assumed that the Heaven and the Earth were parallel and respectively round and square but curved, or using one of the *Shūhisankei*'s images, Heaven is like a covering umbrella and Earth is similar to a covered upturned rice bowl. Neither has a completely round or perfectly straight shape. Instead both are high towards the centre and slope down towards the sides. The lower part, or base of Heaven is round, and that of the Earth is square. Still, or because of this, Heaven is round, Earth is square. Heaven is dark blue, Earth yellowish. Because of the slope of the Earth from the centre to its periphery the rivers drain the rain towards the four Seas on its sides. The centre of Heaven as well as that of Earth might be likened to the Western conception of North Pole, though there isn't an opposite south pole. The space between Heaven and Earth is 80,000 *li* 里. In Heaven there are the Sun, the Moon, and the stars. The Sun makes six rotations of different diameters around the North Pole during one year: the larger corresponds to winter, the smaller to summer. Some explanations associated with this theory further hold that Heaven moves to the west like a millstone, the Sun and the Moon move to the east, but are carried to the west as insects moving slower than the millstone where they run. The *Gai Tian* theory can be likened to a softer version of the *shumisen* cosmology: the slope of the Earth is less pronounced, as it slopes down from the centre instead of there being a high mountain there; the stars rotate around the North Pole instead of around Mount *Shumisen* and the diameter of the rotation explains the changes in the seasons.

The *Hun Tian* 渾天, or Celestial Sphere, theory holds that the Heaven is round like an egg-shell and that the Earth is inside it, as the yellow of the egg is inside the shell. In the words of Ge Hong:

"Heaven is like a hen's egg and Earth like the yellow in the egg, suspended lonely in the midst of Heaven. Heaven is great, and Earth is small, Heaven is outside and water inside. Both Heaven and Earth rest on the air and move, carried by the water.

[1325] See Sugimoto and Swain, *op. cit*., p. 53.

[…] One celestial hemisphere covers the Earth, the other spreads around it underneath. Consequently only half of the twenty-eight solar mansions are visible, the other half are invisible. Heaven turns round like the nave of a wheel." [1326]

Further Heaven has two limits, the North Pole and the South Pole. Though this is the basic framework of the theory, different authors differ on the particulars concerning these central ideas: whether the Earth floats on the ocean and this one on the air, or is Earth suspended directly on the air, how Heaven rests on the air, and whether the lower hemisphere of Heaven moves.

These two theories have dominated the conception of the physical Heaven for most of the recorded Chinese history. However many other theories, though not having much influence or numerous supporters were well known by Chinese and Japanese philosophers. Let us consider two of them.

One of the most interesting amongst the many others is the *Xuan-ye* Theory, which claims that Heaven has no shape at all, being deprived of substance necessary to create shape. There are just the stars suspended in the air and moved, or tossed around, by the air. According to the description by Ximeng:

"Heaven has no solid substance. When looking up to it, it appears to us of immense height. …The [S]un, the [M]oon, and all the stars float and live free in the empty space. Their movements and their rest must be caused by air. Thus the seven luminaries proceed and stop, following sometimes a natural course, sometimes reversing it. We do not observe any regularity, their progress and their backward course are not alike. Because they are not attached to any basis, they vary so much. The [P]ole [S]tar always keeps its place and the '[N]orthern [B]ushel' does not go down along with the other stars. Jupiter and Saturn both move eastward; when the [S]un passes one degree, the [M]oon passes thirteen. Their speed depends on circumstances, which shows that these stars are not attached to anything, for if they were fastened to the body of [H]eaven, this could not be so."[1327]

Another interesting speculation is the *An Tian* theory, linked to Yuxi (fl. middle fourth century A.D.). It has some similarities to the *Xuan Ye* Theory described above:

[1326] Translation from Forke, *op. cit*., p. 21, of a text by Ge Hong.

[1327] Cited in Forke, *op. cit*., pp. 23-24.

Heaven is high and Earth deep, Heaven above is in a state of permanent rest as it is the Earth below, both cover each other and tightly fit together. Thus should the Heaven be circular so will the Earth be; should it be quadrangular so will also the Earth be. Here lies the curiosity of this theory: in spite of its agnosticism concerning the shape of either Heaven or Earth, it rejects the usual vision of assuming the Heaven round on one hand and the Earth square on the other, an assumption common on all other theories.[1328]

It should be pointed that, under the theories presented above, with the exception of the *Xuan-ye* theory, Heaven is limited, sometimes by the explicit height attributed to Heaven (80,000 *li* in the *Gai Tian* theory) or implicitly by the attribution of a shape: if the Heaven was infinite it would have no shape.

Still, it is well known that some Chinese schools, Taoists first among them, were convinced of the infinity of space. In the *Lieze* we can read:

"[Emperor] Yin Shang asked: "Does the [Heaven's] top and the bottom and its eight directions have a limit 極? [Master Xia] Ge said: I do not know." Shang asked strongly and Ge replied: "If they have none, then there is infinity 無極, and if they have, there is limitedness. How shall I know it? However, as long that beyond infinity there exists a non-infinity, or that within the un-limitedness there exists again a limit, then infinity would be no infinity, and un-limitedness no un-limitedness. Consequently I can know about infinity and un-limitedness, but I do not know limit and end." [1329]

The belief that the Heaven is round and that the Earth is quadrangular appears in the earliest surviving works dealing with the subject and was prevalent among all major schools of thought. However, how did the Chinese come to this conclusion is not completely clear. One possibility is that it is the result of sensorial impression: the Earth, though uneven with mountains and valleys, looks like as if it is plane. On the top of this empirical observation some speculative processes almost certainly took place. Earth is the complement of Heaven as the *telluric* is the counterpart of the *solar*. Heaven being

[1328] Except, of course, the *Xuan-ye* theory, which assumes Heaven has no shape.

[1329] 「殷湯曰、然則上下八方、有二極盡一乎。革曰、不レ知也。湯固問。革曰、無則無レ極、有則有レ盡。朕何以知レ之。然無レ極之外、復無レ無レ極、無レ盡之中、復無レ無レ盡。無レ極復無レ無レ極、無レ盡復無レ無レ盡。朕以レ是知二其無レ極無一レ盡也、而不レ知二其有レ極有一レ盡也。」, *Resshi* 『列子』, Kobayashi Nobuaki 小林信明 (ed.), Tokyo, Meiji Shoin 明治書院, 1967, p. 211. For an alternative translation see Forke, *op. cit*., pp. 46-47.

round the Earth must of necessity be square. Or, if the square is the opposite of the circle, then Heaven being round, its opposite, the Earth, must out of necessity be a square. Some commentators of the classics were not at ease with these arguments and chose to take an agnostic position: Heaven and Earth are un-measurable and neither completely round or quadrilateral. Instead, round and square referred to the *solar* and *telluric*, the essences of Heaven and Earth:

"The Way of Heaven is round and the Way of Earth is square. The square governs darkness, the circle brightness."[1330]

5.8 Creation: the Three generate the myriad things

The Chinese are unique amongst the major cultures in having no mythological cosmogony. This does not mean, however, that they thought that Heaven and Earth were not created, or "opened". Though again is not possible to find uniformity of thought on this subject we can observe that all classical authors assume a similar pattern before the appearance of Heaven and Earth. Let's start with one of the oldest texts on the subject, the *Resshi* 『列子』 (about second century A.D.[1331], *Liezi*) of Lie Yukou (*fl.* Second century):

"The [Master] Liezi said: The saints of ancient times held that the *telluric* and the *solar* govern Heaven and Earth. However, if shape is produced out of the shapeless, from what are Heaven and Earth produced? It is said: there was a Great Change, a Great Inception, a Great Beginning, and a Great Homogeneity. During the Great Change, *vigour* was still imperceptible, in the Great Inception *vigour* begins, in the Great Beginning shapes appear, and in the Great Homogeneity substances are produced. The state when *vigour*, shapes and substances were still unseparated although existing, is called chaos. Chaos designates [the state] where the myriad things are agglomerated and un-separated. 'They could not be seen though looked at, nor be heard though listened to,

[1330] Huai Nanze, cited in Forke, p. 52:「天文訓。天道曰圓地道曰方方者主幽圓者主明。」. Darkeness and brightness refer to the *telluric* and the *solar*.

[1331] Scholarly opinion is divided as to whether the *Resshi* is an ancient work of around the fourth century B.C with later interpolations or a forgery of about the second century A.D., or even later, composed from ancient sources. See T. H. Barrett, "Lieh tzu 列子", *Early Chinese Texts: A Bibliographical Guide*, Michael Loewe (ed.), Berkeley, The Society for the Study of Early China. 1993, pp. 298-308; or Chan Wing-Tsit, *A Source Book in Chinese Philosophy*, Princeton, Princeton University Press. 1963.

nor be attained though grasped at,' and therefore one speaks of unceasing change. Change is not bound to any forms or limits. Change in its transformations produces the one, the changes of the one produce the seven, and the changes of the seven produce the nine.[1332] Nine is the uttermost, it changes again and becomes one. With one forms begin to change. The pure and light matter becomes the heaven above, the turbid and heavy matter forms the earth below. Their aggregation produces Man, and the vitalising principle of Heaven and Earth creates the myriad things."[1333]

Zhuzi follows the *Resshi* closely:

"Heaven and Earth were first the Yin and Yang fluid. This one fluid was in motion, and by the grinding of the particles against each other a violent friction ensued, which resulted in the secretion of a great quantity of sediments. There being no space in the centre to escape they coagulated and formed an Earth in the centre. The purest particles of fluid became the sky, the Sun, the Moon, and the stars, which are permanently revolving and turning round outside. The Earth was in the centre motionless, but not below. Heaven moved unceasingly, turning round day and night. Thus Earth was in its centre like a swimming bridge. Should Heaven stop only one instant, Earth must fall down. But the gyration of Heaven was so fast, that a great amount of sediment was amassed in the middle. This sediment of the fluid is the Earth. Therefore they say that the purer and lighter parts become Heaven, the grosser and more turbid, Earth."[1334]

Genshō assumed that his readers knew all of this and so, in his commentaries to most paragraphs of the *Kenkon Bensetsu*, he synthetically pointed to the relevant theory

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[1332] According to Kobayashi, *op. cit.*, p. 20, the One signifies *vigour*, or the Great Inception; and the Seven and the Nine, particularly the latter, represent the Yang. According to Forke, *op. cit.*, p. 35, the One represents the original unity, the Monad; from this proceed the Yin and the Yang and the five phases, or the Seven; and from these the Heaven and the Earth are evolved making the Nine; and these make the Universe or the One.

[1333] 「子列子曰、昔者聖人、因陰陽以統天地。夫有形者生於無形、則天地安從生。故曰、有太易、有太初、有太始、有太素。太易者、未見氣也。太初者、氣之始也。太始者、形之始也。太素者、質之始也。氣形質具而未相離、故曰渾淪。渾淪者、言萬物相渾淪、而未相離也。視之不見，聽之不聞，循之不得，故曰易也。易無形埒、易變而為一、一變而為七、七變而為九。九變者、究也。乃復變而為一。一者、形變之始也。清輕者、上爲天、濁重者、下爲地。沖和氣者、爲人。故天地含精、萬物化生」, *Resshi* 『列子』, Kobayashi Nobuaki 小林信明 (ed.), Tokyo, Meiji Shoin 明治書院, 1967, pp. 18-19.

[1334] Forke, *op. cit.*, pp. 106-107.

the Southern Barbarians were missing when they were stating a certain error, either *principle* and *vigour*, *solar* and *telluric*, or the *five phases*. Only once did he state the gist of the Chinese learning we just reviewed for the past twenty pages when he succinctly stated in third volume, paragraph 1, the following:

"[When] Heaven and Earth were not separated, or before the *telluric* and *solar* [*vigours*] were differentiated, it existed only *principle* and *vigour*. Once this *vigour* split, the nature and feeling of the *telluric* and *solar* [*vigours*] appeared. [As the] *telluric* and *solar* [*vigours*] changed they became adorned with the *five phases*. Heaven and Earth were separated and there was the change of production of the myriad things. Because Barbarian scholars do not know this meaning, they say that Heaven is a different substance from the four elements earth, water, air and fire. It should be known that their contrivances are foolish."

6. The learning of Japan

"The learning of Japan is the Way of the Gods", or Shinto, states Genshō.

Shinto was the primeval religion of Japan, based on a mythology, which was compiled into several books, the *Nihongi*[1335] and the *Kojiki*[1336] being the more important, sometime after writing arrived from the continent. Some authors have tried to deny it the status of religion because "it has no dogma, no moral code nor sacred book, and really consists in a somewhat confused mixture of the veneration of ancestors and nature worship."[1337] However a religion does not need to have dogma, moral codes or sacred books to be a religion. It just needs to have gods, and Shinto has more gods than most religions.[1338] Its deities were natural entities and ancestral personalities. It only

[1335] *Nihongi: Chronicles of Japan from the earliest Times to A.D. 697*, W. G. Aston (trans.), Tokyo, Charles E. Tuttle Co., 1972.

[1336] *The Kojiki: Records of Ancient Matters*, Basil Hall Chamberlain (trans.), Tokyo, Charles E. Tuttle Co., 1982.

[1337] E. Papinot, *Historical and Geographical Dictionary of Japan*, Tokyo, Charles E. Tuttle Co., 1972, p. 578.

[1338] See Mark R. Mullins, "How Yasukuni Shrine Survived the Occupation: A Critical Examination of Popular Claims", *Monumenta Nipponica*, Vol 65(1), 2010, pp. 89-136, for an account of the changing status of Shintō between religion and non-religion in the twenty year period around the Pacific War. Mullins, p. 117, cites Naokazu Miyaji as stating: "In my opinion religion is intercourse between human beings and what is superhuman. Therefore, all [Shintō] shrines naturally fall into the category of

started to be systematized when it entered in contact with Buddhism and Confucianism, and therefore many of the core doctrinal elements of its several branches, or "sects", are clearly identifiable as being of Buddhist and Confucian origin. Among these we can mention the *Shinbutsu Shūgō* 神仏習合 and *Honji Suijaku* 本地垂迹 theories developed during the Heian Period and the Ise Shinto 伊勢神道 and Yoshida Shinto 吉田神道 that emerged during the medieval period.

The first missionaries to Japan clearly identified the different Shinto branches as being the same religion and perceived the ancestral character of its gods. In the *Sumário dos erros* we can read:

"Primeiramente adorão vinte pagodes a que chamão camins, e comfessão que forão homens humanos antigos e naturaes destes regnos. E dizem que elles forão os primeiros que nesta terra edifficarão cidades e povos, e por isto chamão a Japão terra de chamins, e por esta causa os adorão e lhe fazem veneração."[1339]

Further, they were able to perceive that there was no doctrinal unity between them and that different branches of Shinto had their own theories. For example, when it came to creation two cosmogonies were identified, one native and another of Confucian origin:

"Perguntando-lhes como foi o mundo criado respondem que este mundo era huma grande cantidade de lama, he que hum destes dous primeiros homens chamados chamins, que foi mortal como já atras confessão, desceo do ceo com huma grande colher nas mãos e apalpou a lama e enxugou huma parte dela, que hé huma ilha das destes reinos a que chamão Avandexima, e que dise: aqui quero morar e fazer geração. E dizem que deste prosedem todos os Japões.

Outros dizem que o comeso do mundo e a material foi hum grande ovo, o qual per si se abrio, e a clara delle subio para sima, e dela se fez o ceo como cousa mais leve, e a gema como mais grosa ficou em baxo, de que se fez a terra, e della como fémea, e do ceo como macho forão geradas todas as criaturas."[1340]

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religion." See also Tsunetsugu Muraoka, *Studies in Shinto Thought*, Tokyo, Yushodo, 1964; and Genchi Kato, *A Historical Study of the Religious Development of Shinto*, Tokyo, Yushodo, 1973.

[1339] Documentos I, p. 655.

[1340] *Ibid*., p. 656.

It was this latter view that was repeated time and again by Genshō in his commentaries in the *Kenkon Bensetsu*. Shinto, according to him, who was the son of a Shinto priest, has in itself all that it needs to be the a path of true learning: through the *principle* and *vigour* theory, the *telluric* and *solar* theory and the theory of the *five phases* it can reach the uttermost of *principle*, what is to say, truth. This seems to be a definition of Confucianism through the enumeration of its main theories, but in fact Genshō was referring to his sinicised branch of Shinto. This systematization of Shinto through the use of the basic theories of neo-Confucianism was not new and was quite popular during the seventeenth century. The Edict of Expulsion of January 27, 1614, had already stated:

"Japan from the commencement was the country of the gods. The unfathomableness of the Solar and the Telluric Principles is called god, who shall refuse reverence and honour to the essence of all that is Holy and Spiritual? Man owes his existence entirely to the working of the Solar and Telluric."[1341]

However, Genshō states a few sentences down his text that, without Confucianism, Shinto becomes mere heresy and witchcraft. Therefore he must have been aware of two important things. One was that Confucian elements were not nuclear part of all formulations of the Japanese religion. Another is that he was aware that those theories had to be introduced in Shinto from Confucianism. On the other hand he points that Confucianism without Shinto is mere formalism and falls into pride, or fame seeking, and money making. Consequently Genshō considered that there was something in Shinto, that he leaves undefined, that gives true meaning to Confucian learning.

Beyond this he says nothing about Shinto learning that might differentiate it from Confucianism, and thus we might assume that in what concerns its theories about nature Genshō viewed the two as similar.

[1341] Quoted in Jennes, *op. cit*., p. 116. The original translation uses "Positive and Negative Principles" for *yin* and *yang* which have been adapted here.

CHAPTER VIII—CHŪAN SAYS

After having seen what was the basic framework of the four main systems of learning considered by Genshō, we turn now to the presentation of European natural philosophy and astronomy presented in the *Kenkon Bensetsu* and to the reaction it drew from Genshō. We will deal with the first in this chapter and with the latter in the next.

The *Kenkon Bensetsu* presents western natural philosophy in a text divided into two books, sometimes divided into two volumes each, making a total of four volumes. Each book is then divided into a different number of paragraphs, titles or chapters. In the manuscript no indication is made concerning whether these blocks of text are to be considered a paragraph or a chapter. Whatever way we chose to name these paragraphs or chapters we notice that with a few exceptions there is only one *paragraph* per topic dealt. This contrasts with the *De Sphaera* of Goméz where we find clearly defined paragraphs inside each of the several chapters. In the *Nigi Ryakusetsu* the structure is also different. To each title or chapter there are one or more paragraphs. Paragraphs were used in the above translation because they fit better in the structure of this work.

1. Astronomy or natural philosophy?

The *Kenkon Bensetsu* is frequently said to be a book about astronomy. This impression is probably very old: one notes that Genshō characterised the captured *bateren* elder as someone "that excelled in astronomy" and that he said about Chūan that he was a man "with excellent astronomical learning". It seems as if Inoue and Kainoshō were expecting a book on Southern Barbarian astronomy from their efforts. In the next two sections, as well in the last two sections of this chapter, we will review the contents of the western science presented in the *Kenkon Bensetsu* to certify that their expectations miscarried.

Astronomy has a precise meaning: it is the systematic study of celestial objects, the Sun, the Moon, the five stars or planets, and the fixed stars. More precisely, it is the study of their movements in the celestial sphere, a study that hopefully leads to accurate predictions of their future movements.

Natural philosophy, on the other hand, is the study of the physical universe, or of the workings of nature. This last definition is important because it calls our attention to the scope of natural philosophy, we already saw, to include and be limited to the study of things susceptible of some kind of change.

Natural philosophy interest is on the Heavens not on the sky: it wants to know the structure of the Heavens and why they move as they do. Astronomy, on the other hand, wants to determine the movements, the positions and the times.

As we will see, in the first part of the *Kenkon Bensetsu* Chūan presents the gist of European natural philosophy in what concerns the sublunary world. Two aspects concerning this presentation are worth mentioning. One is that the level is elementary, but that enough detail is given so that a reader would be able to make sense of the system and qualified to explain many natural phenomena with it. Another is that some of the terminology used is that of neo-Confucian philosophy. Further, and very curiously, in a few instances Chinese philosophical concepts, such as those derived from the *unki* theories, or Chinese natural fortune, get imbibed into the explanation. Chūan did not have scruples similar to those Xavier and Gago had when presenting Christian doctrines with Buddhist terminology. He borrowed freely for Aristotelian natural philosophy from Confucian terms, what is severely chastised by Genshō who seems to have wished that the Southern Barbarian scholar had followed his former confreres in establishing its own terminology to avoid any type of confusion—or contamination. This solution employed by Chūan, together with the occasional reference to Chinese natural fortune theories, affected considerably the Aristotelian concepts presented. How close was the terminology employed by Chūan to that used by the Jesuits when arguing about natural phenomena can only be determined after a careful linguistic comparative study is made between the *Kenkon Bensetsu* and the *Nigi Ryakusetsu*, which probably is the Jesuit translation into Japanese of Goméz *De Sphaera*. Such a study is beyond the scope of this work but a cursory analysis shows significant differences in the choice of words.

2. The four elements: the basic concepts

The very first statement Chūan makes in the introduction to the First Volume is that the substance of Heavens is different from that of the four elements:

"Concerning the Heaven and Earth, the substance of Heaven is different from that of the four elements earth, water, air and fire, and for this reason it is not endowed with the four *vigours* of coldness, hotness, dampness and dryness."

This draws immediately severe criticism from Genshō that we will analyse below in the section about the Heavens. The central idea of the first half of the *Kenkon Bensetsu* is stated by Chūan immediately after that first assertion:

"The Earth is said to be the aggregation of the four [elements] earth, water, air and fire into one."

All paragraphs of the First and Second Book are an elaboration of this affirmation. We may summarize the contents of the first eight paragraphs that make the First Volume, as follows.

To the four elements are associated coldness, hotness, dampness and dryness. These four can come together either in a conquest relationships, which can happen between coldness and hotness or between dampness and dryness; or in production relationships, which occur between hotness and dryness, dampness and warmness, coldness and dampness, and dryness and coldness. The element fire is hot and dry, element air is damp and warm, the element water is cold and humid and the element earth is dry and cold. In each element there is strong and weak; for example the dryness in the earth is strong and its coldness is weak.[1342]

Element earth is in the lowest place, and above it there is element water, then element air, then element fire. Elements that share hotness, dryness, dampness or warmness do not attack each other strongly and so there is no "capital crime," that is destruction, between them.[1343]

The myriad things are combinations of the four elements. They can be divided into the non-sentient and the sentient. In the non-sentient there are those that originate in element air, such as mist, frost and snow, and those that originate in element earth such as pearls, gold and iron. In the sentient beings there are three categories: the wooden and leafed, which are in the lowest class; the birds, beasts, fishes and insects, which do not have intelligence, and constitute a middle class; and humans, capable of

[1342] First volume, Paragraph 1.

[1343] First volume, Paragraph 2.

distinguishing *principle*, and thus are the highest class. All of these are originated from the four elements and when they die and decay they return to the basic four elements.[1344]

As the myriad things are made from the four elements then they are also associated with hotness, dryness, dampness and warmness. This happens, for example, with the medicines, pearls, and ice.[1345]

The same happens with the four seasons: they arise from the generation of cold, hot, damp and dry. Therefore by similitude they can be associated to one element. For example spring is similar to element air insofar as both are warm and humid, and similarly with the other three seasons: summer with fire, autumn with earth, and winter with water. However, there are differences in the three months of each season, for which the movement of the Sun is responsible. [1346]

Everything moves according to its heaviness or lightness: heavy things move down, light things move up. They move until they reach their proper place. The proper place of earth is at the centre of the Universe, because it is the heaviest of all elements. Water, which is lighter than earth is above it, but below air, which is lighter. Fire is the lightest of all elements and so it is above them all. The question arises why fire is not seen above air? The reason is that its substance is so diaphanous that cannot be seen. Why does the fire of thunder fall on the earth and air gets trapped below earth are questions that can be answered through the interaction of the different elements and through the impossibility of void occurring.[1347]

There is a theory according to which there is a relation of 1 to 10 between the dimensions of two consecutive strata of the four elements.[1348] This theory does not correspond to reality. Instead, the stratum of earth has a radius of 2,570 *ri*, that of water

[1344] First volume, Paragraph 3.

[1345] First volume, Paragraph 4.

[1346] First volume, Paragraph 5.

[1347] First volume, Paragraph 6.

[1348] This scholastic theory was referred in Chapter III, p. 147.

12 *ri*, that of air 50 *ri*, and there is a distance of 100,000 *ri* between the centre of the Earth and the lower border of the Heaven of the Moon.[1349]

There are two senses in which the word *World* is used. One is to designate the four elements, and the other is to name the place where people live. Although common people might think the World is flat, if the issue is solved with the help of reason one concludes that it has to be round. To this end several proofs are presented.[1350]

These subjects are basic topics of natural philosophy customarily presented in the *De Sphaera* literature and rooted in the Aristotelian tradition of scholarship. They are presented in the *Kenkon Bensetsu* in a simple and sensible way, but there are a few peculiarities in their exposition. The most striking aspect is without doubt the use of the neo-Confucian terminology of the *five phases* theory to explain opposition and combination between the four elements. This subject is dealt in section 4 of this Chapter.

As will be referred later, the reaction of Genshō to many of these ideas is quite negative. For a start, the existence of only four elements is not accepted, and he points that besides the four elements the Southern Barbarians recognize there is a fifth, the heavenly substance. He rejects the idea that Heaven is unrelated to Earth. He repeatedly points out that the fault is the Southern Barbarian theory making no allowance to the theory of the *five phases* and the *telluric* and *solar* theory.[1351] We might thus argue that the basic characteristic of the Southern Barbarian theories that causes this rejection: the lack of understanding, on the part of the Southern Barbarians, of the harmony there is between all components of the universe; that for Genshō it is not enough to consider just one element *per se*, not even its relation with another element, but it is necessary to contemplate its position in the great circle change. The Southern Barbarians actually do worse than this, as they consider that the relationships are determined not by the elements themselves but by their *natures*. Although Chūan actually does not state it in so many words, it would be insufficient for him to say that because water and fire have

[1349] First volume, Paragraph 7. For a discussion of these values and related issues see José Miguel Pinto dos Santos, "As Distâncias dos Céus aos Infernos na Cosmologia *Nanban*", *Anais de História de Além-Mar*, Vol. 5, 2003, pp. 415-479.

[1350] First volume, paragraph 8. The arguments for the sphericity of the Earth are briefly discussed below together with Gensho' comments in Chapter IX.

[1351] First volume, Paragraph 1.

opposite *vigours* they *conquest* each other.[1352] Instead, because water *produces* wood and wood *produces* fire water is at the root of fire; and because fire *produces* earth, earth *produces* metal and metal *produces* water, fire is at the root of water.

3. Chūan says: earth, water and air

In the second volume the characteristics of the elements earth, water and air are presented in this order. The first six paragraphs concern the Earth and the element earth.

The dimension of Earth can be estimated in road measures. As the circumference is divided into 360 degrees, and as one degree corresponds to 45 *ri* of the roads of Gokinai, the circumference of the World is 16,200 *ri* and its thickness is about 5,254 *ri*. There are two ways to know that one degree is 45 *ri*. It can be measured with an instrument in which the shade of the Sun is projected. If, for example, the number of degrees of a certain place from the Equator is 30 degrees, and that of another place is 31 degrees, then there is a difference of one degree between them in the south-north direction. If that distance is measured in road measures it is found to be 45 *ri*. Another way is to observe the hour of the day in two different places when an eclipse occurs, so as to know the number of degrees between them. Knowing the distance between the two places the length of one degree on the Earth in the east-west direction can be estimated to be 45 *ri*.[1353]

The substance of element earth is more hard and dense than that of the other elements, and therefore is placed in the lowest region. Because it is cold and dry it hardly can produce anything. However, borrowing from the plentifulness of water and the warm *vigour* of the Sun it gives live to multitudinous beings. Though it has mountains and valleys the shape of the Earth is round. It exists for the sake of sentient beings, Man first amongst them.[1354]

The spheres of the four elements, together with those of the Heavens, overlap each other without any aperture between them. The centre of Earth is the exact centre

[1352] He wrote in paragraph 1: "Those things that have the *vigour* of cold, hot, damp or dry, mutually conquest [each other]."

[1353] Second volume, Paragraph 9.

[1354] Second volume, Paragraph 10.

for all spheres. One reason for this is that from all countries half Heaven can be seen. Against this it can be argued that since there is a great distance between the centre of Earth and its surface, it should be impossible to observe half Heaven from the surface if the centre of Earth is the exact centre of Heavens. This objection is replied with the following argument: given the great dimensions of the Universe, the dimension of the Earth is negligible and indeed half Heaven is observed from all countries. Another reason is that eclipses occur only when the Sun and the Moon are in opposition against the backdrop of the twelve Mansions. If the Earth was not at the exact centre eclipses would not occur at the time of perfect opposition.[1355]

Heavy things aspire for low places and light things for high places. As element earth is the heaviest it is placed in the centre of the Heavens. It therefore occupies the lowest position of the Universe. There is no below for it, all directions are up. Consequently people in all countries stand up and none can be said to be upside down: they all stand on Earth and are crowned with the Heavens.[1356]

Things move according to their nature. Their movement can be of three kinds: rotational, away from the centre, or towards the centre. Heavens have rotational movement, air and fire upward movement, earth and water downward movement. Moreover, it can be said that the Earth does not move: because it is heavy it does not move upwards; because it is in the lowest place it cannot move downwards. However, according to a theory, it could rotate around itself, staying in the centre of the Universe while the Heavens stay still. This cannot happen for two reasons: one is because the speed of its rotation would destroy everything on Earth; another is because it can not explain the change in the relative positions of the Sun, Moon and stars.[1357]

Element air enters into element earth and accumulates in its crevices. However, because that is not its proper place, air craves to leave. When it does not find a way out, the force it makes to leave makes the Earth shake: these are earthquakes.[1358]

The next five paragraphs concern water.

[1355] Second volume, Paragraph 11.

[1356] Second volume, Paragraph 12.

[1357] Second volume, Paragraph 13.

[1358] Second volume, Paragraph 14.

Element water has two *natures*: coldness and dampness. Because it is somewhat lighter than earth it is placed above it. It washes the myriad things and purifies them. More than any other element it gives life and nurtures the living beings. When the warm and damp air blows into the soil, its warmness is taken away by the coldness of earth and thus it changes into water and becomes headsprings.[1359]

Air has the *vigour* of warmness and dampness. When it blows into the soil and enters it, the *vigour* of dampness is taken away by the dryness of soil. Alone remains the *vigour* of warmness. Therefore sulphur is produced inside the Earth, its nature being intensely hot and dry. When the intense heat of sulphur meets the water that circulates in the crevices of the Earth, the *vigour* of water becomes boiling water and springs forth. When there is no water, instead of hot springs either smoke or ash burst out. This is the root of the hot-springs of Atami in Izu, of the hot-springs of Arima in Setsu, of the boiling water of Mount Onsen, of the smoke of Asamadake, and of the flames of Iōgajima.[1360]

An *exalação* rises from earth and water to the lower region of air. This *exalação* has originally the nature of saltiness that is transmitted to the sea water. There are three explanations for this: the hot nature of *exalação*, the nature of dryness, and the moisture of warm *vigour*. The salty nature of *exalação* is transmitted only to the water and not to the earth because the substance of the latter is very hard. The reason why the rivers do not get salty is their water getting out from inside element earth and flowing without root.[1361]

The Moon causes the tides because oversees the *vigour* of water and the *vigour* of dampness, and has the nature of attracting the water. The strength of the tide depends on the movement of the Moon, the effect of the Moon on the tides being stronger in its inverse rotation from west to east than in its diurnal movement from east to west.[1362]

Winter is cold and summer is hot because of the movement of the Sun. When the cold *vigour* is attacked it becomes fiercer and a similar thing happens with the hot

[1359] Second volume, Paragraph 15.

[1360] Second volume, Paragraph 16.

[1361] Second volume, Paragraph 17.

[1362] Second volume, Paragraph 18.

vigour. In winter, the Sun moves southwards and it becomes cold. As the hot *vigour* of summer is attacked by the growing coldness, it is restrained inside the earth, it becomes fierce and the water inside the soil receives this hot *vigour* and becomes warm. On the other hand, in summer, the Sun moves northwards and it becomes hot. As the cold *vigour* of winter is attacked by the growing hotness, it is restrained inside the earth, it becomes fierce and the water inside wells becomes cold.[1363]

The last five paragraphs pertain to air and the phenomena therein.

The nature of air is damp and warm. Because its substance is lighter than that of earth and water it is placed above them. It has three regions. The upper region is dragged along by element fire and is intensely hot. The lower region is warm because it is heated by the *solar vigour* of the Sun that hits the soil. The middle region is very cold. The three regions do not have the same thickness all over the Earth. The middle region is thinner in the region around the Equator, in the band between twenty three and a half degrees south and north. This is because of the extreme *solar vigour* of the Sun that makes the lower and upper regions thick. Towards south and north from the equatorial region the middle region of air becomes thicker.[1364]

The cause of wind is *exalação*. When the dry and hot *exalação* rises it finds an obstacle in the middle region of air. Becoming squeezed by the cold air it makes a whirlwind blow sideways. This is wind.[1365]

From the *vigour* of humidity and from the *exalação* twelve phenomena are originated in the three regions of air: in the lower region of air dew, frost, fog and mist originate; in the middle region of air clouds, rain, snow, hail, rainbow, and lightening originate; and in the upper region of air comets originate.[1366]

Dew, frost, fog and mist originate according to whether the *vigour* of dampness is strong or weaker and whether they come in contact with the *vigour* of warmness or the *vigour* of coldness of the lower region of air.[1367]

[1363] Second volume, Paragraph 19.

[1364] Second volume, Paragraph 20.

[1365] Second volume, Paragraph 21.

[1366] Second volume, Paragraph 22.

[1367] Second volume, Paragraph 23.

In the middle region of air, clouds, rain, snow hail, rainbows, and lightening are produced. Clouds are produced when the damp *vigour* rises with the *solar vigour* and through the suction by the stars. When damp *vigour* has weak warm vigour it stays in the lower region and produces frost, dew, mist and fog. When it has stronger warm *vigour* it rises up to the middle region of air. There the damp *vigour* is strained by the rigorous cold *vigour* of the middle region and becomes the clouds. Depending on the amount of impurities in the dampness of clouds these are black or white clouds. The clouds either are dispersed by the wind, dissolved by the *solar vigour*, or descend as rain. Rain occurs when the damp vigour is bounced back by the coldness of the middle region of air. Snow happens when the cold vigour of the middle region is strongly fierce. As the *solar vigour* is stronger in the valleys than in the mountains, it happens that when the snow falls it is bounced back by the *solar vigour* of the valleys and falls there as rain, while it falls as snow in the mountains because their *solar vigour* is weaker. Hail happens when the cold *vigour* of the middle region of air becomes very strong. When the *vigour* of hot dryness is strained by the cold *vigour* of the middle region, it becomes even hotter and then inflames producing lightning. When the middle region of element air is of a severe cold and frigid, the cold *vigour* of the middle region is attacked by the hot *vigour* of pure dampness. Being strained by the *vigour* of the pure dampness extreme hotness is produced and flares up to the sides, what is called a comet. When the vigour of hot dryness of pure dampness reaches the upper region of air it becomes even hotter and upon reaching the border of element fire it flares up and flows sideways making a shooting star. Its movement is similar to that of stars because fire is driven by the First Heaven and likewise drives the upper region of air.[1368]

As can be seen from the topics of the first two volumes of the *Kenkon Bensetsu*, which represent about fifty percent of text, the first half of the work has nothing about astronomy. Rather everything in this part of the book is about basic concepts of natural philosophy, and only what concerns the sublunary world.

[1368] Second volume, Paragraph 24.

4. The four elements: terminological problems

4.1 Nature

As we saw, in Chapter 1 Chūan states that everything that lives in the world is made of a combination of the four elements. He makes then the following affirmation: "if we consider now the *sei*[1369] 性 of earth, water, air and fire, there are the four *sei* 性 of coldness, hotness, dampness and dryness." Before discussing what the actual meaning of *sei* is we notice a problem: how can it be that the *sei* of something like earth has the *sei* of something else like coldness or dryness? We notice that, for anyone raised in the philosophical tradition of the West, *sei* must be standing for two different concepts. If we left a blank spaces in the places where we have *sei* and asked someone with some basic knowledge of Aristotelian physical philosophy, say, at the level Chūan must have had, to fill in those spaces, we would most probably get the following sentence: "if we consider now the *substance* of earth, water, air and fire, there are the four *qualities* of coldness, hotness, dampness and dryness." According to Aristotle and the philosophers in his tradition, substance designates the enduring things, material or otherwise, in which qualities are supposed to inhere: "The most distinctive mark of substance appears to be that, while remaining numerically one and the same, it is capable of admitting contrary qualities. From among things other than substance, we should find ourselves unable to bring forward any which possessed this mark. Thus, one and the same colour cannot be white and black. Nor can the same one action be good and bad: this law holds good with everything that is not substance. But one and the selfsame substance, while retaining its identity, is yet capable of admitting contrary qualities. The same individual person is at one time white, at another black, at one time warm, at another cold, at one time good, at another bad. This capacity is found nowhere else […]."[1370] Quality, on the other hand, is that thing which is the basis for saying that things are similar or dissimilar, like or unlike. Western philosophers have discussed for ages whether qualities are just qualifiers whose existence depends on their belonging to

[1369] As it is explained below, the character 性 can have two possible readings, *sei* and *shō*. Which was the original reading Chūan used in his version in Latin letters will never be known, but *sei* is more probable. The meaning of the two readings is basically the same. For details see the discussion below.

[1370] Aristotle, *Categoriae and De Interpretatione*, Chapter 5, 4^a, in W. D. Ross (ed.), *The Works of Aristotle*, Vol. 1, Oxford, Clareton Press, 1908.

something else, or whether they exist independently, in and of themselves, but that distinction though central to the debate about Nature need not to worry us here.

As said above Chūan likely intended two different meanings for *sei* in the above mentioned sentence. We could speculate whether he actually wrote two different words that got confused into just one term in the transliteration made by Kichibei and Genshō, or whether for some reason he used the same expression. However, this question is almost certainly unsolvable without recourse to Chūan's original version written in Japanese with the Latin alphabet— which is lost. Moreover it is more relevant to inquire at this place what meaning this sentence would have made to its Japanese readers.

In other words, what did *sei* mean to them? *Sei* can only have meant *nature* to them.[1371] However, the character for *sei* 性 can have another reading, *shō* 性, that may have been the one Chūan used in his manuscript, and perhaps also the one used by some of his readers. The *Vocabvlario* is clear: the primary meaning of *shō* is also "the nature of things,"[1372] or simply *nature*. *Nature*, let us remember, was frequently used by philosophers in the Aristotelian tradition with the meaning of the word *is*, and the discussion of the *nature of* an object is, for the most cases, the discussion of *what* that object *is*. To state the nature of something is to give its definition, and to state its nature is also the expression of what characterises that thing in distinction from everything else. The *Vocabvlario* lists also "substance," "being," and "effect" or "vigour" as possible meanings. However we notice that for *substance* another word is used throughout the

[1371] Nikkoku lists four meanings for *sei* 性: nature, heart, sex, and gender: 「①うまれつき。もちまえ。天から与えられた本質。たち。さが。天性。②こころ。心の作用。心の本体。理性。③動物の身体的特質による男女、雌雄の別。その対立から起こる本能の動き。セックス。④インドーローッパ語やセム語に見られる、名詞・代名詞・形容詞等の文法節疇の一つ。」. It is obvious that only the first one is relevant for the present discussion.

[1372] "Xŏ. Naricuxe. *Natureza das cousas*. ¶ *Itē, Sustancia, ser, virtude. Vt*. Xŏno nuqeta mono. *Cousa que tem ja pouca sustancia como vinho, ou nipa fraca, &c*. ¶ *Item, Pessoa como desmemoreada, & esquecidiça, ou descuidada, & de pouco saber*. ¶ Xŏganaimono. *O mesmo*. ¶ *Item, significa alma segundo os Ienxus*." Vocabvlario, fl. 309. Also:「Xŏ. シャウ(性) Naricuxe. (なり癖) 物の本性. ¶ また, 本質, 自質, 効能. 例. Xŏno nuqeta mono. (性の抜けたもの) すでに実質の少なくなったもの. たとえば,気の抜けた葡萄酒とか椰子酒とかなど.」, Nippo. Revealingly, *jishitsu* 自質, the translation Nippo uses for "ser," *being*, is a word not listed in any of the dictionaries consulted, including Kojien and Nikkoku. Further, in the *Svplemento do Vocabvlario*, fl. 396, we have: "Xŏ. *Natureza, ou virtude dalgũa cousa*. Vt, Cusurino xŏ. *Virtude da mezinha*. ¶ Fitono xŏ. *Natureza do homem*." Cf. Nippo, p. 787. It should be noticed that the Vocabvlario does not list *sei* as a word, possibly suggesting that this pronunciation was not widely used at the time of its edition.

Kenkon Bensetsu: *tai* 體. According to the Vocabvlario *tai* 體 means precisely *substance*,[1373] and this definition may be confirmed with that presented in the Dictionarivm.[1374] Therefore we may infer that neither Chūan would intend this word to mean *substance*, nor would his Japanese readers assume that *sei* had the meaning of *tai*.

Being, on the other hand, belongs in Western philosophy to what Aristotle called sometimes "first philosophy," and at other times "theology," and that came down to us as "metaphysics." As a philosophical concept "being" is one of the most rich and important concepts: "Nothing seems of more importance towards erecting a firm system of sound and real knowledge, which may be proof against the assaults of Scepticism, than to lay the beginning in a distinct explication of what is meant by *thing*, *reality*, *existence*; for in vain shall we dispute concerning the real existence of things, or pretend to any knowledge thereof, so long as we have not fixed the meaning of these words."[1375] For Aristotle the meaning of *being* was clearly fixed in the sense that all possible significations for this word refer to *substance*: "Therefore that which is primarily, i.e., not in a qualified sense but without qualification, must be substance**.**"[1376] This must have been also the sense that the compilers of the Vocabvlario had when they equated *shō* to *being*. However, as it was pointed above, it is very doubtful that a Japanese scholar would have read *substance* into *shō*, and almost certain that he would not have understood it to mean existence separated from essence, a distinction introduced by Aquinas and extensively used by European philosophers, up to and beyond the seventeenth century, such as Descartes (1596.3.31—1650.2.11) and Spinoza (1632.11.24—1677.2.21).

Finally, *shō* was translated in the Vocabvlario as "virtude," which might mean either *effect* or *vigour*. *Effect* would simply not fit: "the *effect* of earth is the *effect* of coldness and dryness." The same could be said of *vigour*, but more important is the argument that, given the fact *ki* 氣 was being used with the meaning of *vigour* it is most

[1373] "Tai. *Sustancia*", Vocabvlario, fl. 237.

[1374] "Substantia, ae. Lus. Sustancia, sujeito dos accidentes. Iap. Accidentium subjectum. Taiyŏno tai. ¶ Qŏdq,. Materia principal, co substancia de qualquer cousa. Iap. Daiichino daimocu. ¶ Qŏdq,. Enxoual, fazenda, &c. Iap. Tacara, zaifõ, xotai." Dictionarivm, pp. 783-784.

[1375] Berkeley in *The Principles of Human Knowledge*, in G. N. Wright (ed.), *The Works of George Berkeley*, London, Thomas Tegg, 1843, Vol. 1, p.120.

[1376] Aristotle, *Metaphysics*, NuVision Publications, LLC., 2005, p. 95.

unlikely that a Japanese reader would also assign that significance to *shō*, making in some way *ki* and *shō* equivalent, especially considering the testimony of the Vocabvlario that the primary meaning of *shō* was *nature*, and when no other Japanese word was competing to be used with that sense.

That the primary meaning of *shō* was nature can be confirmed in the Dictionarivm: "Natura. Monono xŏ," that is to say, "Natura. The *shō* 性 of things."[1377] Modern dictionaries confirm this.[1378] Might *shō* have been understood as *quality*? That is a possibility, as a careful study of the previous footnote will bear. However, it is a remote possibility, one far less probable than *nature*, at it can be noticed that *quality* appears only as secondary meaning to *shō*: one of the possible meanings of this word, besides *nature*, is *seishitu* 性質, which in turn has as one of its possible meanings, besides *nature*, *soshitsu* 素質, which, besides *nature,* also means *quality*.

It should also be noticed that had Chūan intended to use a word for *quality*, he would have found a perfectly good one in the Dictionarivm definition for *qualitas: kisei* 氣性. [1379] This was the term employed by the Jesuit translators of the *De Sphaera* of Goméz, as can be seen in the *Nigi Ryakusetsu*:「此四大質ニ、四ノ気性アリ。」, what may be translated to "[i]n the substance of the four elements there are four qualities."[1380] Did Chūan not know it? Did he not know any of its synonyms?[1381] Or did he actually

[1377] "Natura, ae. Lus. Natureza. Iap. Monono xŏ. ¶ Interd. Vitude, ou força natural dalgũa cousa. Iap. Xotocuno xei, l, chicara. ¶ Naturae satisfacere vel concedere. Lus. Morrer. Iap. Xisuru, xeiqio suru. ¶ In rerum naturam cadere. Lus. Acontecer algũas vezes. Iap. Toqiniyotte xutrai suru." Dictionarvm, p. 483.

[1378] *Shō* 性:「①生まれつき。性質。②表面に覆われてわからなくなっているが、本来の性質や考え。もともとのもの。③物の性質。もちまえ。また、ありのままの性状。」, Nikkoku. All these three definitions point primarily to *nature*, though it may be accepted that some of these words, besides the meaning of *nature* may also mean *quality*: "umaretsuki 生まれ付き 1 *n*. one's nature; one's character; one's disposition; one's temperament. 2 *ad*. by nature; naturally." Kenkyusha; "Seishitsu 性質 n. 1 [生まれつき] nature; disposition; [気質] temperament; temper; [性格] character. 2 [性状] a property; [素質] a quality. 3 [事物の] character; nature. " Kenkyusha.

[1379] "Qualitas, atis. Lus. Qualidade. Iap. Fonxŏni arazu xite soresoreno mononi sonauaru qixei igueno cotouo yŭ." Dictionarvm, p. 666.

[1380] *Nigi Ryakusetsu*, Obara Satoru 尾原悟 (ed.), *Iezusu-kai Nihon Korejio no Kōgi Yōkō I*『イエズス会日本コレジオの講義要綱 I』, Kyobunkan 教文館, 1997, p. 68.

[1381] The long winded definition for *qualitas* found in the Dictionarivm might suggest that the Jesuits, for all their linguistic skill, or because of it, were not able, or not willing, to relate this word to a Japanese

use *seiki* or a synonym but the word got lost at the hands of Genshō? We only know that Genshō did not use it in the *Kenkon Bensetsu*.

So we arrive at the following most probable reading: "if we consider now the *nature* of earth, water, air and fire, there are the four *natures* of coldness, hotness, dampness and dryness." It is imprecise and fells odd. Still it might convey some meaning. Sometime later, still in Chapter 1, it is written: "[t]he nature of element earth is dry coldness." An Aristotelian scholar would clearly prefer to read *quality* instead of *nature*, but possibly still find some meaning in it. However, when we reach, still in Chapter 1, the sentence "the four elements alike are said to possess each two natures," we know that a serious problem of misrepresentation has occurred.

However, it may also be argued that as *sei*/*shō* may represent both nature and quality, as was admitted above, and that we should realize that these Japanese words do not distinguish between the two meanings, at least not as sharply as they are divided in Latin and English into different words, but instead combine them into one single significance. Therefore, when using *sei*/*shō,* Chūan and Genshō might mean nature and its accompanying qualities. Although this may well be the case, there is still ground to argue that this solution misrepresented Aristotelian theory, where the distinction between these two concepts is fundamental.[1382]

4.2 Conquest and generation

A second example of a problem with terminology is the use of the Neo-Confucian terms *sōkoku* 相尅 and *sōjō* 相生, translated here respectively as *conquest* and *generation,* to indicate what Clavius describes as *combinatio impossibilis* and *combination possibilis*.[1383] Chūan states that "[t]here are two possibilities for *sōkoku* 相尅 to occur, the first between coldness and hotness, the second between dampness and dryness."[1384] Clearly, according to Aristotelian natural philosophy, what is meant is that

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term as simply as they did for *natura* or *substatia*. Significantly I could not find in the Vocabulario any Japanese word for *quality*.

[1382] Besides *nature* being a closer meaning to *sei*/*shō* than *quality*, the use of the word *nature* in the translation made here has the advantage of making the reader aware of this misrepresentation.

[1383] In Sphaeram, pp. 33-34.

[1384] First volume, paragraph 1.

"[t]here are two possibilities for *combinatio impossibilis* to occur, the first between coldness and hotness, the second between dampness and dryness." However, both in current language and as a philosophical term, *sōkoku* means conquest what is clearly a different meaning. According to the theory of the mutual conquest order of the *five phases*, *gogyō sōkoku setsu* 五行相剋説, there is a cycle where each of the *five phases* prevails over or *conquers* the previous one: wood *conquers* soil, soil *conquers* water, water *conquers* fire, fire *conquers* metal, and metal *conquers* wood.[1385] It should be noticed that the conquest relationship is not a mutual relation in the sense that is not held in common between two individual phases: wood *conquests* soil, but soil does not *conquest* wood, and so forth. Rather, it is a cycle of relations between the members of a group that is completely defined only when all five relationships are established, and where the relationship between any two elements is not reciprocal. In the Western theory presented by Chūan, the *combinatio impossibilis* is defined just for a pair of qualities, say between coldness and hotness. This relation for a pair of qualities does not involve the other qualities, and this relation is correlative between the two qualities concerned.

Chūan adds: "[t]here are four possibilities for *sōjō* 相生 to occur, namely between hotness and dryness, dampness and warmness, coldness and dampness, and dryness and coldness." Clearly *sōjō* stands here for *combination possibilis*, in spite of its meaning being generation. According to the theory of the generation order of the *five phases*, *gogyō sōjō setsu* 五行相生説, fire is generated from wood, soil from fire, metal from soil, water from metal and wood from water; *sōjō* thus, expresses this generational relationship.[1386] Again Chūan is using a term with a well established meaning to express

[1385] "Sŏcocu. Ai xemuru. *Contrariar, ou contender como qualidades contrarias*. ¶ Sŏcocu sŏjŏ. *O gerarse algũa cousa por meo de qualidades contrarias*", Vocabvlario, fl.223v.; also, "Sŏcocu. サヮコク(相剋) Ai xemuru. (相剋むる) 相容れない性質など矛盾対立し、また、相争うこと. ¶ Sŏcocu sŏjŏ. 相対立する性質から、何かある物が生ずること", Nippo, p.568r.;「【相克・相剋】①五行相剋説で木は土に、土は水に、水は火に、火は金に、金は木に剋(か)つとし、五行は木・金・火・水・土の順序で生起するとされているところから、水火・火金などの関係をいう。②対立・矛盾する二つのものが、互いに相手に剋(か)とうとして争うこと。また、その片方が相手に剋つこと。」, Nikkoku. Other authors have used terms like "conflict", "prevalence", "overcoming" and "subdue" to translate *sōkoku*. About this topic see discussion in the previous chapter.

[1386] Cf. Sŏjŏ in Vocabvlario, fl.223v. with the meaning of generation, Nippo, p.571r., .「①五行説で、木から火を、火から土を、土から金を、金から水を、水から木を生じるという、五行の運行に従って互いに

a different kind of relationship. Contrary to *sōjō* the *combination possibilis* expresses a relationship between just two qualities; and though there are several possible pairs, each pair is a complete relation in itself, what does not happen with *sōjō* where the complete relation involves all the five phases.

These are typical examples of the Western natural philosophy focus on a particular object in isolation, of its tendency to take phenomena out of context from their wider environment, for example, in the relation between two opposite qualities. This relation is viewed as unaffected by any factor exterior to it, and stands independently of the remaining objects in Nature, or as if they did not exist. On the other hand, the conquest relation, or cycle, is archetypal of Eastern attention to relations that involve all elements of a group. Metal may conquer wood, but only after the conquest of soil by wood, and so on, in a series of relationships that involves all existing elements. As was argued above in Chapter I, these different emphases did not arise by chance. Instead, they parallel the different prominence bestowed on the individual in the West and to the group relationships that give existence to the individual in the East. In the West there is more of the tendency to see the individual person as having existence independently of the in-groups he may be belong to, and to consider more important the personal relationships he has with each other member of his groups than with the group as a whole. From ancient times Westerners had the possibility of conducting their lives without being much constrained by their relations with other people. A Greek citizen could manage his business, enjoy his free time, join a political current or become a disciple of a sophist consulting little or not at all with other members of his family, clan or neighbourhood. This made it natural for him to focus on objects and their qualities independently, one at a time, and the targets of his attention came to be analyzed autonomously of their environment. On the other hand, in the East a person has no independent existence of the groups he belongs to, and more important than the relationship between him and a particular member of the group is his relation with the group as a whole. Since ages immemorial the Chinese, and especially the Japanese, had to look sideways to their peers, and upwards to their superiors in attending to their economic, social and political lives. Their opportunities and constrains were rooted in the groups they belonged to. The practice of looking to the group for hints of

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他を生じること。②人の生年を五行にあてて、その性が合うとすること。これによって男女の縁談などを定める」, Nikkoku.

appropriate courses of action certainly led to the propensity of considering the field in general, and the need to attend to social relations led to the bent to consider all existing relationships in one framework: "If one perceives oneself as embedded within a larger context of which one is an interdependent part, it is likely that other objects or events will be perceived in a similar way."[1387] Recent research in the field of cognitive psychology and others has uncovered evidence that societal arrangements are homeostatically related to the perception of the environment in these two cultures.[1388]

The attempt made by Chūan to frame *combinatio impossibilis* and *combinatio possibilis* in terms of *sōkoku* and *sōjō* may be understood as a cross-cultural borrowing or appropriation, driven not from lack of appropriate Japanese terms to express a Western theory but most probably from the wish to dress a foreign theory in a more acceptable attire to his audience.

It should be clear that it was not for lack of suitable Japanese words for *combinatio, impossibilis* and *possibilis* that *sōkoku* and *sōjō* were employed. For *combinatio* there was available *wagō*[1389] 和合 and *awase*[1390] 合わせ; for *impossibilis* there was *narigatai* [1391]成り難い; and for *possibilis* it would be acceptable to use *kanō*[1392]可能, or *naru*[1393] 成る, and these are just the possibilities included in the *padres*' dictionaries. Chūan, we are told from several sources, had a good mastery of the

[1387] H. Markus and S. Kitayama, "Culture and the Self: Implications for Cognition, Emotion, and Motivation," *Psychological Review*, vol. 98, pp. 224-253.

[1388] See Richard E. Nisbett, *The Geography of Thought: How Asians and Westerns Think Differently … and Why*, New York, Free Press, 2003, and references therein.

[1389] "Vagŏ. Yauaracanivŏ. *Ajuntamento, ou vnião, ou mistura*. ¶ Xidai vagŏno yexin. *Corpo humano composto dos quarto elementos vnidos*. Anima, xiqitai vagŏ suru. Vnirse a alma, & o corpo como forma, & material. ¶ Permet. Fazerse amigo cõ alguem." Vocabvlario, fl. 267

[1390] "Auaxe, auasuru, auaxeta. *Ajuntar hũa cousa com outra*." Vocabvlario, fl. 15v.

[1391] "Naritatai. *Cousa dificultosa de ser, ou de se fazer*." *Vocabvlario*, fl. 178. "Impossibilis, e. Lus. Cousa impossiuel. Iap.Canauazaru coto, narigataqi coto." Dictionarium, p. 353.

[1392] "Possibilis, e. Lus. Cousa possiuel. Iap. Canŏ coto naru coto." Dictionarium, p. 604.

[1393] "Nari, u, atta. *Fazerse*. ¶ Fadacani naru. *Ficar nù*. ¶ Teqini naru. *Fazer se inimigo*. ¶ Fitotçumi naru. *Fazerse em hum corpo*. ¶ Item, *Poder*. Vt, Xeide naranu. *Não se pode deixar de fazer*." Vocabvlario, fl. 178.

language.[1394] Therefore it would be difficult to argue that he might not have known these words.

It should also be pointed out that Chūan was not the only one to use *sōkoku* to express *combinatio impossibilis.* In the *Nigi Ryakusetsu* we can find the following sentence:「地大ノ寒燥、風大ノ湿温、両ナカヲ相剋ストイヘトモ」、[1395] what might be translated as "[…] the coldness and dryness of element earth, the warmness and dampness of element air, although they *conquest* each other […]." This raises the possibility that the Jesuits had adopted a textual strategy of fitting their theories about the natural world with the array of neo-Confucian vocabulary.

It is probable that Chūan attempted more than a mere dressing up. In some places he seems to deliberately adjust the contents of Aristotelian theory to the neo-Confucian mould by the use of *sōkoku* and *sōjō.* This supposition is supported by what he writes in his digression on paragraph 2 of the first volume about the "direct order and the inverse order" of the four elements:

"The direct order and the inverse order of the elements earth, water, air and fire, these are conquest and generation."

He then explains what he means by the *generation* relation:

"In the direct order, wood begets fire, fire begets soil, soil begets water, [and] water begets wood. The meaning of wood begetting fire is that because the warmness of the element air and the hotness of the element fire have the same vigour thus they generate. The meaning of fire begetting soil is that because the dryness of element fire and the dryness of element earth have the same vigour thus they generate. The meaning of soil generating water is that because the coldness of element soil and the coldness of element water have the same vigour thus they generate. The meaning of water begetting wood is that because the dampness of element water and the dampness of element air have the same vigour thus they generate."

[1394] "Sabe bem a lingua de Japão," is recorded concerning Ferreira in *Catálogo das enformações Commuas dos Padres e Irmãos de Japão, feito em Novembro do anno de 1614*, Jap-Sin 25, fl. 91. Gensho, in spite of criticizing the language in the *Kenkon Bensetsu*, which seemed to be written without any rules recorded that "[Chūan] could communicate very well in Japanese, having learned to read the Taiheiki and other [Japanese classics]."

[1395] Obara, *op. cit*., p. 92.

Chūan applies here the generation relationship to four elements. These may seem to be not the Aristotelian four elements, as wood is presented instead of air, but four of the five the Neo-Confucian *phases*. However, when he comes to explain why the generation takes place, this is made with recourse to the four Aristotelian qualities, or *natures*, to employ Chūan terminology, of warmness, dryness, coldness and dampness: he goes through the generation cycle by pairing consecutively elements with a similar *nature*. Curiously, when he explains a relation involving wood, wood is equated with air. Though in some manuscripts of the *Kenkon Bensetsu* some Chinese characters get mixed up by the copyist because of their similarity, for example between water 水, wood 木, and fire 火, it is most improbable that this would happen between wood 木 and air 風. Assuming as very probable that the connection between wood and air is not a calligraphic error, it must be interpreted as being willed by Chūan. In the end, instead of four pairings presented as independent of each other as they are found in the Aristotelian *combinatio possibilis* between the four elements, Chūan presents a cycle of four pairings that are connected to each other through one element at a time. In this way he was answering to the deep Japanese craving for a system of relationships that relate all members of a group, and thus making his theory more acceptable. But on this point his theory was not an Aristotelian theory anymore.

The former Jesuit then goes on to present the *conquest* order:

"In the inverse order soil conquers water, water conquers wood, wood conquers fire, and fire conquers soil. The meaning of soil conquering water is that because the dryness of element soil and the dampness of element water have different *vigour* thus they conquest. The meaning of wood conquering fire is that because the dampness of element air and the dryness of element fire have different *vigour* thus they conquest. The meaning of fire conquering soil is that because the hotness of element fire and the coldness of element earth have different *vigour* thus they conquest."

It should be noticed first that the relations "water conquers wood, wood conquers fire, and fire conquers soil" are not in the orthodox conquest order.[1396] Further, it would feel as strange in Eastern ears as it feels in Western ones that, for example, "wood conquers fire". Here we have again an attempt to break away from the one to one relationship between two elements as posited by the Aristotelian *combinatio possibilis*.

[1396] See Chapter VII above.

Instead of independent individual pairings we have a nexus of relations involving all members of a group. However an Aristotelian idea still drives the relations between the elements: the opposition between dryness and dampness, and between coldness and warmness.

Finally, if we recall the excerpt from the *Kengiroku* presented in Chapter III, where Chūan concludes a very simple presentation of the Aristotelian theory of matter saying that "The category known as *simplex*—earth, water, fire, air and heaven—are not created things and therefore have neither beginning nor end: they are the mysterious effects of the conjunction of Yin and Yang", it becomes patent that his effort to in some way synthesise the natural theories of East and West had begun at a much earlier date than that of his editing of the *Kenkon Bensetsu*.

4.3 Vigour

Besides the above mentioned attempt by Chūan to describe the relations between the four elements in terms of the use of *sōkoku* and *sōjō*, one can see the presence of undue use of Chinese terminology in the exposition of Southern Barbarian theories made throughout the *Kenkon Bensetsu* in some other cases. The most conspicuous Chinese word imbibed in the presentation of Aristotelian cosmology is the constant reference that is made by Chūan to *vigour*.

Vigour, we have already seen, is a manifold of meanings in Chinese and Japanese philosophy. However it is safe to say that Chūan does not employ it according to what an Eastern scholar would consider appropriate. There is no reference by Chūan to *vigour* as being at the origin of things, or their basic constituent. Instead of a *ki* that is diaphanous matter which exists by itself and has self-induced motion, the *vigour* employed by Chūan is most times an attribute or quality of something else. In the opening sentence to the Introduction to the First Book he wrote:

"Heaven is […] not endowed with the four *vigours* of coldness, hotness, dampness and dryness."

What would a neo-Confucian make of this sentence? It is hard to tell but certainly he would be startled that something such as *coldness* or *hotness* is a *vigour*. Genshō corrects this by stating that:

"[E]ach element […] is provided with one *vigour* and one nature."

Ki, in the traditional conception, through its self-induced movement becomes *telluric* and *solar* and also the *five phases*. As Genshō and Chūan made no distinction between *element* and *phase*, Genshō refers here that each element, possibly meaning the Chinese *five phases*, wood, metal, fire, water and earth, has just one *vigour*, and one nature, what is orthodox doctrine.

This use of *vigour* as a *quality* is more evident when Chūan also attributes *vigour* to the elements. For example:

"[I]n the lower region of air there is an abundance of warm *vigour*."[1397]

And:

"[T]here are crevices of earth where the *vigour* of water circulates."[1398]

That *vigour* is used to mean *quality* is made clear in some sentences like the following:

"The reason is that when fire is taken away the warm *vigour* gradually cools down, and the cold *vigour* of water appears by itself."[1399]

Contrasting to the neo-Confucian view that *mutual conquest* is a process of passage from one *phase* to another, and that each *phase* is an expression of the same *ki*, Chūan presents *vigour* as inducing mutual conquest:

"Those things that have the vigour of cold, hot, damp, and dry do mutual conquest".[1400]

Here again it seems as if the Southern Barbarian scholar was trying to use *vigour* with the meaning of *quality*. However, some times Chūan employs *vigour* with the meaning of close to that of *force*, what is near the Japanese and Chinese original meaning of the word. One such example is:

[1397] Second volume, paragraph 15.

[1398] Second volume, paragraph 15.

[1399] First volume, paragraph 1.

[1400] First volume, paragraph 1.

"According to a theory, the *vigour* of warmness and moisture of the lower region of element air blows, runs into and accumulates in the crevices of element soil."[1401]

Finally vigour seems to be used with the meaning of *influentia*, the force that affects a distant object:

"The revolution of the solar light […] is the agent that gives origin to the *vigour* of spring, summer, autumn, and winter."[1402]

4.4 Others

There are some other terminological problems in Chūan text, but they do not so fundamental questions as those mentioned above. Let us briefly present some of them.

One is the interchangeable use of earth, *chi* 地, and soil, *tsuchi* 土, that Chūan makes throughout his treatise. Though the meaning of these two words is very close,[1403] in the Chinese *five phase* theory soil is always used, and in the exposition of Aristotelian theories the Southern Barbarian scholars always used earth.[1404] Only in Chūan do we see such promiscuous use of the earth and soil to expose the Aristotelian four elements theory.

Chūan also seems to try to differentiate earth, one of the four elements, from Earth, the living place of Man and the sentient beings. To this end he uses *chidai* 地大 for the former and simply *chi* 地 for the latter. However it is easy to find examples where he, or the transliterator, was not consistent in this different usage.

Another is the use of the term *capital crime*, *jūka* 重科, with the meaning of destruction or annihilation. The use of this expression in the context used in the *Kenkon Bensetsu* is, to say the least, strange. Its use is probably owed to Chūan not finding a

[1401] Second volume, paragraph 15.

[1402] First volume, Introduction.

[1403] So close in fact that they are presented as synonyms in the following entry of the Vocabvlario, fl. 46 v.: "Chi. Tçuchi. *Terra*. ¶ Chiuo arasô. *Contender sobre as terras, ou sobre os campos*." However, the entry for *tsuchi* makes the difference in connotation clear: "Tçuchi. *Terra, ou barro*." Vocabvlario, fl. 245v.

[1404] See for example the *Nigi Ryakusetsu*, or Mateo Ricci's *Kenkon Taigi*,『乾坤體義』*Qiankun Tiyi*.

more appropriate word and thus using a legal expression he certainly knew which had a similar meaning but which he applied to the relations between the elements.

5. Chūan says: the Heavens

Chūan begins the third Volume by remembering his readers that everything belonging to the World below the Moon has the four elements as their origin. However, the rhythm of change is established by the rotation of Heavens. Even more: without receiving the vitality from Heaven nothing would have originated, not even Man.[1405] This was standard Aristotelian theory. He then goes on to explain the structure of the Heavens.

The substance of Heavens is called the fifth substance. It is a substance different from earth, water, air and fire and thus doesn't have the four *vigours* of cold, hot, damp and dry. The reason is that everything made of the four elements decays but the Heavens do not decay or present any change. That the Sun warms other things does not prove that it has the *vigour* of hotness. The light of the Sun warms even though in the substance of the Sun there isn't the *vigour* of hotness. This warming is not like that operated by fire, which is hotter the closer it is. Rather it is a different kind or warming through shinning.[1406]

The shape of the heavens is that of a solid sphere. There are three reasons for this. One is that as they rotate with different movements the only possible shape that makes this possible is a round conformation. Another is that if they had any shape other than that of a sphere, the corners of the lower Heaven would tear the Heaven above it. However this cannot happen because the substance of Heavens is not corruptible. Finally, from whatever place from where they are seen, the constellations are seen at the same distance and with the same size, and this constitutes proof that the several Heavens are spherical. The argument that the Sun is seen larger at dawn than at midday does not apply because the vigour of dampness there is at that time between the Sun and the observer acts as spectacles.[1407]

[1405] Third volume, introductory paragraph.

[1406] Third volume, paragraph 1.

[1407] Third volume, paragraph 2.

There are three Heavenly cycles. The first is that which all Heavens make during one day from east to west. The second is the inverse movement from west to east that the Seven Stars make relative to the fixed stars. This rotation explains the lunation and why the Sun falls behind Mars, Mars behind Jupiter, etc. This movement includes a south north movement that, in the case of the Sun causes the seasons. Therefore the four *vigours* of spring, summer, autumn and winter are due to the Sun being more to the south or to the north, being farther away or nearer. The path of inverse rotation is inclined about twenty three and a half degrees from the south-north axis. The third cycle is a small south north trepidation that can be observed in the course of several hundred years.[1408]

Concerning whether the stars move alone or move together with their Heavens the answer is that they move with their Heavens. The reason is that stars make at the same time a movement from east to west and another from west to east. As two opposite movements cannot be the proper movements of the same body, one is the proper movement of the Heaven of that star and the other is the movement of following another Heaven, very much as an insect running in the opposite direction of a turning well. Moreover, if the stars moved by themselves like fish in the water or birds in the air there should not be the uniformity we observe in the heavenly movements throughout the ages.[1409]

As the substance of the Heavens is crystalline we cannot see them. To know how many there are it is necessary to distinguish and count the number of movements there are in Heaven. Because a body cannot move in opposite directions at the same time, this is the sure way to know how many Heavens there are. Besides the proper movements of the Seven Stars, there is the daily turn from east to west caused by the Tenth Heaven, and there is also the inverse movement of the Seven Stars from west to east and the small south north trepidation. Therefore there are ten Heavens.[1410]

The ordering of the Heavens is the following: Moon, Mercury, Venus, Sun, Mars, Jupiter and Saturn. This order can be deducted because the lower stars occult the higher ones during their conjunctions; and because the lower Heavens make their

[1408] Third volume, paragraph 3.

[1409] Third volume, paragraph 4.

[1410] Third volume, paragraph 5.

rotation faster than the higher Heavens. That the Sun is placed in the middle of the Heavens is the uttermost of *principle*: it is far away enough from the Earth so as not to burn everything on it, and close enough so as to warm it. The nesting of the Heavens is without any interval because if there was a space between them the Heaven below would not follow the Heaven above.[1411]

The duration of the inverse rotation of the nine Heavens is presented in paragraph 7. The first seven Heavens each has three layers, their stars being placed in the middle layer, and it is the position of the star in this middle layer that should be the focus of discussion.

In the representation of the celestial sphere there are ten circles, six large and four small. The large circles divide the sphere into equal parts but this does not happen with the small ones.[1412]

The Equator is the line that divides the Heavens and the Earth in two equal parts, one to the south, and another to the north. When the Sun is in this line the day and the night have equal duration.[1413]

The Way of Inverse Rotation is trodden by the Seven Stars. It divides the Equator in two parts. It is composed of two parts: in one the Sun moves north; in the other it moves south. It makes an inclination of twenty three and half degrees with the Equator. The Sun in its movement follows exactly the Line of Eclipses. The Moon and the Five Stars each have their own way in their inverse rotation. There are three reasons it can be said the Sun does not deviate from the Line of Eclipses. The first is that if in a given year at the time when the Sun enters a Mansion a certain star is in the horizon, in the next year, when the Sun enters the same Mansion that star will also be in the horizon. The second is that the Sun makes the same shadow every year at certain times like the spring equinox and the summer solstice. The third is that the Sun upon reaching twenty three and a half degrees north always turns south. Moreover, as the Sun moves from west to east, and makes the inverse rotation through these twelve Mansions it leans and gets away from south and north, and this movement makes the division between the

[1411] Third volume, paragraph 6.

[1412] Third volume, paragraph 8.

[1413] Third volume, paragraph 9.

four seasons of spring, summer, autumn and winter. In the three months prior to the solstice of summer the *vigour* of spring is produced in the northern regions, the *vigour* of spring is similar to element air and has the *vigour* of warmness and dampness. Likewise the other seasons have the *vigour* of the corresponding element.[1414]

There are four points in the inverse rotation path of the Sun that signal lines perpendicular to the axis of rotation of the Heaven. When the Sun reaches the Hare or the Hen it is in the Celestial Equator and it is the time of the spring and autumn equinoxes. When the Sun reaches the Rat, which corresponds to Capricorn, or the Horse, which corresponds to Cancer, it is the time of the summer and winter solstices.[1415]

A meridian is defined as the line in the sphere that passes through the axis of rotation and above one's head. It divides the horizon and the day into two equal parts, and it is midday when the Sun reaches it.[1416]

The horizon is the line that divides the visible half of the sphere from the invisible half. In the Equator the two poles are seen in the horizon and this is called straight horizon. Both to the south or to the north of the Equator, only one axis can be seen, and the horizon is called latitude horizon. From the horizon one can measure the duration of day and night and estimate the latitude of the place.[1417]

The Sun makes its retrograde movement between twenty three and a half degrees north and twenty three and a half degrees south of the Equator. At these two points it touches two lines parallel to the Equator, the Line of the Summer Solstice, the tropic of Cancer, and the Line of the Winter Solstice, the tropic of Capricorn.[1418]

Forty three degrees from the Line of the Summer Solstice to the north there is the Northern Line. In the regions between these two lines there are four seasons and thus they are the most appropriate place for the myriad things to live. Twenty three and a half degrees from the Northern Line there is the North Pole. In this region because the *solar vigour* has a strong slant and arrives sideways it is always extremely cold and

[1414] Third volume, paragraph 10.

[1415] Third volume, paragraph 11.

[1416] Third volume, paragraph 12.

[1417] Third volume, paragraph 13.

[1418] Third volume, paragraph 14.

there are no four seasons. The axis of the path of inverse rotation of the Sun, the Moon and the stars touches this line. The same can be said concerning the south.[1419]

The Lines of the summer and Winter Solstices and the Southern and Northern Lines define five regions in the World. Between the Lines of Summer and Winter Solstice it is always hot because the Sun never leaves this region. The people of the countries of this region are black. Forty three degrees to the north and to the south of the Lines of Summer and Winter Solstice there are two regions that are temperate in coldness and hotness. These regions have four seasons which depend on the movement of the Sun. They are also the most appropriate places for the myriad things to live. North of the Northern Line and south of the Southern Line there are no four seasons and it is always cold because the *solar vigour* arrives sideways and weakly.[1420]

From the above paragraphs one may note that the contents of this volume, despite being about the Heavens, are not about astronomy. These sixteen paragraphs only contain topics of natural philosophy, that is, about the substance of Heavens and their movements, the nature of heavenly cycles and the regions they define on the Earth, seasons and their duration, and the like. For example, it explains the lunation in paragraph 3, but in the simplest of the ways, and without any detail, and the numbers presented are only approximate. There is no reference to the well known theory of the Moon of Ptolemy, or details of the sophisticated theories on the Moon of the sixteenth and seventeenth centuries. If there is any astronomy in these paragraphs, it is astronomy of the most elementary level, it was the astronomy one needed to know geography. On the other hand it makes numerous references to the influence of the *solar vigour* on the various regions of the Earth and of its natural consequences. Thus we may say that this third volume is about natural philosophy as were the first two.

6. Chūan says: Heavens and stars

Volume four is composed by two distinct parts: the first is the continuation of the exposition on the Heavens that was made in volume three; the second is a short exposition on the stars.

[1419] Third volume, paragraph 15.

[1420] Third volume, paragraph 16.

This volume starts with the definition of day. Day may mean the interval of time during which the Sun is above the horizon, which is variable according to country and season. Alternatively it may also mean the twelve hours of daytime and night-time. Different countries use different moments to define the start and end of the day. Some use the time the Sun appears in the eastern horizon, others the moment it hides in the East, others use midnight, still others midday.[1421]

On the Equator the length of day and night are always equal. However, as one moves south or north the division of day into daytime and nightime depends on the position of the Sun on its path. When the Sun is in the Equator during the equinoxes the duration of daytime equals that of night-time in all countries except in the Polar Regions. In the Polar Regions the variation of the duration of daytime and night-time is extreme.[1422]

The length and shortness of day and night depends on the distance of a country to the Equator.[1423]

One simple way to measure months and years is through the phases of the Moon. However, because the times of the seasons, the length and shortness of day and night, the slowness and rapidity of cold and hot, and of warm and cool, as all of these depend on the revolutions of the Sun, numerous countries also use the revolutions of the Sun to determine year and month. The daily rotation of the Sun from east to west is not its proper movement, but the movement of the Tenth Heaven. The proper movement of the Sun is its inverse rotation through the twelve Mansions which makes one solar year. By dividing this period into twelve fractions one gets one month. The lunar month is defined as the period between two conjugations of the Sun and the Moon, which is about twenty nine days and some hours. Twelve lunar months make one lunar year of three hundred and fifty four days. As one the Sun makes its inverse rotation in about three hundred and sixty five days, one lunar year has eleven days less than a solar year. To ensure that the times of the seasons do not become different, eleven days are thrice accumulated and every three years one lap month is added.[1424]

[1421] Fourth volume, paragraph 17.

[1422] Fourth volume, paragraph 18.

[1423] Fourth volume, paragraph 19.

[1424] Fourth volume, paragraph 20.

The Moon and the stars do not have proper light: they are like mirrors that reflect the light of the Sun. This can be demonstrated with the phases of the Moon: the light it reflects depends of its position in relation to the Sun.[1425]

Although the Sun is seen as having about the same dimension as the Moon, the former is in fact much larger than the latter. It is actually much larger than the World. This can be ascertained because the characteristics of shade projection are well known: the shape of the shade is very different depending whether the body that shines is larger, similar or smaller than the body that shadows.[1426]

When the Moon and the Sun overlap, the Moon interrupts the light of the Sun creating a shadow and in the countries that are directly below the Moon there is a Solar Eclipse. This happens in the New Moon if the Sun and the Moon overlap. The Lunar Eclipses happen when the Moon and the Sun in the crossroads of the Line of Eclipses are in opposition. Because Earth is in the middle and thus by its interposition creates a shadow, and because the Moon has no light of its own and is covered by the shadow of the Earth, it does not receive the light of the Sun and therefore it is eclipsed. This happens on the Fifteenth or Sixteenth Day of the lunar month if in either these days the Sun and the Moon are in perfect opposition.[1427]

Not only the Heavens, but also the four elements earth, water, air and fire, all have their exact centre in one point at the centre of the Earth. The seven Heavens where the Sun, the Moon, and Five Stars are placed all have three layers. The layer above and the layer below have their exact centre in the exact centre of the World. The middle layer has a centre that is not the centre of the Earth and is different for all Heavens. There are several ways to deduct that Heavens have three layers. One is the varying distance of the Seven Stars from the Earth, as perceived by their apparent size. Another is that the speed of rotation of the spheres is constant but the movement of the stars through the mansions takes different periods. There is also the fact that during solar eclipses the Sun sometimes is seen somewhat larger or somewhat smaller than the Moon. Likewise, during lunar eclipses the shadow of the Earth sometimes is shorter and sometimes longer, what proves that the distance of the Sun to the Earth is not always the

[1425] Fourth volume, paragraph 21.

[1426] Fourth volume, paragraph 22.

[1427] Fourth volume, paragraph 23.

same. Finally, because the Seven Stars make the inverse rotation in different periods, the exact centre of the Heaven where they are placed is not the exact centre of the Tenth Heaven. When the exact centre is different for each, it cannot happen that each and every Heaven doesn't have three layers.[1428]

On entering the paragraphs on the stars the *Kenkon Bensetsu* establishes the distinction between the Seven Stars that have their own Heaven, and the many stars that are placed in one Heaven. The Seven Stars have their own movements and their relative positions change, but the many stars move together keeping their relative positions. Depending of their conjunction, the light from the Seven Stars may not be seen, but this does not happen with the many stars.[1429]

The several stars are several thousands of myriads, but only 1022 can be clearly distinguished. These are classified according to their relative brightness.[1430]

Each of the Seven Stars exerts its influence on the Earth. For example the Moon rules over water and damp things. It controls the tides as well as the inside of the medulla, marrow and brain. The flesh of shellfishes also become full depending on the place the Moon is. The Moon gives brilliancy to silver and its nature is revealed through the child at birth: the children that are born under its influence are tall, white, harmonious of features, strong of body, but their knowledge and learning does not amount to much. In a similar way each star makes its own influence felt on the Earth.[1431]

The Twelve Mansions are ruled by the Seven Stars. The Sun and the Moon rule over one Mansion and the Five Stars rule over two Mansions. Children born while the Sun is staying on a certain Mansion have some characteristics depending on the nature of the Mansion.[1432]

[1428] Fourth volume, paragraph 24.

[1429] Fourth volume, paragraph 25.

[1430] Fourth volume, paragraph 26.

[1431] Fourth volume, paragraph 27.

[1432] Fourth volume, paragraph 28.

Because the Heavens of the Seven Stars have three layers their height and thickness may be known. This does not happen with the three upper Heavens.[1433]

Having arrived at this final paragraph, we are in a position to confirm now that there is no astronomy in the *Kenkon Bensetsu*. The paragraphs in the Fourth Volume deal with topics of natural philosophy related to the Heavens, not with astronomy. Or to be more precise, the notions concerning the Heavens which are there presented, were the basic astronomical knowledge any cultured European would have known. He would have learned it in his University or College philosophy course irrespective of whether he had become an ecclesiastic, a lawyer, a doctor or an astronomer. Nobody with just this level of knowledge would classify as an astronomer, as nowadays no one can claim to be a mathematician just because he or she can work with integrals. Why do days and nights have varying durations? Why is that duration related to the position in the sphere of the Earth? What are the differences in solar and luni-solar calendars? Does the Moon have light? What is the influence of the stars on the Earth and in Man? None of these are questions that needed any theorising in the sixteenth century, nor would they bother Copernicus, Clavius, or Kepler claiming for an answer. Further, we can say that even topics slightly more advanced as why is the Moon seen sometimes larger than the Sun, what is the cause of eclipses, and what is the distance between the Earth and the Sun are not answered with the details of astronomical technicalities, as no techniques are presented and no numbers advanced. Rather the simplest answers are given that are enough to settle a non-technical argument and to answer the curiosity to know if there are answers to such questions. The only numbers presented are for the duration of the inverse rotation of the Seven Stars and for their heights and thicknesses, and hardly could these be of any use in any work of applied astronomy, or for the reform of the calendar. Yasui Santetsu would not find in it anything that might help him in his endeavour.

7. Heavenly implications

Although the treatment of the Heavens in the *Kenkon Bensetsu* was unremarkable from the point of view of the level of astronomical knowledge in the

[1433] Fourth volume, paragraph 29.

sixteenth and seventeenth centuries in Europe, the *Kenkon Bensetsu* is remarkable for its treatment of a topic related with the Heavens.

This topic is the presentation of some basic relationships of astrological theory. Astrology had a long history of symbiosis with astronomy in the west. Even though he did not discuss astrology, the idea that the Heavens exerted some influence on the terrestrial region was an integral component of the natural philosophy of Aristotle. But his basic idea that the heavenly motions caused the movements of the four elements and of the bodies composed by them became pervasive amongst later philosophers and astronomers. To this state of things much was contributed by Ptolemy's *Tetrabiblos*, the ultimate authority on the subject for many centuries, and the translation of Arabic works such as Abu Mashar's *Introduction to Astrology* in the twelfth and thirteenth centuries.[1434]

In the Christian west astrology was frown upon at the best of the times, strictly forbidden in the other occasions. However a careful distinction needs to made. While judicial astrology, which purports to forecast the course of future events including those that are the result of human choices, was never considered legitimate, because of its implications on the free will of human actions, natural astrology, which considered the influence of the Heavens on natural phenomena on the sublunary sphere was acceptable and accepted by many. Evidence that the Sun and the Moon influenced natural events was found in tides, earthquakes and the seasonal changes in the vegetal and animal world. This influence, it was thought, could also affect the physical side of men, their strength, health, mental abilities and character.

It was therefore judicial astrology that was banned in the west and that was systematically condemned by Christian philosophers and Church authorities. In the second half of the sixteenth century three documents proscribing judicial astrology stand out: the Index of forbidden books of Paul IV, published in 1559, the rules concerning prohibited books issued by the Council of Trent, and the bull *Coeli et Terrae* of Sixtus V, issued in 1586.[1435] But it was not only ecclesiastical authorities that

[1434] See Grant, *op. cit*., p. 132.

[1435] Henrique Leitão, "Entering Dangerous Ground: Jesuits Teaching Astrology and Chiromancy in Lisbon", *The Jesuits II: Cultures, Sciences, and the Arts, 1540-1773*, John W. O'Malley, S.J, Gauvin Alexander Bailey, Steven J. Harris, T. Frank Kennedy, S.J. (eds.), Toronto, University of Toronto Press, 2006, pp. 372-373.

condemned judicial astrology. A clear climate of intellectual censure towards this discipline was palpable in the vast literature condemning its practice, on both sides of the Reformation. Although it continued to be presented in natural philosophy textbooks during the sixteenth century, astrology was not considered a canonical subject. Still, it is also true that in practice many continued to use, theorise and teach it. Astrology found then a refuge in an abundant literature of almanacs and "poor man's encyclopaedias" directed to the less cultured, mingled with general astronomical explanations and information relevant to the trades of agriculture, medicine and navigation.[1436]

One surprising recent finding is that astrology was taught in the Jesuit college of Santo Antão in Lisbon.[1437] This was the first college established by Jesuits in Portugal and started operating in 1553. It would become a leading centre of learning in Portugal. Its course on mathematics, the *aula da esfera*, started around 1590, and through it a number of the leading Jesuit mathematicians and astronomers would pass either as teachers or simply spend some time while waiting for the ship that would bring them to Asia.[1438] Among those that taught there were Christoph Grienberger, one of the most influential Jesuit mathematicians of the seventeenth century, Giovanni Paolo Lembo, who was one of the first builders of the telescope, Cristoforo Borri and Johann Crysostomus Gall. But many others such as Adam Schall von Bell, Antonio Rubino, Carlo Spinola, Giacomo Rho, Johann Schreck, and Sabatino de Ursis, among others visited the College and certainly did discuss with their brethren working and studying there their scientific interests.[1439] But of interest here is that two of the early professors of mathematics of the College, João Delgado (1553—1612.9.39) and Francisco Costa who among themselves taught most courses of the *aula da esfera* between 1590 and

[1436] *Ibid*., p. 381.

[1437] *Ibid*., pp. 371-389.

[1438] For more details concerning the founding and scientific activities of this college see: Henrique Leitão, *A Ciência na "Aula da Esfera" no Colégio de Santo Antão, 1590-1759*, Lisboa, Comissariado Geral das Comemorações do V Centenário do Nascimento de São Francisco Xavier, 2007; *Sphæra Mundi: A Ciência na Aula da Esfera: Manuscritos Científicos no Colégio de Santo Antão nas Colecções da BNP*, Henrique Leitão and Lígia Martins (eds.), Lisboa, Biblioteca Nacional de Portugal, 2008.

[1439] See Henrique Leitão, "A Periphery Between Two Centres? Portugal on the Scientific Route from Europe to China (Sixteenth and Seventeenth centuries)", *Travels of Learning: A Geography of Science in Europe*, Ana Simões, Ana Carneiro, Maria Paula Diogo (eds.), Dordrecht, Kluwer Academic Publishers, 2003, pp. 19-46.

1608, are known to have taught astrology in their classes.[1440] What they taught and the arguments they used can be known through the surviving lecture notes of their classes. This teaching of astrology in the College of Santo Antão is remarkable because there is no evidence of a similar experience having occurred in other Jesuit college of that age. For this state of things several reasons can be presented, most notably that the scientific curriculum of Santo Antão had the distinctive feature in the emphasis it placed on topics of practical interest, notably those related to navigation.[1441]

As we saw in the previous section, the *Kenkon Bensetsu* treats with some detail some *results* of natural astrology. Can therefore any direct link be established between the *Kenkon Bensetsu* and the College of Santo Antão? It seems most unlikely. Although the Jesuits in general avoided teaching the subject many of them must have known at least its basic principles. They could have acquired it from some natural philosophy treatises such as the *Cursus Conimbricenses.* In the *Cursus Conimbricenses* celestial influence is explained and the three ways by which it is felt are enumerated: by movement, by light, and by *influentia*.[1442] They could have acquired it through private conversations with knowledgeable people, with sailors or even with other Jesuits. In particular they could have acquired it if they passed through Lisbon while fathers Delgado and Costa were active, what was the case of most Jesuits working in Japan during the seventeenth century. And it certainly was the case of Ferreira and Rubino.

8. New colours

One other aspect of the *Kenkon Bensetsu* that has attracted the attention of historians is the lack of reference to the Copernican theory.[1443] Copernicanism, as well as the new theories of the human body that were being developed in Europe at this time, remained in a potential state during all of the *Nanban Century* and their appearance in

[1440] Henrique Leitão, "Entering Dangerous Ground: Jesuits Teaching Astrology and Chiromancy in Lisbon", *The Jesuits II: Cultures, Sciences, and the Arts, 1540-1773*, John W. O'Malley, S.J, Gauvin Alexander Bailey, Steven J. Harris, T. Frank Kennedy, S.J. (eds.), Toronto, University of Toronto Press, 2006, p. 374.

[1441] *Ibid.*, p. 379.

[1442] *Ibid*., p. 377.

[1443] See for example Boleslaw Szczesniak, "The Penetration of the Copernican Theory into Feudal Japan", *Journal of the Royal Asiatic Society*, 1944, pp 52-61.

Japan did not materialize before the late eighteenth century. This reflects two facts. The first is that the Jesuits only introduced into Japan well known and proven things. The second, already discussed in Chapter III, is the natural tendency of more abstract theories to spread more slowly than practical techniques.

As we saw before, the Jesuits had the policy of introducing into Japan only the basic tenets of all sciences, conscientiously eschewing novel and controversial theories. Concerning the principles of introduction of western sciences into Japan Valignano had actually recommended that "[s]ince in Japan there is no knowledge of any of our authors or our books […] it would seem meet and necessary to compose for the Japanese special books in all sciences, in which would be taught simply the gist of the matters at hand and the pure truths, well-founded with their proofs, without referring to the other divers and dangerous opinions." [1444] This was congruent with the mission of the Japanese Mission: to spread Christianity. Therefore natural philosophy was presented not by its intrinsic interest but as an auxiliary to the spread of Christian doctrine. Being ancillary it should have been presented as simple as possible, so as not to draw attention away from the main topic. And been simple required that just the gist be presented without reference to "divers and dangerous opinions". It would not be proper that the maidservant presented itself dressed with a more extravagant dress than the lady.

Further, we should consider that the Copernican system could have been introduced into Japan by the Jesuit missionaries, as eventually it was presented in China by them.[1445] They knew it well, better than most other scholars of the age, but did not believe in its good adherence to reality. In spite of the Jesuits appreciating its mathematical simplicity and elegance, at this stage, in the late sixteenth and early seventeenth centuries, they still believed, as many other scholars then did, that the physical evidence was overwhelming against it.[1446] In considering the reasons for the

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[1444] *Sumario de las Cosas de Japon (1583). Adiciones del Sumario de Japón (1592)*, José Luis Álvarez-Taladriz (ed.), Monumenta Nipponica Monographs, Vol. 9, Tokyo, Sophia University, 1954, p. 171.

[1445] See Keizo Hashimoto, *Hsü Kuang–Ch'i and Astronomical Reform: The Process of the Chinese Acceptance of Western Astronomy 1629-1635*, Osaka, Kansai University Press, 1988.

[1446] One example of a Jesuit that knew well both the Ptolemaic and Copernican systems and appreciated the strong and weak points in each of them is Christoph Clavius (1537—1612), one of the most important mathematicians of the sixteenth and seventeenth centuries that trained some of the future missionaries to Japan and China; for his stature as mathematician see Sabine Rommevaux, *Clavius: Une Clé pour*

non-introduction by the Jesuits of the Copernican system in East Asia in the first half of the first half of the seventeenth century it should be remembered that, contrary to what happened with the Aristotelian alternative, it was still in an embryonic state: "Despite a tension between Aristotle's cosmology and Ptolemy's mathematical astronomy, the Ptolemaic world system was firmly imbedded in Aristotle's cosmology and physics. One supported the other."[1447] However, in the first half of the seventeenth century, Copernicanism was only a planetary theory devoid of a supporting physical theory: "Copernicus's world system, on the other hand, was not supported by any established system of physics. The price for believing that the Sun was actually the center of the cosmos was the loss of all the explanatory power of Aristotelian physics. The Copernican world system therefore needed a supporting physics and even metaphysics of its own, and in the absence of such support the heliocentric theory tended to be used as a mathematical hypothesis for purposes of calculation only. For half a century after its publication the Copernican world system attracted few true believers, and little progress was made toward making the system more attractive."[1448] There was no point in the Jesuits presenting to the Japanese a farfetched mathematical model with obvious weak spots when a theory proven through the ages and coherent with all their other teachings was available.[1449] Up to the their expulsion from Japan ordered by the then

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Euclide au XVIe Siècle, Paris, J. Vrin, 2005; for his appreciation of the two cosmologic systems see Ugo Baldini (Ed.), *Christoph Clavius e L'Attivita Scientifica dei Gesuiti Nell'Eta di Galileo: Atti del Convegno Internazionale*, Chieti, Universita G. D'Annunzio, 1993, and James M. Lattis, *Between Copernicus and Galileo: Christoph Clavius and the collapse of Ptolemaic cosmology*, Chicago, University of Chicago Press, 1994. For an example of a physical argument against any movement of the Earth see the *Kenkon Bensetsu*, in Chapter VI, second volume, paragraph 13.

[1447] Van Helden, *op. cit*., p. 54.

[1448] *Ibid*.

[1449] It was then natural for Kepler to consider, in 1620, that his *Epitome Astronomiae Copernicanae*, *Book Four*, was a complementary reading to *De Caelo* of Aristotle. He penned at its beginning: "This book is designed to serve as a supplement to Aristotle's *On the Heavens*" (Johannes Kepler, *Epitome of Copernican Astronomy, Book Four*, Charles Glenn Wallis (trans.), Great Books of the Western World, vol. 16, Robert Maynard Hutchins (editor) Chicago, Encyclopædia Britannica, 1952, p. 845. Only with the publication of *Principia Mathematica* by Newton in 1687 did Copernicus' heliocentrism become integrated into a coerent cosmovision in Europe. It would be absurd to expect that before that it would have been actively proposed as a cosmovision in Japan or China, especially considering the tension that existed for a moment between it and the Christian view of the physical universe during the first half of the seventeenth century. Therefore, Shigeru Nakayama, *A History of Japanese Astronomy: Chinese Background and Western Impact*, Cambridge, Harvard University Press, 1986, p. 171, in refuting the view that the no introduction of Copernicanism in China by the Jesuits had been due to religious bias, notes that the Jesuits "were not much concerned denouncing the heterodoxy of the heliocentric system.

old Ieyasu, in the first years of the seventeenth century, they would not be able to find in all of Europe a physical explanation compatible with the theory that the Earth rotated around its own axis. The Jesuits, it should be noted, did not shy away from presenting theories and doctrines that might offend Japanese sensibilities, as the theory of sphericity of the Earth or the doctrine of transubstantiation attest. Still, the theory that the Earth moves was radically different from the theory of its sphericity. While the latter was age proven, well understood and coherent, the first was new, not well understood and dissonant. They could have further and rightly thought that had they ever presented it to the fellow countrymen of Ieyasu without solid and sensible proofs it would have put in jeopardy their objective of using natural philosophy as an apologetic tool and to gain ascendancy over the Japanese in their effort to spread Christianity.

In fact, as we have seen, there were enough controversial elements for the Japanese in the cosmovision presented by the Jesuits. And they could be found even in the most basic elements of the European cosmovision, in things as obvious to the missionaries as the Earth being round. Genshō, as we will presently see, would carefully discern them.

Rather, they turned to the Copernican, or Tychonian, or Ptolemaic system—depending on their practical goals. Brahe's work, for instance, was especially useful in tracing apparent courses of celestial bodies. They looked on the Copernican theory as a mathematical device, not as an unwelcome attack on their orthodox cosmology". On this subject see further Yabuuchi Kiyoshi 薮内清, "Kinsei Chūgoku ni tsutaerareta Seiyō tenmongaku" 「近世中國に傳えられた西洋天文學」, *Kagakushi Kenkyū* 『科學史研究』, no. 32, 1954, pp. 15-18. Further, it should be noticed also that even after Newton had introduced the new physics and the scientific community had accepted Copernicanism, some of the arguments in favour of geocentrism, such as the inexistence of parallax, only much later were empirically infirmed: "Bessel's proof of the earth's motion was obtained in 1838, 295 years after the death of Copernicus", Robert Jastrow and Malcolm H. Thompson, *Astronomy: Fundamentals and Frontiers*, Third Edition, New York, John Wiley & Sons, 1977, p. I-4.

CHAPTER IX— GENSHŌ REPLIES[1450]

After having seen in the previous chapters the essential components of Southern Barbarian and Chinese cosmologies, and reviewing the basic elements of *Nanban* natural philosophy, as presented in the *Kenkon Bensetsu*, it is fitting that we analyse the commentaries Genshō has to make concerning the foreign ideas.

1. The problem

In his preface to the *Kenkon Bensetsu* Genshō gives the gist of his view of western cosmology:

"This is the way of the Barbarian learning, with no knowledge either of *principle* and *vigour* or of the *telluric* and *solar* [theory], and perplexed by the theory of the *five agents*. For this reason this teaching does not approach the learning that masters *principle* and exhausts [the knowledge of] nature, only arguing from the appearance of things and going no further. At least it can be said that it is detailed [concerning] the shape of Heavens and Earth, the sizes of the Sun and the Moon, the degrees of celestial revolutions, the divisions and limits of days and nights. However, although it reaches the meaning of the forms, it is nothing but darkness and lack of clarity, without defense and incapable of moving forward. Finally, the theory of forms is brought to its last consequences! It results in a heretical and evil theory, as from the outset this is its origin. Who said that the astronomy and geography of Barbarian learning have superior explanatory power? That is now argued in its entirety and without exception, in the commentaries added at the end of each section, [and] where it is without error that is praised. In the rebuttal no unfounded argument will be made, everything said is supported by reasons, which as a rule are presented in the commentaries added to each passage. The errors of Barbarian learning are made open and avoidable. To reach the right theory about Heavens and Earth, it is necessary to possess a basic system, about which I do not write.".

[1450] This Chapter is the result of a revision and adaptation of José Miguel Pinto dos Santos, "Five Types of Reaction of a neo-Confucian Scholar to Western Cosmology: The Case of Mukai Genshō (1609—1677)", *Empires Éloignés: L'Europe et le Japon (XVIe-XIXe Siècle)*, Dejanirah Couto and François Lachaud (ed.), Paris, École Française d'Extrême-Orient, 2010, pp. 51-71.

Several basic considerations should be made to these introductory remarks. The first is that Genshō was aware that there were Japanese, too many to his liking, who held that Southern Barbarian learning concerning astronomy and geography was superior to the traditional Chinese and Japanese world view. This is made clearer in a note he added before Chūan's preface, where he writes:

"Though the astronomic and geographic theories of Barbarian learning have been considered to be the best for a long time this is an opinion I consider wrong and for many years have wished to make right. Fortunately, I can now use this occasion to explain this."

The second is that Genshō considered Western cosmology to be fundamentally wrong. Because it ignores the basic concepts of *principle* and *vigour*, of *telluric* and *solar*, as well as the theory of the *five phases*, it fails to understand that there is a unitary principle that rules both physical events and human history. Unable to understand the mutual relationship between natural phenomena and human morality, European science sank in the meaningless study of the physical and astronomical phenomena in themselves. This resulted in an empty theory of forms that is fulfilled with the knowledge about appearances, but unconcerned about their metaphysical meaning. Not being able to find the metaphysical meaning of natural phenomena led to its association with the heretical and evil theory of Christianity.

The third is that although basically wrong, the theories of the Southern Barbarians still are on the whole accurate when it comes to the outside aspect of phenomena, when discussing shapes and measurements, especially those of celestial phenomena.

The fourth is that Genshō would not base his critique of Western cosmology on personal opinion but on the orthodoxy of neo-Confucianism, with the occasional recourse to Taoism when convenient. Throughout his commentaries he refers, for example, to the *Book of Rites* 『礼記』, to *Zhuangzi* 『荘子』, and to Zhuzi 朱子.[1451]

In his preface Genshō appears as if he is going simply to reject or accept certain aspects of European theories, but in fact his position is more nuanced when he comes to discuss particular aspects in more detail in the commentaries to the text. A careful

[1451] See for example paragraph 9 in the first volume and paragraph 29 in the fourth volume.

analysis of these commentaries shows that his reactions to the several features of western thought in the primary text can be categorized into seven classes. These are:

1) absolute rejection;
2) acceptance, with the claim that theory had already been presented in the Chinese and Japanese classics;
3) acceptance, with the claim that theory had already been presented in the Chinese and Japanese classics, but making a reinterpretation of the meaning in the classics;
4) acceptance, with the claim that Westerners have a more advanced knowledge in that particular field because of a character defect;
5) fudge the issue;
6) no comment;
7) acceptance and praise.

We turn now to concrete examples of these types of reactions.

2. Absolute rejection

There are three types of arguments Genshō uses to reject Southern Barbarian conceptions. One is to point a lack of adequate logical reasoning. Another is to claim that improper use of Chinese philosophical terminology is being made. A third is to use empirical evidence against the Western theories. Common to all rebuttals is the condemnation of Western knowledge as lacking the fundamental concepts necessary to true knowledge, and of being an intrinsically wicked and an immoral set of theories.

The number of Western cosmological ideas presented in the primary text that are rejected by Genshō is large. However it is in the first chapters of the First Book of the *Kenkon Bensetsu* where we can find more examples of total rejection and where the commentator is more virulent in his reaction. In these chapters are presented the basic scholastic conceptions pertaining to natural philosophy.

A first example is given by the distinction made, in the introduction to the First Book, between the heavenly and earthly realms. The author of the primary text states that:

"Concerning the Heaven and Earth, the substance of Heaven is different from that of the four elements earth, water, air and fire, and for this reason it is not endowed with the four *vigours* of coldness, hotness, dampness and dryness."

Genshō rejects this absolute dichotomy. He argues that a case cannot be made that Heaven is substantially different from the four elements based on the argument that it lacks some of the four *vigours*, or qualities, as the other elements also lack some them.

"What he says is that the substance of Heaven is different from that of the four elements earth, water, air and fire. If argued this way, then also the earth surely is different from the four elements water, air, fire and Heaven. Also water is different from the four elements earth, air, fire and Heaven, and again air is different from the four elements earth, water, fire and Heaven, and again fire different from the four elements earth, water, air and Heaven. It is something extremely evident that the five elements earth, water, air, fire and Heaven, each has its own nature and substance, none of which are of the same category. He says that the Heaven is not endowed with the four *vigours* of coldness, hotness, dampness and dryness [but] the four elements earth, water, air and fire, these are endowed in truth with the four *vigours* of coldness, hotness, dampness and dryness. However, each element does not possess these four *vigours*, and each one is provided with one *vigour* and one nature. Even if it can be said that Heaven does not possess these four *vigours*, it cannot be said that it is not the origin of the myriad things. To argue such as above is because the Barbarian learning only contrives about trifles on mere appearances, its exposition being without shape or form. Where its contrivances do not reach, the Southern Barbarian learning sets up unorthodox theories, because its learning has not the uttermost of principle. In this way, if it did know that the heavenly bodies are not outside the nature of coldness, hotness, dampness and dryness, it should have known to some extent the principles of both Heaven and Earth and the myriad things. If it does not know about the crimson of the peach flower being inside the white seed of the peach, about the colour of jasper in the abysses, or about the accumulation of plain colours in a bit of water, it should not know about the meaning of change, of advancement and of becoming. Not knowing about the meaning of change, of advancement and of becoming, when he argues about the law of nature in Heaven and

Earth and in the myriad things and about the virtues of the human heart, all his views cannot be said not to be wicked and perverse."[1452]

Genshō's rejection of the distinction made between the heavenly substance and the four elements is sharp: the Aristotelian view lacks consistency and betrays being devoid of the knowledge of the basic concepts and principles of true learning. Moreover it is interesting to note that the commentator also seems to reject the idea that the *myriad things*, *banbutsu* 万物, or everything under the Heaven, had no origin. That is the implication of his double negation that "it cannot be said that Heaven is not the origin of the myriad things". Though the primary text does not present the Aristotelian tenet that the universe was without beginning, it is possible that the missionaries had discussed this view with Japanese men of letters, refuting it with some of the arguments developed by the scholastics. It seems probable that the two concepts *origin* and *beginning* got equated to each other during those discussions. This seems to be the most probable reason for Genshō feeling the need to refute here an un-stated idea by invoking Heaven as the origin of all things. It should be noted that Genshō, being an orthodox neo-Confucian, certainly did think that the Universe was uncreated, and there are enough passages in his commentaries that confirm this. What he objects to is the idea that there is no underlying pattern in the structure on the myriad things, a *principle* that patterns everything. This *principle* he equates with Heaven, faithfully following the tradition of his school of thought.

Also in the introduction, the European author presented the outline of a theory of heavenly influences on earthly phenomena where he seemed to borrow freely, abusively according to Genshō, standard Confucian terminology. Chūan had written:

"It should be noticed that by the continuous revolution of the Heavens, the Three Lights of Sun, Moon and stars shine on the World and warm and sustain the myriad things, while bestowing character, giving life and making grow the myriad things. The revolution of the solar light makes the distinction between day and night, determines the duration of brightness and darkness, divides the four seasons, and is the agent that gives origin to the *vigour* of spring, summer, autumn, and winter. The Earth receives the *vigour* of the light of the Sun, Moon and the stars, gives life, and makes grow the myriad things. For this reason it can be argued that without receiving this

[1452] First Book, Introduction.

vigour not one thing would have originated. However, since this *vigour* is attached to the Heavens and always circling, depending on the shallowness or deepness of its nature, it results that the things originated differ according to time and place. This is [how] the *circulation of vigours* [works]. Thus, it is appropriate to discuss on this occasion the rotations of the Heavens that are the origin of the *circulation of vigours*, because the four elements, as well as the things composed by them, cannot exist without receiving the *vigour*, let us begin with the four elements, earth, water, air and fire, gaining proficiency in the learning exposed below."[1453]

Genshō felt compelled to protest the abusive use of Chinese philosophical terms to explain misguided views: in the commentary to this passage he criticizes the usage that is made of the technical term *unki* 運氣, *circulation of vigours*:

"This *circulation of vigours* does not argue about natural changes in the *telluric* and *solar* [*vigours*] or in the *five phases*. The Southern Barbarian scholar does not know about the *telluric* and *solar* [*vigours*], is in the dark concerning the principle of the *five phases*, [and] does not know the core of the orthodox doctrine of the *five fortunes and six vigours*. Chūan has lived for a long time in Japan, heard from Japanese scholars the theory of the *circulation of vigours*, and knowing its name, for [his] reckless views he borrowed the name of *circulation of vigours*. Though he says that the production of the myriad things is due to the changes in the *circulation of vigours*, the argument for natural fortune has not the limitations of the view argued by the Southern Barbarian learning. Scholars seeing this writing should come to know the bias and the foulness of Barbarian learning."[1454]

Another example of absolute rejection is the Aristotelian theory that attributed to each element a place in one of four layers of the sublunary world. This is a topic that is mentioned in several parts of the treatise, always provoking the strong ire of the commentator. The first time this topic is referred is in paragraph 2 of the first volume, the chapter dealing with the relations of conflict and cooperation between the four elements. The primary text states:

[1453] First Book, introduction.

[1454] First Book, introduction.

"Considering the way the four elements earth, water, air and fire are in relation to each other, the element earth is [in the] lowest [place]; above the element earth is the element water; above the element water is the element air; and above the element air is the element fire. This should be seen as something evident."

Why this is so is explained at length four chapters later using standard Aristotelian arguments. Genshō does not wait by paragraph 6 to rebuff it:

"Now to break the perplexity of this exposition, concerning the element earth being [in the] lowest [place], this is a big falsehood and a perplexing theory. It is without right reason and unorthodox, the twisted reasoning of evil theories. Now, reasoning with what is evident, water and soil being mixed form the substance of the Earth. When water is put over the soil the water always leaks to the underground below. If soil is placed above water, again it sinks and goes down to the bottom. The natural place for water is not above soil. It should also not be said that the natural place of soil is below water. In this way, water and soil being mixed together, the substance of Earth is created in one place. Because if it is impossible to place water above soil, it is also impossible for soil to be above water. That water and soil are in the same place is the utmost of self-evidence!"

The rejection in this case is based on empirical evidence that contradicts the main reason for placing earth below all other elements: its being heavier than them. Genshō argues that since water poured over earth does not stay there but infiltrates the earth, and earth put on water sinks, the proper places of earth and water are not in different layers but in the same.

3. Acceptance, with the claim of Confucian precedence

One aspect of the theories presented in the *Kenkon Bensetsu* that Genshō readily accepts is the localization of the Earth at the centre of the Universe. However he claims precedence for this theory in the Confucian *corpus*, deplores the tediousness of the proofs adduced by the Europeans, and even comes near asking if something so evident needs any proof.

To gain a better insight into Genshō's thought, it is worth reviewing the proofs for the centrality of the Earth presented in the primary text. The first is that Heaven is divided into twelve equal mansions, or zodiacal divisions, and that one can only see six

of them from any place on Earth. Were the Earth to move away from the centre, one would be nearer to one side of the firmament, which would result in being able to see only less than half of the zodiac when on one side of the Earth, and more than half when on the other side. As this does not happen, the Earth must be at the centre of the Universe. The objection that if the centre of the Earth is the centre of the Universe, then someone on its surface is not at the centre and should view less than half of the firmament is also dealt with. It is pointed that the thickness of the Earth is negligible when compared with the distance between the Earth and the firmament. Therefore even though the Earth has a huge thickness of 2,500 *ri*, it is but a point in the middle of the Universe.

Lunar eclipses are also presented as proof: these eclipses only occur when the Sun and the Moon are in perfect opposition "as determined according to which of the twelve Mansions the Sun and Moon are in"; if the Earth were not at the centre but to one side, there would be no eclipse. It should be noted that if there was an eclipse when the Sun and Moon were not in opposition, then that would be a proof that the Earth was not at the centre. The large size of the Earth is an objection against this argument that is also examined. Again it is handled with the consideration of the small size of Earth relative to cosmic distances, concluding that:

"Therefore if element earth is compared with Heaven, it is not enough to make even a tiny speck of dust. Hence scholars say that if a person was to observe the World from the first Heaven, its vastness would be seen as twice three times as large as the vastness of the Moon as seen from this Earth. If it was to be observed from the fourth Heaven of the Sun, its vastness would be seen as one time as large as the vastness of Venus seen from here. If it was to be observed from the fifth Heaven, it would be seen as a small star. If it was observed from the sixth Heaven it is said that the sight would not meet it."[1455]

It should be noted that the proofs presented in the primary text are based on geometrical reasoning. Genshō claims they are difficult to follow, and anyway, their conclusion is similar to that of the Medical School and Confucian theories, so he does not spend much time delving into them. For him it is more important to stress the moral

[1455] Second volume, paragraph 11. The first heaven is that of the Moon, the fifth is of Mars, and sixth is of Jupiter.

and ontological implications, not made explicit in this passage of his commentary, that can be drawn from the fact that Earth and Man are in the centre of Heaven: that the Earth is in the exact centre of Heaven is something that those who rule human affairs should know, and act accordingly:

"That the Earth is in the exact centre of Heaven is a theory equal to the explanations of Confucians and of the Medical School. However, their [Southern Barbarian] explanations and proofs are irksome, repetitive, and their reasons very difficult [to follow]. According to the Medical School, the Earth is below Man and in the middle of Heaven. According to Confucians, Heaven envelops Earth like the white envelops the yolk in the egg. That Earth is in the middle of Heaven is like the yolk being inside the eggshell and the white. Seeing this, when the Earth is below Man and is in the middle of Heaven, how can it not be in the exact centre of Heaven? The yolk of an egg is inside the white and in the middle of the eggshell. When this comparison is made, how can the Earth not be in the exact centre of Heaven? It is simple and easy to understand that the Earth is in the exact centre of Heaven and below Man, and Heaven circles outside Earth above Man. This is exceptionally evident. That the Earth is in the exact centre of Heaven is something that ministers should know!"[1456]

This commentary shows that an early modern neo-Confucian scholar, sure of his ontology, does not need and has no use for geometrically based proofs. It also reveals that recourse to mathematically based proofs can be interpreted as a device to hide a shallow or erroneous ontology.

Another example of peaceful acceptance of Southern Barbarian ideas is given by the theory of immobility of the Earth. The primary text begins presenting this idea by sketching the physical theories of movement of Aristotle. Heavens and the four elements move according to their own nature. It is the nature of Heavens to move on a circle. The proper movement of the four elements is linear. Because "the bodies of the two elements air and fire are light and floating and accessional, and because they get farther from the centre of the World, their proper movement is upwards"[1457]. On the other hand:

[1456] Second volume, paragraph 11.

[1457] Second volume, paragraph 13.

"The two elements earth and water, with their heavy bodies go down and down, and come near the centre of the World, and consequently their proper movement is downwards". Besides these, there is no other type of movement. Therefore, the first argument for the immobility of the Earth is that "because the substance of the earth is solid and dense, it can not move upwards, and again, as it is heavier than the three elements air, water and fire, and because it is in the lowest place at the centre of the Heaven, it can not be said that [it can] move downwards."[1458]

At this point the fundamental text introduces the idea of Earth rotation around its axis and goes on to say that this could explain the sidereal movement as observed by men. This possibility is quickly dismissed with the help of two arguments. The first is an argument drawn again from Aristotelian physical theory:

"If the Earth alone did rotate from East to West, as one turn is sixteen thousand two hundred *ri*, [and as] it rotates in the twelve hours of night and day, in one hour it needs to rotate one thousand three hundred and fifty *ri*. Thus then, the places where people live, their houses &tc., would not be left [standing]. A rotation at this speed, can it be said that is not [that] destructive?"[1459]

The second argument is that the movement of the Earth alone can not explain all heavenly movements:

"Assuming that the Heavens do not rotate, and that the element earth alone rotates, the Sun, the Moon and the stars cannot advance or be left behind one in relation to the others. The position of the Sun, the Moon and stars should not change, and if [their] position should not change, then opposition in the rotation becomes impossible and without opposition eclipses cannot occur. If it was said that the element earth rotates as well as the Heavens do, then it would be impossible for the Sun, the Moon, the planets and stars to get out in the east in the morning, and to enter the western mountains in the evening. This would be the case where the element earth would rotate together with the Heavens. This goes against to the constant experience. Therefore it is

[1458] Second volume, paragraph 13.

[1459] Second volume, paragraph 13.

clear that the element earth does not move or revolve, and the several Heavens permanently rotate."[1460]

Though Genshō approved of these arguments it was part of the game to find some fault with the Western theories. Here was the reference to the *telluric and solar* theory that was lacking. Anyway, this was a theory already well known by eastern scholars.

"The argument that the substance of the earth does not [in any way] move is good, detailed, but does not make use in its exposition of the deep *principle* concerning the nature of the *telluric* and *solar* [*vigour*]. It simply uses formal arguments, and makes use of numerous similes and proofs. That the movement of Heaven does not stop and the Earth always keeps its rest is a theory well known by the Confucian and medical schools."[1461]

Another example of acceptance of Southern Barbarian explanation can be found in the acceptance that all stars, except the Sun, have no proper light. Genshō after pointing that a similar theory is held by eastern scholars accepts the foreign theory with a negative statement:

"Confucians, Calendar Makers, all of them say that the Moon has not its own light, but just like a mirror has light by receiving the sunlight. With the stars is the same. As was explained now, in the theory of the Southern Barbarian Scholars there is no error."[1462]

4. Acceptance, with a reinterpretation of a Confucian classic

One of the more interesting reactions of Genshō to Western cosmology is his argument for the acceptance of the spherical shape of the Earth. This was, without doubt, his boldest intellectual move. To understand this, one has to remember that there was unanimity in all Japanese schools of thought concerning the squareness of the Earth.

[1460] Second volume, paragraph 13.

[1461] Second volume, paragraph 13.

[1462] Fourth volume, paragraph 21.

The two main Chinese schools of astronomy had different conceptions on the shapes of Heaven and Earth. The *Gai Tian* 蓋天, or Hemispherical Dome, theory "asserted that the heavens are round in shape like an open umbrella, while the earth is square like a chessboard."[1463] According to the *Hun Tian* 渾天, or Celestial Sphere, School "the heavens are like a hen's egg and as round as a crossbow bullet; the earth is like the yolk of the egg, and lies alone in the centre. Heaven is large and earth small. Inside the lower part of heavens there is water. The heavens are supported by *chhi* (vapour), the earth floats on the waters."[1464] Though the followers of the first did not have any leeway to conceive the shape of the Earth as spherical, the same did not happen with the members the latter. The visualisation of Heaven as spherical could have lead to the conception of Earth as a Sphere, even to a Sphere not floating on the waters.[1465] Some roundness could also be interpreted into the ancient and somewhat obscure texts expounding the *Gai Tian* theory, which assumed a constant distance of eighty thousand *li* between Heaven and Earth, requiring thus that the square chessboard would look like a "bowl turned upside down."[1466] Still, most Chinese scholars up to the early seventeenth century seemed to envisage a flat, or flat-like, Earth: "it is incorrect to assume that the egg model of the universe in the *Hun Tian* theory implies a spherical, or spheroid, earth. Acceptance of the armillary sphere firmly established the spherical model of the sky, but construction of terrestrial globes did not follow. In fact, the sphericity of the earth was generally not recognized, as the case of Zheng Xuan 鄭玄 (A.D. 127—200) shows. 'The yolk of the egg' suggested not the shape but the position of the earth. " [1467]

These two theories reached Japan and were known by the astronomers there. Their influence was to strengthen the autochthonous belief of a flat Earth. Up to the arrival of Christian missionaries it was widely believed in Japan that the Earth is flat. The Christian missionaries wrote on several of their reports about the bewilderment of

[1463] Passage in the *Jin Shu*, cited in Needham (1958), vol. 2, p. 213.

[1464] Cheng Xuan (127-200) in *Hun Yi Zhu*, cited in Needham, *op. cit.*, p. 217.

[1465] See Needham, *op. cit.*, p. 217-218.

[1466] See Needham, *op. cit.*, p. 210.

[1467] Nakayama (1969), p. 39.

the people when confronted with the idea that the earth is round.[1468] João Rodrigues notes on his *Historia da Igreja do Japão* that "the Chinese philosophers put just one world, made up of Heaven and Earth; they make the Heaven round, the Earth square, bordered by four seas on the four sides, placed in the middle, or inside, of Heaven,…, and this the Japanese follow." [1469] More than fifty years after its initial presentation, the idea that the Earth is spherical still caused sneers from neo-Confucians and abusive invectives from Buddhists. Hayashi Dōshun, the establisher of neo-Confucianism in Japan and founder of its principal, and state sponsored, school in the country, left us his memoir of a conversation he had with the Jesuit Brother Fabian Fucan on July 19, 1606:

"Again, seeing their circular map, Dōshun said: 'Does it not have a top and a bottom?'

Fucan said: 'Mid-earth being the bottom, above the earth is heaven; and underneath the earth is heaven as well. Our country has sent ships to voyage upon the ocean. The East's extremity is West; the West's extremity is East. From this we know that the earth is round.'

Dōshun said: 'This reasoning is impossible. How could there be a heaven underneath the earth! An inspection of the myriad phenomena reveals that all have an up and a down. To say that there is no up and down is ignorance of reason. Furthermore: On the ocean there are winds and waves, and ships heading west may actually go north or south or even east, the men on board not recognizing the direction, thinking the while that they are going west. To say from this that the West's extremity is East is impossible. If the ship were heading east—meaning by that an actual course north or south or, inescapably, west—then to say from this that the East's extremity is West is impossible. And furthermore: In the final analysis, you are unaware of the principle that all things have an up and a down, and so assert that mid-earth is the bottom and make earth's shape be round. I cannot help lamenting this delusion! Chu Hsi states that half of heaven rotates about earth's bottom, but you are unacquainted with this."[1470]

[1468] For example, in the letter of Francis Xavier to the Jesuits in Europe of January 29, 1552, we can read: "Nom sabião eles ho mundo ser redomdo…", in Cartas, vol. I, p. 304.

[1469] fl. 161v.

[1470] Translation in Elison, *op. cit.*, p. 150.

He goes on to discuss other topics with Fucan. At the end of the memoir he adds:

"The Jesuits claim that underneath the earth as well is heaven. If one were to dig through the earth and get to the bottom, and look and see, one would peer upon the sky as if viewing it mirrored in a well. If one were to drop a stone down this excavation, then it would come to rest in the middle of the earth, without a movement up and down. Now this is proof that the earth is located in the middle of heaven.

But I say: As I inspect the bounds of heaven and earth, I find not one thing which does not have an up and a down. But they take the middle and make it be the bottom: how then could they ever know the principle that each and every thing has an up and a down! If there were somebody who asked where the falling stone stops, I would certainly answer only that it falls where it falls. How could there be such a thing as movement neither up nor down!"[1471]

And also:

"The Jesuits claim that heaven is round and the earth also round. But I state: There is motion and there is quiescence; there is squareness and roundness. All things are thus, and heaven and earth extraordinarily so. Moving things are round, and quiescent things square: their Principle is like this. But if it were as they say, then how could there be squareness and roundness, motion and quiescence? Nevertheless, it is not easy to persuade a man unless he listens quietly and understands and there is a meeting of minds."[1472]

Though Fukan had a reputation as a skilful expositor of western ideas, his defence of the roundness of the Earth, as described by Dōshun, seems weak. He just presents the proof from circumnavigation, which the neo-Confucian calls into question, pointing out possible observational errors. This argument was feeble enough to confirm Dōshun of the rightness of the reasonable and down to the earth view that the Earth is square.

An alternative cosmovision to the Chinese was the Indian. Buddhism was associated in Japan with the *shumisen* 須彌山 cosmology that, though known for many centuries, only began to be seriously considered in the Tokugawa period "when a

[1471] *Ibid*., pp. 152-153.

[1472] *Ibid.*, p. 153.

general interest in cosmology was stimulated by the introduction of the Western theory of the sphericity of the earth".[1473] It postulated a flat, or quasi-flat, Earth spread around a central Mount Sumeru, around which the Sun, the Moon and the stars revolved.[1474]

The primary text of the *Kenkon Bensetsu*, when dealing with this subject, starts by diplomatically conceding that "if one climbs a high mountain and then observes the World, or when one boards a ship and glances over the ocean, up to where sight reaches it is seen as flat. Therefore common people think that the world is not round but flat".[1475] But some questions can only be settled through reason and not through the senses alone. Therefore "it can be said that if this matter is observed through reason, the World is round and not flat"[1476]. To this end several arguments are presented.

The first, that must have caught the special attention of the Japanese, is that celestial bodies are seen earlier in the horizon in eastern lands than in western countries:

"To refer this [matter] to *principle*, it can be said that during one day and night of twelve hours, the Sun, Moon and stars make one rotation from east to west. The progress of morning and evening does not occur at the same time in the east and in the west. More in the countries in the east than in those in the west, the Sun gets out and it becomes noon earlier, and it sets and it becomes evening earlier. More than in those in the east, in the countries in the west, the Sun gets out later, and it sets and it becomes evening later. The same happens with the stars. More to the countries in the east than those in the west, they get out earlier in the evening and set earlier in the morning. More than those in the east, in the countries in the west [they] get out later in the evening and set later in the morning."[1477]

This is particularly evident in the case of lunar eclipses:

"As a proof of [this] it can be said that in times of opposition between the Sun and the Moon, the Moon is obstructed by the shade of the World, and the Moon, because it does not receive light, is eclipsed. It can be said that even though in all

[1473] Nakayama, *op. cit*., p. 205.

[1474] See Chapter VII, pp. 728-733.

[1475] First volume, paragraph 8.

[1476] First volume, paragraph 8.

[1477] First volume, paragraph 8.

countries that can see Moon when an eclipse occurs, the time [of the day] when that eclipse is seen is not the same in the east and in the west. There is [a difference in] earlier or later hour, [the eclipse] being observed [at an] earlier [hour] in the western regions, and observed [at an] later [hour] in the eastern regions. For example, if it is observed in the hour of the boar in the regions of the west, it is seen in the hour of the rat in the regions of the east. This is the constant case in all countries and places, on the sea and in the land."[1478]

The existence of both south and north axes, the rise and descent of the North Star and of the Southern Dipper, and the shade of the Earth being seen as round during lunar eclipses are also referred as further proofs for the round shape of the Earth before one of the most widely used argument of all ages being presented:

"Firstly, when sighting land from a ship that crosses the sea, though it can be said that at close distance from the seashore both port and seashore can be seen, as it gets farther away, gradually the port and the mountains are hidden by the figure of the sea. In the end neither the ship is seen from land, nor is land seen from the ship. Secondly, even though when crossing the ocean nothing is seen besides the high heavens and the ocean, if we look towards the approaching land, in the beginning it appears like scattered islands, and only the summit of the mountains are seen at first. As it gradually becomes nearer, the mountains appear higher, and in the end the foot of the mountains and the seashore are also seen. Thirdly, when looking to the sea from the seashore, though it can be said that depending on the place nothing but the boundless sea can be seen, ascending to a high mountain and looking [towards the sea], it is the case that islands are always seen. The reason why this is so is that as the World is round it is higher in the middle space between he who sees and the place being seen. The places lower than the middle space [between them] cannot be seen, and those [places] that are higher than the middle space can be seen. The better these can be seen, the higher they are in relation to the middle space."[1479]

The possibility that it might be distance rather than the shape of the Earth that causes objects not to be seen is also dealt with:

[1478] First volume, paragraph 8.

[1479] First volume, paragraph 8.

"It is argued [against this] that, as referred above, when one is not able to see the top of the mountains, etc., is it not because of their distance? However, when crossing the ocean, though land cannot be seen from the middle of the ship, going up the masts and looking [around], even though it is [from] the same distance, it is the case that mountains can be seen. Again, it can be said that though from the seashore the top of the mountains cannot be seen, going away several thousand of *ri* from the seashore and ascending to a high mountain, it happens that the top of mountains can be seen. Crossing the sea from Luzon to Nova Hispania, though it can be said that the countries of Suruga, Izu, Sagami and so forth [which] are near the sea, cannot be seen from the ships, Mt. Fuji, which is far away from the ships, can be seen. The reason the top of the mountains cannot be seen from the seashore is not due to their distance but because of the height in the middle [space] arising from the World being round. Because the ship and those countries are lower than the middle space between them they are hidden and cannot be seen [from each other]."[1480]

Next, the argument from circumnavigation, used without success by Fukan, is presented:

"In Southern Barbary there are two countries, Castela and Portugal. The people of these two countries cross to China and Japan, their routes being from one extreme of the Universe to the other. Even though the people from Castela go aboard their ships to the west and the people of Portugal go aboard to the east, there is the repeated example of their meeting in China and in Japan. From this it is evident that the World is round. The reason is that were the World flat and not round, the people of both countries [exemplified] above, had they gone to the east and to the west at the same time, as they would proceed, the distance between them would increase. As this is not the case, when they come across each other while travelling in the opposite directions of east and west it is an evident thing that the World is round."[1481]

Then three objections are presented and are all dealt with the same type of argument: scale. The first is the obvious existence of mountains and valleys, what is hardly compatible with roundness: "It is argued against this that in the body of Earth there are mountain peaks and deep valleys and in all countries these are numerous.

[1480] First volume, paragraph 8.

[1481] First volume, paragraph 8.

Consequently the World should not be round." This opposition is dealt with the relative scale of the Earth to that of the mountains and valleys:

"The substance of element water, as it is flexible, is round and without highs or lows. The substance of earth, as it is hard and dense, it is solid. Thus it has the many highs and lows [composed] of high mountains and deep valleys. However it can be said that the highs and lows of high mountains and deep valleys, compared with the vastness of the World, are like the crest of small waves in the boundless sea. Therefore, though it can be said that there are high mountains and deep valleys the World is round."[1482]

The second is more subtle: it has been argued that the shape of the Earth can be deduced to be round because the round shade Earth casts on the Moon during a lunar eclipse. But isn't the silhouette of the Earth when the Sun is rising a straight line? And doesn't this show that the Earth is plane? The primary text presents this objection in the following way:

"As exposed before, the shape of the shade of the World is seen at the time of a lunar eclipse. This [shape] is round. The shape is round because the body is round. [Against this] it is argued that [during] the conjunction of the Sun and the Moon, as the Moon below and the Sun above overlap, at the time of the Solar eclipse the Sun is gradually hidden by the shade of the Moon. The shape that is seen is not of an occultation as if by the horizontal letter one, but it is an occultation like [that of] a rainbow. This is because the Moon is round. […] When in the morning and in the evening the Sun is in the threshold of day and night, half [of it] can be seen above, half bellow. When it is still hidden in the shade of the World and cannot be seen [completely], the threshold of half of it being distinct and half being hidden, [the threshold] cannot be seen as a rainbow, but is seen as the horizontal letter one. It is the same as [explained] before at the entrance of the Sun. If the World is round, when in the morning the Sun leaves the threshold between day and night from the shade of the World, it should leave as if a rainbow, but when it is seen as the horizontal letter one, this is proof that the World is not round."[1483]

Against this argument the fundamental text adduces once again the argument from scale:

[1482] First volume, paragraph 8.

[1483] First volume, paragraph 8.

"Though the Sun is much larger than the World, because it is so far above in the high, it is seen smaller than the Earth. Though the World is much smaller than the Sun, because it is near it is seen as very large. Therefore, in spite of the World being round, the extent of the World that hides half of the Sun when [this] is leaving the threshold of night and day, compared with the huge extent of the World, because it is not [even] one thousand to one, [but like] ten thousand to one, it is not seen as round but as a straight. Therefore, as referred above, the half of the Moon circumference hides like the horizontal letter one. For example, this is like when one part of a large circle is examined, it is not seen as round but it is seen as straight. Even though the Moon is smaller than the Sun, when observed from this Earth, the surface of the Moon is seen as round. Because it is seen as of equal dimension to the Sun, the shape of the Sun that is hidden by the figure of the Moon during a solar eclipse is round like that of the Moon."[1484]

The third objection is again the lack of conformity of theory with the sensorial evidence: "It is further said that glancing over the World, it is seen as plane and not seen as round." Again the argument of scale is used: "Even going up high mountains, the extent of the World reached with the eyes is not even as ten thousand to one of the vastness of the World."[1485]

Though he never acknowledged it, it is most improbable that Genshō came to the knowledge of the roundness of the Earth trough his study of the Chinese classics. It is thus reasonable to admit that it was this battery of proofs that induced him to accept this idea. It is likely tough that he became acquainted with this theory and its proofs before reading the fundamental text of the *Kenkon Bensetsu*. As it was pointed in Chapter IV, it is possible that Genshō was schooled in the Southern Barbarian tradition, as so many children in the Nagasaki of the 1610s were. The Southern Barbarian curriculum was taught to children in Japanese by Japanese and certainly included, besides reading and writing in Japanese, western style arithmetic and music.[1486] A reference made by Kaibara Ekiken, in his funerary elegy of Genshō, that he first read a

[1484] First volume, paragraph 8.

[1485] First volume, paragraph 8.

[1486] See Ebisawa Arimichi, *Nanban Gakutō no Kenkyū: Kindai Nihon Bunka no Keifu*『南蛮学統の研究:近代日本文化の系譜』, Tokyo, Sōbunsha 創文社, 1958, p. 15, and José Yamashiro, *Choque Luso no Japão dos Séculos XVI e XVII*, São Paulo, IREASA, 1989, p. 150.

book at the age of twenty two, seems to indicate that he received his education in the Chinese and Japanese classics quite late.[1487] As Ekiken was most likely referring to a book in the Confucian tradition, the assumption that Genshō filled at least some of his teenage years with Southern Barbarian learning becomes probable. The likelihood that he had as his teacher either Hayashi Kichizaemon or even one of Kichizaemon's disciples, for example Kobayashi Kentei, is not insignificant. Be that as it may, Genshō came to be the first Japanese neo-Confucian scholar to accept the roundness of the Earth. However, he felt that he could not claim Chinese precedence to the idea without giving a detailed justification. He knew very well that the traditional interpretation was that the Earth was quadrilateral or flat. He even used in one of his commentaries in the *Kenkon Bensetsu* the traditional view when making a diverse point:

"The reason is that circles belong to the *solar*, and the *solar* is fullness and lacks nothing. Squares belong to the *telluric*, and the *telluric* is insufficiency and in it there is lack."[1488]

Thus he began his revisionist interpretation by writing:

"That the World or body of the Earth is round is a theory similar among the scholars of the World."[1489]

From this we should not assume that Genshō was not aware of what the learning of India had to say about the shape of the Earth. He was just simplifying. He then goes on:

"The theory of the Confucians is that the shape of the substance of Heavens and Earth is like a chicken's egg. The Heaven envelops the outside of the Earth, like the eggshell envelops the outside of the white. The Earth being in the middle of Heaven, is like the yolk being in the middle of the white, that roundness being said to be like that of a canon ball. A canon ball is like a rifle ball and such alike, something round. The theory of the Medical School is also similar. In Confucian writings the theory that the Heaven is round and the Earth quadrangular appears. This does not mean that the shape of the body of Earth is quadrilateral, but that in the Earth the four directions of east,

[1487] Ekikan-kai, vol. 2, pp. 309-311.

[1488] Third volume, paragraph 2.

[1489] First volume, paragraph 8.

west, south, and north can be distinguished, this referring to the meaning of spring, summer, autumn and winter. These are said to give rise to the directions, meaning the four directions of east, west, south and north. In the theory of the Southern Barbarian scholar there is no error. Nevertheless, though it can be said that it is clear with the examples and proofs presented, it is simply a formalist discussion. Because it is in the border of the eyes, the people who travel far and cross the seas use what can be seen on the surface and though sometimes they can get to the *principle*, yet it is difficult to see things [that are] far away and easy to see things [that are] near. It is easy to see large things and difficult to see small things. It is easy to see high things and difficult to see low things. It is difficult to see misty things and easy to see clear things. It is easy to see bright things and it is difficult and doubtful to see dark and clouded things. Though in the mountains there are hummocks and valleys and highs and lows of peaks and heights, [in the] faraway mountain only one face can be seen and the hummocks and valleys [remain] unclear. Though in the trees there are branches and leaves, in the far away trees the branches and leaves [remain] unclear, and are seen as round [and] as a body. Things of this kind cannot, each one of them, be brought up. It is said that in the art of the brush of painters, far away mountains have no wrinkles and far away trees have no leaves, far away water has no waves and far away people have no eyes. That far away things cannot be distinguished is to have a good painting technique and a good discernment. However, the disciples of Barbarian learning, bringing up the eclipses of the Sun and the Moon, argue about the shape of the Earth, the about the great difference of height, and the distance between the Sun and the Moon. [Nevertheless] a clever and shrewd person will be doubtful of all of this. If a person is knowledgeable about the *principle* of Heaven and Earth as well as of the *telluric* and the *solar* [*vigour*], even though he has not heard the proofs of the Barbarian theory, with his clear [knowledge of] *principle* he has the perception of Heaven and Earth, of the Sun and the Moon. Because Barbarian scholars, to begin with, do not have the knowledge of the *principle* and *vigour* [theory] and of the *telluric* and *solar* [*theory*], they cannot show *principle* to the people but only argue with tricky and formalist arguments. That the shape of Heaven and Earth is spherical should be, without doubt, learned and mastered to the utmost from the study of Confucianism."[1490]

[1490] First Book, paragraph 8.

The most interesting aspect of this reasoning is the re-interpretation of the expression *shihō* 四方. This word has, and already had in Genshō's time, two basic meanings. The first is quadrangular figure. The second is four directions, or north, south, east and west. This term, when referring to the shape of the Earth in the Chinese classics had always been interpreted in Japan as meaning that the shape of the Earth is quadrangular. Genshō's originality lies in attributing to it the alternative meaning of four directions, enabling the image of the chicken's egg to serve as an image of Earth's roundness as well. As was pointed above, before Genshō's reinterpretation the image of the yolk inside the eggshell was used to illustrate the position of Earth inside Heaven rather than serve as a simile of Earth's shape because Earth, being *telluric*, was conceived as being quadrangular, as *telluric* things should be. Taking the quadrangular meaning out of *shihō,* the classical image could be used to show not only the position but also the shape of the Earth. In this way Genshō is able to introduce the idea of the Earth's roundness into Japanese neo-Confucianism. This done, he could assure his readers that, tough there is no error in the Southern Barbarian exposition, it still is no more than the presentation of "tricky and formalist arguments", for which someone who "has knowledge of the *principle* and *vigour* [theory], or of the *telluric* and *solar* [theory]" has no need.

5. Acceptance, noting a character defect of the Southern Barbarians

One more type of reaction by Genshō to the Southern Barbarian theories is to acknowledge they are not erroneous, but to point out that Europeans' knowledge on the subject is superior to that of Confucians just because of a character problem. The best example of this reaction is given by the commentary in the paragraph about the dimensions of the Earth.

Concerning this topic the basic text explains that the Earth circumference can be divided into 360 degrees. To know its perimeter one just needs to estimate the distance corresponding to one degree on Earth's surface. To measure the dimension of one degree "an instrument is used whereby the shade of the sun during the day is projected. In this way in all places it can be known how far south or north [that place] is. By using this method one degree can be measured. For example using this instrument the transposition of the solar shade is observed, giving thirty degrees north in a certain

meridian. Going from this place to the north and again observing the transposition of the solar shade, if it is thirty one degrees there is a difference of one degree. That distance is then measured in road dimensions"[1491] to obtain the dimension of one degree on the Earth's circumference. Having this value one can easily obtain estimates for the Earth dimensions. Another method, using the occurrence of a lunar eclipse to determine the angular distance between two points on the surface of the Earth, is also sketched in the primary text.

Genshō begins his commentary by noting the European method of estimating the diameter of the Earth is valid:

"One round of the world is about 16,200 *ri*. If the largeness of the world is like this, its thickness is said to be somewhat more than 5,254 *ri*. The explanation of how one degree is estimated to be 45 *ri* of the roads in Gokinai is detailed."[1492]

The reason for Southern Barbarian proficiency in Earth measurements is due to one flaw in their character: their imperialistic instincts.

"The Southern Barbarian scholars, bringing along the Evil Law of Barbary, move around the myriad countries of the World. The King of Southern Barbary wishes to make the myriad countries of the world his own territories. Hence, to subjugate the myriad countries in the world, every year [they] go aboard in large ships. Therefore [they] excel in the ability to measure the Earth and the seas."[1493]

Once having clearly established the reason why the Southern Barbarians have such detailed, by what he means good, knowledge of Earth's measures, he attempts to claim that previous knowledge of these methods can be found in the Confucian *corpus*. The details will be given later but for the moment a very curious remark is made:

"Using the Sun and [its] entrances and exits in the Equator, and again [that] the body of the Earth [has] 360 degrees, the principle that one degree is 45 *ri* is evident. Both Confucianism and the Medical School have detailed knowledge of the 360 degree theory, having omitted the measurements."[1494]

[1491] Second volume, paragraph 9.

[1492] Second volume, paragraph 9.

[1493] Second volume, paragraph 9.

[1494] Second volume, paragraph 9.

The empirical character of Chinese science is sometimes referred to in opposition to an alleged more theoretical nature of Western knowledge.[1495] Here Genshō gives us an example of purely theoretical knowledge, with an obvious practical application, that Chinese and Japanese Confucians did not bother to apply. The Confucian sense of honour, which requires each one to know his proper place in the World, is the reason for the non-application of this knowledge by Eastern gentlemen.

"The people of Japan and China, knowing from the beginning the relation between minister and sovereign, do not crave for the myriad countries of the World; they are satisfied in themselves, and do not suffer the hardships of long trips to the myriad countries. However in the Book of Rites, the Book of Zhuangzi, etc., the theory that the thickness of the Earth is somewhat more than 30,000 *ri* is sparsely presented. This is similar to the Southern Barbarian theory, as in the road measures of Gokinai referred above, 36 *chō* are 1 *ri*. On the roads of China 6 *chō* correspond to 1 *ri*. In this case what is said to be more that 5,250 *ri* in Southern Barbary corresponds roughly to 30,000 *ri* in China. Scholars should be knowledgeable about these matters."[1496]

6. Fudge the issue

To fudge the issue is Genshō's fifth type of reaction to the ideas presented in the primary text. The clearest example is found on paragraphs 27 and 28 of the fourth volume of the *Kenkon Bensetsu*. The central point in these two paragraphs concerns the influence of heavenly bodies on the Earth, more concretely on human beings. In paragraph 27 it is explained what is the influence exerted on the character of a person at birth by each one of the seven stars. On paragraph 28 it is exposed what is the influence of the Sun on the character of a newborn when, in its movement, it is in each one of the twelve Mansions. In the commentaries to these two paragraphs Genshō avoids the subject and does not let us know what he thought about the reality and character of these heavenly influences. In the commentary to paragraph 27 he discusses the admittedly very important relation of each star with each of the *five phases*. He points to the serious error of Southern Barbarian theory making a correspondence between the Moon and water, as Moon is the essence of *telluric*, and *telluric* corresponds to the

[1495] See for example Ronan, *op. cit*., pp. 43, 62, 65-66, 221, 290.

[1496] Second volume, paragraph 9.

Earth.[1497] In the commentary to paragraph 28 he fudges the issue by discussing how wrong the Southern Barbarian theory is in marking the beginning of the four seasons at the moment of the equinoxes and solstices.

Another example of Genshō dodging an issue is found in paragraph 29 of the fourth volume. Here the estimated values for height and thickness of the first seven Heavens and the thickness of the eight are presented together with a very sketchy reference to how these measures can be estimated. The reference is so compact that it hardly could be understandable by a layman. But the gist is clear: there are ten different Heavens, each with its own movement, thickness and star or stars. Genshō skilfully avoids the issue of the existence of multiple Heavens. He fudges by arguing about related but marginal issues to the question at hand. He begins by pointing that different linear units of measurement are used in different paragraphs of the *Kenkon Bensetsu*. He then concentrates his efforts in showing that the estimate presented for the height of the Heaven of the Moon is equivalent to those presented in the Chinese classics for the space between Heaven and Earth. He ends by referring, as he had already made several times, that the principles used to make the measurements, as well as the actual measures are so well known that it is not necessary for him to comment upon them. What is extraordinary here is his silence concerning the implicit idea behind the figures presented for the eight Heavens: that the heavenly bodies are not all at the same distance from the surface of the Earth. This theory is in sharp contrast with Chinese theories that assumed that all celestial bodies were at roughly the same distance from Earth's surface.

Genshō could have re-interpreted the Chinese classics as allowing for several heavenly layers. Actually he had attempted it in the commentary to paragraph 5 of the third volume with a reference to the expression Nine Nested Heaveans. The Nine Heavens, or Nine Nested Heavens as Genshō calls them, was a classical expression for the nine directions in Heaven. In paragraph 5 he tried to reinterpret the expression to prove the precedence of Chinese classics over the Southern Barbarians concerning the theory that there are several separate Heavens. Needless to say that, this reinterpretation

[1497] This is an example of how language afetcts the way one thinks and therefore how one interprets the World. As we saw in Chapter VII, *solar* 陽 and *telluric* 陰 stand for two opposite realities. If by *solar* one is referring to the Sun, by *telluric* the Earth is to be understood; or, one other possible dictomy, is between the Sun as *solar* and the Moon as *telluric*. Because the Japanese language puts the Moon on the cathegory of things that are *telluric*, Genshō can not accept that the Moon rules over the water, as it should rule over *telluric* things, namely the Earth.

shows his flexibility in accepting *Nanban* theories, but it is not a canonical interpretation of the Confucian *corpus*. However, for some reason, he did not bother to make the connection with that expression in this paragraph, what somehow is not in character with his habitual repetition of the same ideas over and over. Here he simply avoided the problem that different estimates for the distance of the several planets and stars from the Earth would pose to the orthodox neo-Confucian cosmology, concentrating instead his short commentary on showing how to make compatible a Southern Barbarian estimate of the height of the Moon with the distance between Earth and Heaven in the Chinese classics.

7. No comment

The sixth type of reaction is simply no comment. Genshō does not add a word of commentary in two paragraphs: paragraphs 22 and 23 of the second volume, about the things originated in element air, and about the things originated in the lower region of element air. In other two other paragraphs he just says something to the effect that "there is nothing to say against [this]."[1498]

8. Acceptance and praise

Finally, the last type of reaction is total acceptance of what is said in the primary text and praise in the guise of an admonishment to eastern scholars to learn what Southern Barbarian scholars have to say concerning the subject. The clearest example is found in paragraph 18 of the Second Book, concerning the length of day and night, where Genshō says:

"The explanation […] is most detailed. Confucians and Calendar makers should exhaust [knowledge] like this."

This was arguably a very clear-cut subject where it was easy to obtain agreement between the two sides. However, even in the potentially more controversial issue of an ordering of the stars according to their nesting around each other Genshō agrees with what is exposed. This is remarkable given the orthodox view among neo-

[1498] Third volume, paragraph 14. Also third volume, paragraph 16.

Confucians that all stars moved freely on the Heaven all about the same distance from the Earth. No withstanding this Genshō says:

"The Southern Barbarian scholar, exhausting his heart cultivates his spirit. Moreover there is no error here. Also, the theory that the Sun is in the middle of Heavens is a good explanation."[1499]

Concerning one point, solar and lunar eclipses, though stressing that Confucianism has a similar theory, Genshō acknowledges the superiority of the western view:

"The theories of Confucians and Calendar makers are the same. With the proviso that the Barbarian theories are the most detailed."[1500]

9. Summing up

During the first one hundred years of interaction with the West, some Japanese either wholly accepted the European cosmovision brought to them by Jesuit missionaries or completely rejected it. Some two hundred years after Genshō, at the time of the re-opening of Japan in the nineteenth century, attempts were made again, under the government sponsored slogan of *wakon yōsai* 和魂洋才, to in some way bring together the two cultures. Most attempts went no further that the wholesale introduction of some aspects of science and technology without seeking to achieve a synthesis of western with eastern modes of thought. However, there were also some people who went beyond wholesale rejection or total acceptance. Some Japanese carefully considered each part of *Nanban* culture and discriminately accepted some elements and integrated them into their cultural framework; and thoughtfully rejected others that could not fit in their cosmovision.

Genshō is the best example of a thoughtful Japanese neo-Confucian scholar that attempted to interpret and absorb western cosmological theories without breaking the orthodoxy of his school of thought. Where he thinks no compromise is possible he clearly rejects the theory proposed and presents his reasons. Where there is no incompatibility between the theory proposed and the basic tenets of Confucianism he

[1499] Second Book, paragraph 6.

[1500] Second Book, paragraph 23.

accepts the idea trying, at the same time, to refer it to the body of the teachings of the old Chinese sages. This operation he attempts to do through the reference to an equivalent or similar Confucian teaching whenever possible. Sometimes this requires attributing a new meaning to an ancient preposition, transforming significantly its original sense. When no near equivalent to acceptable Western propositions exists Genshō shows that the foreigners' proficiency in the subject is due to a character defect. Some other times he avoids the issue at hand, either by discussing elements marginal to the topic or by completely ignoring it. Finally there is also the case where Genshō chooses to praise the Southern Barbarian theory and recommend to his fellow neo-Confucians to learn it from the Southern Barbarians.

Genshō in his commentaries to the *Kenkon Bensetsu* provides then evidence that the influence of the Jesuits in Japan during the sixteenth and seventeenth centuries was not nil in what concerns the transmission of natural philosophy. Given the number of people who showed interest in the *Kenkon Bensetsu* we may infer that he was not alone in his appreciation of the foreign philosophy of nature. And this conclusion is reinforced each time a manuscript of the *Kenkon Bensetsu* is localized anew.

CONCLUSION

The *Kenkon Bensetsu* was not a book on astronomy; much less it was a technical book on astronomy. It was book on natural philosophy; and it was just an elementary introduction to the field. The subjects there presented were known by any educated European, and the way they were presented were standard for the age. However, in the elaborated and roundabout process of translation from a European language to Japanese, the theories suffered a transformation: not only had the vocabulary chosen associated with it meanings that did not exist in the original system, but the system of nature associated with those words was imparted in some of the explanations advanced, thus adulterating the original text.

The authorship of the *Kenkon Bensetsu* cannot be attributed to one person. Probably there was an original treatise that was translated and then transliterated. It is certain that the translation and transliteration stages, through an accretion and deletion process, changed the original work and as a consequence put the writer farther from us, the readers. Borrowing from Genshō we may say the "far away mountains have no wrinkles and far away trees have no leaves, far away water has no waves and far away people have no eyes". The conversion of the original text to Japanese put its author so far away from us that we cannot see his eyes. This, however, is no dramatic loss as we know that the contents of Southern Barbarian natural philosophy manuals were pretty much the same. Almost any Jesuit could have written it, as most of them had gone through a philosophy course. This said, it is almost certain that the *original* book was taken away from Antonio Rubino, a well known teacher of philosophy, an "elder that excelled in astronomy". Concerning translator and transliterators not much is in doubt. Chūan, a man "with excellent astronomical learning" and good command of Japanese, translated or edited it writing the Japanese in Latin letters. Genshō and Kichibei transliterated it, the latter reading aloud Chūan's translation while the first wrote it in Japanese script. Both translation and transliteration, separated by a period of over ten years, were ordered by high government officials, from where we can deduct an institutional interest, even though its motivation is shrouded in a cloud of textual silence. However, if the institutional interest was an interest in astronomy, it did not get value for the money, as there is no astronomy in it, just natural philosophy about the Heavens and the Earth.

Nothing of this lessens the historical importance of the *Kenkon Bensetsu*. The *Kenkon Bensetsu* is important because it allows us to perceive how Southern Barbarian natural philosophy was actually spelled in Japanese. It is important because it does not allow us to forget that even in the height of persecution against everything Christian and Southern Barbarian, for some reason, some high officials of the Tokugawa government wanted to know what the theories of the *Nanbanjin* concerning the Heavens and the Earth were. It is important because it shows us which Southern Barbarian theories were accepted and which were rejected by a knowledgeable Japanese scholar. It is important because it calls our attention to the fact that given the characteristics of its doctrine, especially its faith in the rationality of Man and belief in the comprehensibility of the Universe, Christian proselytism was not dissociated from a view on the natural world. But it is important also because it shows us that Southern Barbarian missionaries could speak about the natural World without constant references to the World of spirit, even if they could not do the opposite.

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Needless to say, the *Kenkon Bensetsu* can only be properly understood inserted in the historical circumstances surrounding its genesis and divulgation. Therefore one last elaboration may not be out of place at this closing point.

We saw that at the time the Jesuits arrived in Japan, the country was enmeshed in political instability and entangled by civil war. The court institutions were a shadow of their former selves, barely surviving and unable to sustain their past support for the arts and scholarship. Buddhist institutions had adapted to the times, as their monks forgot the sutras and meditation and became adept with the sword and military tactics, vying with the feudal barons for the control of land, farmers and soldiers. The warriors were fully occupied by war or by the preparations for war, thereby developing their administrative skills and traditions. And the people, in its vast majority, barely survived at the subsistence level, oppressed by taxes for produce and labour and visited by strife and unrest. The desolation afflicting the country affected also institutional astronomy. The court astronomers had lost the technical ability to work the calendar in the Chinese tradition: to observe the skies, to systematically record their observations, to notice the discrepancies between the observed and the expected phenomena, and to make the necessary computations based on past records to revise the calendar so as to bring the two into line. Not only they lacked the ability, but they had also seemed to have lacked

the slimmest interest in such an endeavour. From the early days of the introduction of the Chinese calendar and of its techniques that astronomical computations and time reckoning were second to *onmyō* practice. Since those days astronomy further lost whatever character of science originally it might have had and became more and more an auxiliary tool to *onmyō* fate prediction.

It was in this setting that the Jesuits came to Japan to preach the resurrection of the dead. If speaking about cosmology and natural philosophy helped them in this task, all for the better, they would use it. But the purpose of explaining these matters was always ancillary to their main goal. In Japan they found numerous people curious about natural phenomena and so duly complied in giving answers to the questions they were asked. In their letters the Jesuits depict people of all walks of life that were eager to listen to rational explanations about the whys and hows of phenomena in the Heavens and on Earth. They exposed what they knew orally through arguments in houses and in the streets, in lessons in the classrooms and in sermons in their churches. They reported that the Japanese were very glad with what they heard and exceedingly pleased with the geometrical explanations they were shown. Here we notice something very interesting. The Jesuits were in contact with court and private astronomers. Nevertheless we do not find any account of a Jesuit having been approached by any of them to help with the correction of the calendar. No one like Santetsu one century later, who was aware of the problems the calendar had and was trying to find the tools necessary to fix them, seems to have asked for help to the Jesuits. Therefore it is unlikely that in Japan there was someone like Yasui Santetsu during the second half of the sixteenth century. We have the first notice that some Japanese became interested in the more technical aspects of astronomy in the early days of the Tokugawa shogunate. This happened in the Miyako with Spinola. Spinola was the Jesuit with the most technical astronomical and mathematical expertise who came to Japan, and the Miyako was the place where the court astronomers worked and where many scholars lived and visited. There Spinola presided over an *academy* where several Japanese scholars came into contact with the more mathematical aspects of Western knowledge. This only happened, let us repeat it, more than half a century after Xavier arrived in Japan. During that intervening period the Southern Barbarian priests had come to be known for their proficiency in astronomical matters, as they presented it in sermons and preaching and explained it in classes and in public discussions. During that period they also had trained many dozens

of Japanese in Aristotelian natural philosophy, had produced in Japanese one large manual of natural philosophy, and had published, also in Japanese, a number of books where the Western conception of the Universe was presented.

With this I do not wish to imply that it were these activities of the missionaries, with their dissemination of an alternative and more rational and credible cosmology than that available before their arrival that ignited in the early 1600s the interest of the Japanese in the more technical aspects of astronomy. To this newfound interest in the mathematical aspects of astronomy other factors also played an important role. We can point to the peace and stability brought to the country by the consolidation of a strong and centralized authority, which was more conductive to the pursue of literary and scientific activities than strife and disorder. We should also consider the renewed inflow of Chinese books, where works on the Chinese calendar, and treatises on European mathematics and astronomy written by the Jesuits in China were included. We can also mention the introduction of the idea of necessary causal connections in nature that was the hallmark of late medieval scholasticism and was introduced in Japan together with Christianity. We should also refer the emergence of a new perspective on Man and of his agency, and of the corresponding change of the view of the role of Man in society and in the Universe brought up by the diffusion of Christianity and also by the increasing material affluence resulting from the establishment of peace and the openness to international commerce. All of these, together with other factors, made possible the emergence of a small group of individuals deeply interested on matters which for some centuries had been all but forgotten by the Japanese intelligentsia and were left out from the Japanese intellectual scene: mathematics[1501], cosmology and calendar reform.

However, the fact remains that for the largest part of the period they were allowed to enter and remain in the country, the Jesuits did not meet in Japan anyone wishing to learn alternative methods to improve calendar accuracy, as their brethren in China would meet. In China, let us remember, the conditions surrounding the practice

[1501] "The lineage of the Nara period professor of mathematics is untraceable" notes Shigeru Nakayama, *A History of Japanese Astronomy: Chinese Background and Western Impact*, Cambridge, Harvard University Press, 1969, p. 154, and one does not find any reference to the discipline until the seventeenth century in standard works of Japanese cultural history such as G. B. Sansom, *Japan: A Short Cultural History*, Tokyo, Charles E. Tuttle Co., 1973, or Ienaga Saburō 家永三郎, *Nihon Bunka-shi*『日本文化史』, Tokyo, Iwanami Shoten 岩波書店, 1959.

of calendar making and astronomy were very different from those in Japan. There, contrary to Japan, the bureaux of calendar making and astronomy were kept separated from that of divination, their prestige was higher than in Japan, and they kept improving on previous methodologies. In the mandarins staffing these bureaux the Jesuits found sympathetic scholars that kept asking for more and more mathematical sophistication from them. In science, as in religion, the Jesuits spoke first to those who showed interest in listening to them. Therefore it was certainly for the evident lack of interlocutors that they did not think that it would serve any useful purpose to introduce in Japan the more advanced topics of mathematical astronomy, and so they did not introduce them. Fate dictated that when those interlocutors started appearing the Jesuits were shut out of the country. This, I guess, was most unfortunate for both sides. But where that interest was evident they showed no qualms in sharing the more advanced techniques, and this is shown by the history of Jesuit astronomy in China. Therefore, very soon the Jesuits with the best astronomical training of the Japanese Province, which included Japan and China, would all be working on its Chinese side, not in Japan. Consequently, when Yasui Santetsu started looking for alternatives to the Senmyō Calendar he could find none from the West.

This was not because the Jesuits did not write any book explaining their cosmology. As referred above, besides presenting orally their Aristotelian view of the Universe they also explained it in books, both written in Japan and written and imported from China. One of the books was the *Kenkon Bensetsu*, which was actually composed, or translated, in Japanese not by a missionary but by an ex-missionary, and more interestingly, not on the orders of his religious superior but on the command of his anti-Christian government. This command is thought-provoking because it reveals that the interest the Japanese had for *Nanban* learning was not a purely private interest, but even became an official curiosity. It is also important because it shows where the Japanese sought this knowledge. Although they knew the science of the Dutch was the same as that of the Southern Barbarians, it was not to Dutch doctors or captains they turned for teachers, at least not while Jesuit priests and ex-Jesuit priests could be had.[1502]

Still, the type of cosmological knowledge that the Jesuits were used to present to the Japanese, as reflected by the two major treatises in Japanese that have survived,

[1502] Actually they only started using extensively Dutch sources more than a century after the close of the Nanban Century; see Nakayama, *op. cit*., p. 167.

were of no use to the purpose of Yasui Santetsu. Even if he had read the *Kenkon Bensetsu*, or the *Nigi Ryakusetsu*, for which there is no evidence, he would have found there no help there for his calendar reforming endeavour. Books like the *Kenkon Bensetsu* were simply not the appropriate works to use when looking for instruments to reform the calendar.

And the *Kenkon Bensetsu* was not appropriate for two reasons. One, and the most fundamental one, is that it was not a book on astronomy—at least not in the technical sense. Rather, it was a book about natural philosophy, where the references to the Heavens, although very important, purported more to explain the basic constitution of the Universe rather than to explain how to estimate the movements of the stars in the celestial sphere. On the other hand, what Santetsu might wish to have, if he ever knew such a thing existed, was a treatise on computational astronomy in the tradition of Eudoxus, Hipparchus, and Ptolemy. In this tradition, there were two types of predictions. One concerned the motions and positions of the Sun, Moon and planets on the sphere. The other dealt with the prediction of changes produced on the Earth by the planets.[1503] We can find not much material of this predictive astronomy in the *Kenkon Bensetsu*, and what can be found is of the latter kind, what today we would call astrology. Had the *Kenkon Bensetsu* been a treatise on computational astronomy Santetsu, with his passionate enthusiasm would certainly have sought it, and having sought it would have gotten it.

Another reason, already mentioned and deriving from the previous one, is that its contents were far too basic. The knowledge presented in the *Kenkon Bensetsu* was basic in the sense that it was the basis that anyone aspiring to become an astronomer would have learnt first in his studies: it was the first elements of the subject. But it was also basic in the sense that it was the basis of the education of any cultured European: everyone knew it. Anyone wishing to obtain a degree in Theology, Law or Medicine would as a rule have gone though a philosophy course where he would have become acquainted with much of what was presented in the *Kenkon Bensetsu*, and so the natural philosophy presented there was the common and basic knowledge that any educated man would have gotten in any European university. However it should be noted that, as this knowledge was not shared by the East Asian tradition of scholarship, it was not

[1503] Ptolemy makes the distinction in his *Tetrabiblos*, Evans, *op. cit*., p. 344.

basic in this sense, to someone such as Mukai Genshō. But returning to our point, it can be said that it was a knowledge that any Jesuit priest who had gone through a two or three years course of philosophy could and should have obtained. For the argument's sake we can restrict this large group to those Jesuits that were considered to have higher scholastic abilities. One way of doing this is to restrict our attention to the Jesuits with four vows, who were considered to be the intellectually more capable and, with almost without exception, had obtained a theology degree. A philosophy degree, let us remember, was a prerequisite for the study of theology. If we further consider the emphasis that it was put in memorisation in the Jesuit educational system, we can safely say that any four vows Jesuit arriving on the Japanese shores would be ready to explain it no matter how long before he had studied it.

From this we can make two important considerations. One is that any Jesuit with four vows could have written the *Kenkon Bensetsu* or something very similar to it.[1504] No matter where he studied, who lectured him, and what manual he read, the contents of natural philosophy education were pretty much the same across European universities and Jesuit colleges. If asked to write a book on the subject it is probable that they would all produce very similar treatments of the subject. Consequently, if any one of the several dozens of Jesuits of four vows had the capacity of writing the *Kenkon Bensetsu*, and if all of them had received an education on the subject that was pretty much homogeneous, the quest for the *original treatise* from where it was derived or translated becomes a hopeless one. As all of them were proficient on the matter they could have written from scratch or adapted whatever they had at hand or stored in their memory. The number of small variations that can be expected to be found in such a version from a possible *original treatise* allows for so much noise as to make any link between the two books beyond recovery. If on the top of this, one considers the number of works on this subject that existed all over Europe in the first decades of the seventeenth century, written by students, professors and by the highest authorities in the field, and also takes into account the similarity it existed between them, then the most simple and elegant

[1504] Some fifty Jesuits who were professed with four vows were in Japan during the Nanban Century. See João Paulo Oliveira e Costa, *O Cristianismo no Japão e o Episcopado de D. Luís Cerqueira*, Ph.D. Dissertation, Lisboa, Universidade Nova de Lisboa, 1999 pp. 756-813. In this number are not included many other Jesuits who had studied philosophy, and even some who had taught it, but either were not professed of four vows or for whom we do not have that information. As one example of this last group, there is António Praestino (c. 1541—1589) who taught philosophy and humanities in the Jesuit College in Japan, but was not a Jesuit of four vows.

solution is to assume that the author was the man from whom the book was taken, Antonio Rubino. This solution receives further support from the fact that Rubino had experience in teaching the subject, and it was natural that he had composed his own teaching notes.[1505]

The second important consideration is that the *Kenkon Bensetsu* is not representative of European science, or of the state of development of European science. Rather, it is representative of European elementary teaching of science. Being an elementary textbook it is understandable that it does not deal with anything other than elementary material. We do not find in it the more advanced topics of Aristotle's *Physica* such as continuity and movement or the mathematically complex topics of Ptolemy's *Almagest* such as the sophisticated use of epicycles and eccentrics. The numbers it contains are only indicative of magnitudes, and the methods it mentions are frequently just mentioned, not explained. New topics of investigation and controversial issues not yet settled had no place in it. Nor any technical material on computational astronomy would fit in it. Therefore, recent and not yet widely accepted theories, such as Copernicism, were not included, and from this nothing can be inferred about its author knowledge about the theory or his sympathy, or lack thereof, towards it. Textbooks of science do not include the latest theories that have not yet been accepted by the scientific community. But this does not in any way diminishes the importance and interest of the *Kenkon Bensetsu*. Its worth, let us repeat it, is not as a mirror of the state of European science at the time, but as a window with a new vista opened to the Japanese scholars.

[1505] I believe that the quest to find the *original treatise*, to which not a few Japanese scholars have devoted so much of their energies, arises from the transposition to the cultural transmission operated by the Jesuits in the sixteenth and seventeenth centuries of the model of intellectual importation that presided the movement of textual translation by the Nagasaki translators of the late eighteenth and nineteenth centuries. These were basically linguists with little or no specialized knowledge of astronomy besides that which they could grasp from the books they were translating; moreover they were afraid of making mistakes, because these could lead to their dismissal from their hereditary posts, and thus they tended to follow a word for word type of translation. Thus it made sense, and it was not very hard, for modern historians to establish the connection between a Japanese translation and a European *original treatise*. The Jesuits, on the other hand, had good enough knowledge of the subject so as not to be constrained to slavishly following a text; and as good Roman Catholics they were not textual fundamentalists and felt free to adapt and change any text they were translating, even in the field of religion, as was demonstrated by William J. Farge, *The Japanese Translations of the Jesuit Mission Press, 1590-1614: De Imitatione Christi and Guía de Pecadores*, Lewistown, The Edwin Mallen Press, Studies in The History of Missions, no. 22, 2002. As the patterns of cross cultural transmission are so different in these two cases, the transposition of methodology of analysis between them is not appropriate.

This vista included a view on the Earth and another on the Heavens. The exposition is on the basic concepts of natural philosophy, covering in detail such diverse things as the *nature* of the four elements, the definition of Equator, and the number of Heavens, and is kept simple even in the explanations of the sphericity of the Earth and of the occurrence of eclipses. The vocabulary chosen betrays the editor of the exposition as not being a native scholar: in some cases existing standard terminology is ignored and substituted with cumbersome and descriptive expressions as for example that which was used for the *Equator*. In other cases it seems as if a synthesis between a Western and an Eastern theory is attempted, as when the *elements* get mixed with the *phases* and their relationships are explained using the *production* and *conquest* orders. However the result is a fiasco, resulting in a confusing exposition and not pleasing the Japanese readership—at least as represented by Genshō. Concerning the commentaries it may be said that in general Genshō did not like what was presented about the four sublunary elements, but could accept, sometimes even praise, what was said about the Heavens. However his comments to the Southern Barbarian's theories covered the complete spectrum between total rejection and complete acceptance, both concerning the Earth and the Heavens. His reaction depended on how threatening the theories exposed were to central concepts of neo-Confucianism such as Heaven and the theory of the *five phases*. Thus he rejected the theory of four elements because he saw it as a direct competitor to the theory of the *five phases*, and furiously attacked the suggestion that the Heavens are no part in the constitution of the myriad things and could not accept the explanation about the substance of Heavens. On the other hand he accepted that the Earth is round, a first for a Japanese neo-Confucian scholar, and saw no problem with the Southern Barbarian theories of Heavenly cycles.

One characteristic of the presentation of natural philosophy in the *Kenkon Bensetsu* is that it is completely decoupled from religion. This has been assumed natural, and in a sense it was natural. It was natural in the sense that natural philosophy was taught most of the time in Europe unconnected to religious doctrines, and did not need Christian beliefs to support its statements, except perhaps when a very few special topics, such as creation, were dealt with. It is true that sometimes it was taught with references to Christian scriptures and doctrinal definitions, as if in preparation to the Theology course, as was done in the case of Gomez' *De Sphaera*. However, this is not the reason why many historians have assumed it natural for the *Kenkon Bensetsu* not to

touch religious subjects. Rather, it has been assumed that the *Kenkon Bensetsu* has had all religious references expurgated from it because Christianity had been proscribed and all efforts were being made, if not to consign it to oblivion, at least to malign it into non-existence. However, this does not sit well with two facts. One is that the same government did commission tracts on Christianity, one of them even to the same Chūan who translated the book. As long as the writing attacked the reasons for belief in Christianity no restrain would apply to the production and readership of books dealing with the Christian religion, as the examples of the *Taiji Jashūron* and the *Kirishitan Monogatari* show. Another is that the translation of the *Kenkon Bensetsu* was commissioned with the intention to keeping it secret, as is clearly stated in the preface. If it was to be kept secret, and with its readership severely restricted, what would be the problem of presenting Southern Barbarian natural philosophy in its natural state, as viewed by the Japanese, coupled with Christianity? Even if we consider that the strict prohibition concerning the reading of the *Kenkon Bensetsu* was later reversed, this does not explain any earlier order that the book should not contain references to Christianity. Therefore the *Kenkon Bensetsu* most probably was written originally without any references to Christian doctrines. This, in itself is absolutely natural and only proves, if any need of such a proof existed, that Jesuits could write books without constant reference to religion.

This brings us back to the interest the authorities showed in this book. On one hand we notice that two important officials led the project, Inoue Masashige who asked for the translation, and Kainoshō Masanobu who commissioned the transliteration and the commentaries. On the other hand, we observe that the most appropriate people were engaged by these two magistrates: Chūan to make the translation, Kichibei to read the Japanese text in Latin letters of Chūan, and Genshō to write it down in Japanese script and comment it. Chūan was chosen because in all Japan he was the one who could better understand the text brought by Rubino: he knew the subject and knew the language of the text, whether Portuguese or Latin, and also knew very well Japanese. Kichibei was chosen because, after the death of Chūan he was the one who better knew how to read the Japanese written in Latin letters. Genshō was chosen because he was the one who better could understand what Kichibei was reading, and also because he was the one who had better knowledge of the two philosophical systems. If only one magistrate was to be involved, we might dismiss his interest as a personal interest.

Having at least two magistrates attentive to the production of the *Kenkon Bensetsu* this cannot be attributed merely to personal curiosity and opens the question: why such interest? This is a question that probably will never be closed, but from it we can establish two things. One is that it shows that there was a cross-cultural transmission of Southern Barbarian natural philosophy, which continued to occur even after Christianity had been proscribed and the Portuguese expelled. Another is that if the two officials were interested in the *Kenkon Bensetsu* it is because they thought that it was important in some way.

And they were not the only ones. As has been shown in Chapter III, many Japanese shared this interest. This attraction of the many towards western natural philosophy is also confirmed by the existence of multiple texts produced to transmit and preserve it, and by the number of their surviving copies. Besides the *Kenkon Bensetsu* there were at least the *Genna Kokaisho* and the *Nigi Ryakusetsu*. Furthermore, other than the mentioned texts it is possible, even probable, that others also existed but were lost. The great loss of manuscripts and books produced by and concerning the cultural activities of the Jesuit Japanese Mission, be them of religious or scientific character, is a well known fact. We can only guess whether they were more advanced than the *Kenkon Bensetsu*. More advanced texts, if they existed, would perforce be less accessible to the reader and therefore less attractive and with fewer copies made, and thus more vulnerable to destruction. Whether they existed or not, the surviving texts are sufficient to make us aware that we should not take the *Kenkon Bensetsu* to be the complete phenomenon of intellectual transmission of Southern Barbarian natural philosophy.

But undoubtedly the *Kenkon Bensetsu* is the best example of the cross cultural transmission of natural philosophy that occurred during the *Nanban* Century. There are several reasons to ground this statement. First there is the number of people directly involved in this project: Antonio Rubino, Inoue Masashige, Sawano Chūan, Kainoshō Masanobu, Nishi Kichibei and Mukai Genshō.[1506] Then there is their status: the Visitator of China and Japan, the *ōmetsuke*, the *de facto* chief Jesuit and chief ex-Jesuit in the country, the city commissioner of Nagasaki, the senior official interpreter, and the

[1506] In the case of the *Genna Kokaisho* there was one Southern Barbarian pilot and one Japanese seaman who wanted to make known the foreign techniques among his countrymen. In the case of the *Nigi Ryakusetsu* there was a Japanese translation of a textbook and a Japanese scholar who wanted to preserve the Southern Barbarian theories.

neo-Confucian with more notoriety in the region. The motivation is also important: the official curiosity about the foreign sciences.[1507] Of special relevance are the contents that were actually transmitted. But even more important is the commentary: Genshō rejected and Genshō accepted, sometimes he labelled the theories as complete worthless, sometimes as the best that could be had. What Hayashi Razan had labelled as complete foolishness Genshō made worth of inquiry and discrimination, and in what he accepted he opened the way for other Japanese scholars to follow. Lastly, there is the diffusion that the *Kenkon Bensetsu* achieved, as gauged by the number of copies that have survived and by the multiplicity of variants that it generated.

This diffusion was not due so much to the pedagogical or scientific qualities of the *Kenkon Bensetsu* as to the dearth of alternatives. Until the first years of the eighteenth century it had no other competitors in its genre except for the much less popular *Nigi Ryakusetsu*. It was only in 1720, when the ban on Sino-Jesuit books was relaxed, that similar and technically more advanced Jesuit authored treatises slowly became accessible to Japanese scholars. And it was only in 1745 that Tokugawa Yoshimune 徳川吉宗 (Jōkyō 1.10.21—Kan'en 4.6.20, 1684.11.17—1751.7.12), the same shogun who relaxed the importation and usage of Jesuit books, asked the official interpreters to learn to read Dutch: until then, whatever they knew was the spoken language.[1508] The Japanese remained unhappy with the ability of the Dutch to explain them what was going on in the Heavens as "[u]nlike the Jesuits in China, the handful of Dutchmen at Nagasaki were, first and last, tradesmen."[1509] Yoshimune's new policy only began bearing fruit in the 1770's with the first translations of Motoki Ryōei 本木良永 (Kōhō 20.6.11—Kansei 7.7.17, 1735.7.30—1794.8.12) and Shizuki Tadao 志筑忠雄 (Hōreki 10—Bunka 3.7.3, 1760—1806.8.16).[1510]

[1507] This official curiosity led to writing of other documents about western learning. One of the best known examples is the *Dai Nijūsan Shinajina no Gakumon no Koto*『第廿三品々之学文之事』of Okamoto San'eimon 岡本三右衛門; see Ebisawa Arimichi 海老沢有道, *Nanban Gakutō no Kenkyū: Kindai Nihon Bunka no Keifu*『南蛮学統の研究—近代日本文化の系譜』, Tokyo, Zobun-sha 創文社, 1958, pp. 15-23

[1508] Nakayama, *op. cit*., p. 167.

[1509] *Ibid*.

[1510] Yoshida Tadashi, *The Rangaku of Shizuki Tadao: The Introduction of Western Science in Tokugawa Japan*, Ph.D. thesis, 1974, Princeton University; Ōshima Akihide 大島明秀, *'Sakoku-ron' to iu Gensetsu:*

In spite of the lack of any substantial Dutch contribution to the development of Japanese astronomy until the closing decades of the eighteenth century, the tradition of learning that sprang from the Jesuit missionaries' efforts had to disguise itself to survive. Borrowing Genshō's phrase, it had to *change clothes*. At an early stage, in the middle of the seventeenth century, it threw away the Southern Barbarian priests' clerical garb and accoutred the Dutch captain's uniform, and later still, the doctor's dress. The necessity of such a change of clothes derived from the close association that the Japanese had come to establish between Southern Barbarian natural philosophy and Christianity and the proscription of the latter. As that learning had an obvious foreign complexion, its disguise in purely Japanese clothes would not do. The Dutch disguise was thus the most natural to take. This change in clothes was not limited to natural philosophy. A similar phenomenon occurred in other areas, most notably in medicine, but even in religion: the Virgin with the Child survived for generations with the clothes of Kannon.

Therefore, from the lack of visibility inexistence can not be inferred. There are invisible things that really exist, and round things with mountains and valleys. To arrive at them reason must be used, Chūan warns us, not just the eyes. Some aspects of the Southern Barbarian culture were not uprooted in 1639 but continued to flourish after that under different clothes. The discussion of how important they were for the posterior development of Japan will continue. But the *Kenkon Bensetsu* should prove to us that it was not "nil", just as it proved to Genshō that the Earth was round.

Kenperu-cho—Shizuki Tadao-yaku "Sakoku-ron" no Juyōshi 『「鎖国」という言説：ケンペル著・志筑忠雄訳『鎖国論』の受容史』, Kyoto, Minerva Shobo ミネルヴァ書房, 2009.

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GLOSSARY

Natural philosophy and technical terms in the *Kenkon Bensetsu*

Aida 間: space, interval

Banbutsu 萬物: myriad things

Chinsei 鎭星: Saturn

Chitai enkyū no chūshin 地體圓球の中心: Centre of the Sphere of the Body of Earth

Chūgyo 虫魚: insects and fishes

Chūki 中氣: Middle Point

Denkō 電光: lightening

Ensō 圓相: round, spheric

Fūdai 風大: element air

Geshi no Suji 夏至の筋: Line of the Summer Solstice

Geshi Tōji no Suji 夏至冬至の筋: Line of the Summer Solstice and Winter Solstice

Gi 義: meaning

Gogyō 五行: five phases

Gosei 五星: five stars

Gyakudō 逆道: Inverse way

Gyakusen 逆旋 Inverse rotation

Gyūba 牛馬: bulls and horses

Hanten 半天 Hemisphere

Hijō 非情: non-sentient beings

Hon 品: attributes

Honmoto 本元: first cause

Honshitsu 本質: essence

Ikkai 一回: circumference

In-un 氤氳: *exalação*, *Original Vigour*

Jigoku 地獄: hell

Jinrin 人倫: humanity

Jinshin kyūri 人身窮理: physiology

Junkan 循環: revolve

Juntaku 潤澤: plentifulness, moisture

Ka 化: natural change

Kadai 火大: element fire

Kaigō 會合: conjunction

Kaiten 回轉: spin

Kaminari 雷: thunder

Kankō 環行: revolve.

Keiki 形器: appearance of things

Keishitsu 形質: characteristic form

Keiwakusei 熒惑星: Mars

Kenkon 乾坤: Heaven and Earth

Ki 氣: *vigour*

Kisoku 気息: respiration

Kita no Suji 北筋: Northern Line

Kōdō 黃道: the ecliptic

Koku suru 尅する: to conquest

Koku 刻: one hundredth of one day and night

Komitsu 固密: hard and dense

Kongen 根元: root

Konpon 根本: the source

Kūchū 空中: middle of Heaven

Kyūri 窮理: Exhaust Principle

Meguru 廻る: rotate

Michisuji 道筋: path

Minami no Suji 南筋: Southern Line

Miya 宮: Shrine

Miyo 三世: Three Ages: past, present and future

Mizu 水: water (water in its cold state)

Moto 元: origin

Moto 本: origin

Mujō 無常: transience

Nichiya tōbun no suji: 日夜等分の筋 equator

Nichū no suji 日中の筋: meridian

Ri 理: *principle*

Ri-ki 理気: *principle* and *vigour*

Rui 類: category

Saisei 歳星: Jupiter

Sakō 左行: lefward movement

Sasen 左旋: left turning

Sei 勢: energy

Sei 性: nature

Seichū 正中: exact centre/ true centre

Seisei 生成: production

Seishin 星辰: star, constelation

Seitoku 性徳: character

Sekai 世界: World

Sekidō 赤道: equator

Sekido 赤道: Red Way, Equator

Sekki 節氣: a Fortnight Point

Shichishō 七星: the Seven Stars

Shiki 四気: four influences

Shikisō 色相: Marks of Corporality

Shikitai 色體: body

Shizen 自然: nature

Shōji 生じ: to give life, to produce

Shoku no Suji 蝕筋: Line of the Eclipses

Shōtai 正對: opposition

Shōtoku 生得: inherent

Shozuru 生ずる: produce, give origin

Shu 種: sort

Shusei 衆星: multitude of stars

Sōten 總天: Full Heaven

Suidai 水大: element water

Sukitōru 透徹: transparent

Tai 體: substance, body

Taihakusei 太白星: Venus

Tai 帯: endowment

Ten 天: Heaven

Tenchi 天地: Universe

Tendō 天堂: Paradise

Tensei 天性: nature

Tōji no Suji 冬至の筋: Line of the Winter Solstice

Ukō 右行: rightward movement

Unki 運氣: *natural fortune*

Unkō 運行: revolution

Unsen 運旋: rotation

Unten 運轉: drive

Usen 右旋: right turning

Utsunetsu 欝熱: accumutated heat

Wagō 和合: combination

Yu 湯: warm- or hot-water

Yūjō 有情: sentient beings

APPENDIX 1

Contents of *De Sphaera* by Pedro Goméz[1]

[1] Transcription of the titles of chapters and paragraphs.

Cap. 3. De impressionibus metereologicis in particulari

§ 1. De ignitis impressionibus

De cometis

De lancea et stellis cadentibus

De tonitruo, fulgure et fulmine

De aliis ignitis impressionibus, quae fiunt in infima regione

§ 2. De impressionibus aqueis, quae in secunda et tertia regione aeris fiunt

De nube et pluvia

De caligine et nebula

De rore et pruina

De nive

De grandine

§ 3. De ventis et aliis immutationibus aeris

De ecniphia, tiphone, et presteris

De hiatu, voragine, et variis coloribus, qui in aere, et astris conspiciuntur

De halone et iride

De virgis et pareleis

§ 4. De impressionibus aqueis terrestribus

De origine fontium

De fluxu et refluxu maris

De salsedine maris

De terremotu

APPENDIX 2

Known Manuscripts in the textual tradition of the *Kenkon Bensetsu* [2]

Location	Estimated date[3]	Missing Paragraphs
Kenkon Bensetsu 乾坤弁説		
[A1] Diet Library, Shirai mss.	Middle Edo	Earth § 3-16, Heavens § 17-29
[A2] Japanese Academy	1911	Heavens § 25-29
[A3] Faculty of Letters, Kyoto Univ.	1912	
[A4] University Library, Kyoto Univ.	Middle Edo	Heavens § 25-29
[A5] Univ. Library, Tohoku Univ., Kanō mss.	1782	Earth § 13, 14
[A6] Private collection, Nagoya, Kurita mss.	n.a.	n.a.
[A7] Kobe City Museum (Akioka mss.)	Middle Edo	Earth § 3-8, 17-24, Heavens § 1-29
[A8] Univ. Library, Kagawa Univ.,	Early/middle Edo	Earth § 3-24
[A9] Tosa Yamanouchike Hōmotsu Shiryōkan	Middle Edo	Heaven § 7-29
[A10] Shōkō Bunko (first ms.)	n.a.	Destroyed during WW II
[A11] Shōkō Bunko (second ms.)	n.a.	Destroyed during WW II
[A12] Rekikawa Bunko	n.a.	Destroyed during WW II
[A13] Osokawa ms.	n.a.	Location unknown
[A14] Univ. Library, Tenry Univ.	Middle 18th century	Heaven § 17-29
Tenmon Biyō 天文備用		
[B1] National Museum of Japanese History	17th century	none

[2] Compiled from the tables in José Miguel Pinto dos Santos, "As Distâncias dos Céus aos Infernos na Cosmologia *Nanban*", *Anais de História de Além-Mar*, Vol. 5, 2003, pp. 466-469; José Miguel Pinto dos Santos, "The 'Kuroda Plot' and the Legacy of Jesuit Scientific Influence in Seventeenth Century Japan", *Bulletin of Portuguese-Japanese Studies*, Vol. 10/11, 2005, p. 185; and Hiraoka, op. cit., pp. 100, 142.

[3] I follow Hiraoka, *op. cit.*

Shidai Zensho　四大全書

[C1] Univ. Library, Kyushu University	After 1784	Earth § 10 & 13, 14 (partially)
[C2] Univ. Library, Tohoku University	n.a.	n.a.
[C3] Tsu City Library	1794	Earth § 10 & 13, 14 (partially)

Bensetsu Nanban Unkisho　弁説南蛮運気書

[D1] Japanese Academy	1913	Heaven § 1 (partially)
[D2] Univ. Library, Kyushu University	1913	Heaven § 1 (partially)
[D3] National Astronomical Observatory	1913	Heaven § 1 (partially)
[D4] Toyohashi City Museum of Art and History	Before 1671	Heaven § 1 (partially)

Nanban Unkiron　南蛮運気論

[E1] Japanese Academy	1913	
[E2] Univ. Library, Kyushu University	After 1913	
[E3] Toyohashi City Museum of Art and History	Before 1670	
[E4] Oshu City Mizusawa Library	1793	

Tenmonsho　天文書

[F1] Matsura Historical Museum	Before late Edo	

Tenmon Unkiron　天文運気論

[G1] Univ. Library, Tenry University	Before 1782	
[G2] Kobe City Museum	After 1782	

Nanban Tenchiron　南蛮天地論

[H1] Univ. Library, Tohoku University	Middle Edo	
[H2] Shirokumo ms.白雲菴	Middle Edo	Location unknown
[H3] Faculty of Letters, Kyoto University	1911	

Tenmon Yōkai　天文要解

[I1] Univ. Library, Kyushu University	After 1736	
[I2] Tosa Yamauchi Family Treasury and Arch.	1736	

APPENDIX 3

Contents of the *Nanban Unkiron*[1]

南蠻運氣論　乾	***Southern Barbarian Theories on Natural Fortune*　Heaven**
天文之事	About astronomy
第二天之形氣之事	§ 2 About the shape and *vigour* of heavens
第三天之循環之事	§ 3 About the heavenly cycles
第四日月衆星麗天循環之事	§ 4 About the cycles of the Sun, Moon and the multitude of stars in the serene heaven
第五天之数ノ事	§ 5 About the number of heavens
第六星月次第之事	§ 6 About the order of the stars and moon
第七九天の逆回年月之事	§ 7 About the duration of the inverse rotation of the nine heavens
第八夏至冬至逆旋日夜等分ノ筋二例テ日月ノ道ヲ知図ノ事	§ 8 A figure to know the path of the Sun and Moon using the two examples of the lines of inverse rotation in the solstices of summer and winter and of equal day and night
第八日夜等分之筋之事	§ 8 About the line of equal day and night
第九逆旋之事	§ 9 About inverse rotation
第十卯酉子午之筋之事	§10 About the line of hare, hen, rat and

[1] Ms. [E2] University Library, Kyushu University.