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Traduttore, traditore: Science, Language, and Translation  
in Nineteenth-Century China

Michel Foucault recounted in 1966 his laughter while reading a passage by Jorge Luis Borges that revealed to him “the exotic charm of another system of thought.” Borges quoted from “a certain Chinese encyclopedia” entitled *Celestial Emporium of Benevolent Knowledge* in which the Chinese had classified animals into a series of bizarre divisions whose order was impossible to fathom, such as “those that have broken a flower vase,” or “those that resemble flies from a distance.” Borges attributed the title and content of the encyclopedia to Dr. Franz Kuhn (1889-1961), a prolific German translator of Chinese novels. Foucault drew the lesson that Chinese exoticisms revealed the limitations in our system of thought. He noted, for instance, that Western use of an alphabetical series separated all entries from their natural affinities, linking them instead arbitrarily.

Borges’s fable about enumerations from China challenges our efforts to establish an unproblematic lexical order among things. Borges’s caricature enabled Foucault to reframe fruitfully the early modern European act of classifying new curiosities in the eighteenth century, which, arguably, gave the sciences of life a new precision and scope. By comparison, pre-modern Chinese versions of natural history, more accurately, “an historical array of entries about things” (*bowu* 博物), still resembled natural history in the classical period in the West, when a dividing line between living and non-living things was not decisive.

Like their classicist counterparts in sixteenth century Europe, the Chinese authors of naturalist compendia sought to identify and classify natural phenomena through a correct language of words (*zhengming* 正名). For them, all phenomena originated from the stuff of the world (*qi* 氣) formed through the spontaneous shaping of all things (*zaohua* 造化) by some sort of ultimate shaping force (*zao-*

*hua zhu* 造化主) or internal power (*zaowu zhu* 造物主). They mediated efforts to make sense of the world of things through their prevailing social, political, and cultural hierarchies. Before the arrival of the Jesuits, the classical method of investigating things (*gewu* 格物) and extending knowledge (*zhizhi* 致知) was a key feature of Chinese literati efforts to set the limits of the natural and establish the boundaries for the known and unknown. Finding the “correct conceptional grid” (following Andrew Plaks) had also required “investigating meanings, conceptions, and ideas” (*geyi* 格義) when foreigners introduced new religions such as Buddhism to China after A.D. 200. To this end, Chinese scholars compared foreign terms in light of native doctrines to determine any systematic correspondences between them.

After 1600 the Jesuits linked the Chinese “investigation of things” to European higher learning (*scientia*, i.e., philosophical, theological, and natural studies). Natural studies in premodern China had long implied that things (*wu* 物) included visible objects, physical or mental phenomena, and historical events. Since the Song dynasty (960-1280), literati contended that things and affairs were synonymous. Each revealed universal principles (*wanwu zhi li* 萬物之理). Chinese classifications thereafter reflected the cultural priorities of literati elites who saw principles in all things.

Unlike early modern European scientific culture, where natural history was increasingly encompassed in a museum, the historical array of entries about things, phenomena, events, and affairs (*bowu*, i.e., “broad learning of things”) represented a nuanced account of natural phenomena as words in a text that needed to be decoded primarily through the analysis of language by connoisseurs. Each historical or natural event, natural object or man-made implement, and mental or physical phenomena could be described chronologically in terms of a teleology of its usefulness or value to humans.

The very valuable volume under review here represents an effort to describe how traditional Chinese terminology for natural studies, government, logic, linguistics, materia medica, chemistry, and mathematics changed during the nineteenth century under the impact of “new terms for new ideas” coined in the West and Japan during the late Qing period, 1860 to 1900. An old system of Chinese classification was slowly but irrevocably superseded, and a new set of terms prepared the linguistic ground for the emergence of the social, political, and natural sciences in modern China. Crossing the boundaries between linguistic and historical studies, the authors in this volume delineate this linguistic transition in China by addressing how the Chinese language adapted to and changed under the influence of Western knowledge. Such lexical change via translation began in earnest, the editors contend, after 1860 under the influence of Protestant missionaries.

The first set of articles in the volume focus on language as a “clumsy medium” for cultural interaction. Viviane Alleton, for example, rightly takes issue with contemporary claims that the Chinese language was inadequate for foreign terms and modern ideas. Comparing China and Japan, Alleton contends that the

historical and social contexts trumped the civilizational constructs that scholars have adumbrated to explain the divergent responses of Qing China and Meiji Japan to the new Western learning. I have found that the stated ambivalences of late-nineteenth-century Euro-American translators confirm Alleton's point. In 1880, for instance, John Fryer rejected the popular view that Chinese was inadequate for scientific discourse. Moreover, Fryer discarded the notion that English would become a universal language or that China would ever be ruled by foreign powers. Much later in a May 22, 1895, letter seeking the chair of Oriental Languages at Berkeley University, which he would be offered in July, Fryer explained: "However necessary it may be for China to have the arts and sciences of the West translated into the native language and disseminated throughout the country in the first instance, it stands to reason that this will only succeed up to a point. Beyond that point no amount of translation can keep pace with the requirements of this age of progress." Reacting to China's unexpected defeat in the Sino-Japanese War, 1894-1895, Fryer predicted "the gradual decay of the Chinese language and literature," and concluded that "sooner or later the end must come, and English be the learned language of the Empire." John Fryer's perception of the missionary failure to change China mirrored the missionaries' predisposition after 1895 to place the blame for such an imagined failure when compared to Meiji Japan on Chinese civilization and its benighted language, an over-determination that with hindsight was false.

Benjamin T'sou extends Alleton's views by advocating a broad approach to cultural diffusion. Placing the Chinese language within the historical context of the global circulation of cultural items, T'sou shows how China's lexical borrowings were mediated by language, culture, and social structure. A narrow, linguistic approach to such borrowings would simply follow the flow of the loan words themselves, but such an account would miss how often cultural compatibility was the key issue that determined whether phonetic or semantic adaptation was chosen for a lexical import. Because the Chinese written language placed no limits on phonetic adaptation, the success of the adoptions that were made depended on the agreeability, familiarity, accessibility of the specific changes and not on global civilizational factors.

Wolfgang Lippert's article in this section looks at the role of language in the modernization process, and he explains how Western concepts and terms were integrated by Chinese and Japanese translators in stages during the nineteenth century. Lippert shows how the modernization of the Chinese and Japanese languages was not a simple process where Meiji Japan took the lead. Initially in the 1860s many lexical borrowings from Western languages first took place in Qing China and then were transmitted to Japan. In addition, new Western terms created from the 1870s in Japan often depended on older classical terms from the Chinese lexicon, which were sources of inspiration for Meiji savants such as Nishi Amane and others. Terms in Japanese such as *kagaku* 科學 for "science," derived from a Song dynasty term for civil examination studies (*keju zhi xue* 科舉之學 = *kexue/kagaku*), which then returned to China as a new translation for

“science” from Meiji Japan as a “round-trip” concept (following Lydia Liu and Victor Mair).

The second set of articles in this volume address the “politics of names.” Xiong Yuezhi looks at the translation and usage of the political terms in classical Chinese for liberty (*ziyou* 自由), democracy (*minzhu* 民主), and president (*zongtong* 總統) in late Qing China. He concludes that the production of neologisms such as these represented a complex process that took time to become properly understood as new ideas in a period of intellectual ferment. Xiong describes how the old, negative connotations of these “new terms” in classical Chinese took time to be left behind as Chinese literates internalized the new content of the political terms. Initially, the term for liberty implied lawlessness in Chinese, democracy suggested a lord of the people or a government of the rabble, while a president seemed to represent a gang leader, chieftain, or monarch. These idiosyncratic terms were more a product of the choices Protestants made to translate such political concepts rather than the simple persistence of Chinese tradition.

Similarly, Fang Weigui describes how nineteenth century Chinese used the terms *yi* 夷, *yang* 洋, *xi* 西, and *wai* 外 to describe peoples, things, and events from outside Qing China. By tracing the history of these terms as markers for Westerners and European civilization, Fang sees a remarkable transition in late imperial China from using a pejorative notion of “barbarian” to describe the “other” to a more cosmopolitan concept of “foreigner.” Fang reads such changing attitudes towards foreigners in late imperial China out of the linguistic turn from *yi* and *fan* 番 to refer to the “other” and towards *yang*, *xi*, and *wai* in Chinese documents and writings to describe foreigners less as barbarians or savages. To properly weigh the scope and limits of Fang’s internalist account of such linguistic changes, readers should also refer to the work of Lydia Liu who has argued, perhaps too one-sidedly, that imperialism was more responsible than Chinese xenophobia for the translation into English of *yi* as “barbarian” during British parliamentary debates preceding the Opium War. Liu contends that such Chinese terms were inherently less vituperative particularly because the Qing rulers as non-Chinese were themselves always on the lookout for anti-barbarian attacks by Han Chinese on Mongols and Manchus.

Rune Svarverud concludes this second set of articles by presenting an etymology for the notions of power and rights (*quanli* 權力) in Chinese political discourse in the late nineteenth century. Like Xiong Yuezhi, Svarverud traces how divergent notions of political rights were read into the terms chosen to translate such rights into classical Chinese. The lexical choices that William Martin chose for his translation of Wheaton’s International Law, for example, blurred the distinction between rights and power in China. Meiji Japanese also chose Martin’s translations to express rights in Japanese legal terms, and their success there explains why the complex etymological lineage for *quanli* in China must include its transmission to Japan and back again, another case of a Sino-Japanese

round-trip word that depended for its linguistic success in China on its Japanese pedigree after the Sino-Japanese War.

“Negotiating equivalence” is the common theme that runs through the articles in the third set of articles. Joachim Kurtz’s thoughtful contribution discusses the naturalization of the Western notion of logic in China. His account of the “adventures of logic in China” focuses on the diachronic shifts in its Chinese discursive history. Kurtz notes that Jesuit discourses on Aristotelian logic were never very influential, despite earlier overstated claims about the impact of Euclid’s geometry in late-Ming China. After Aquinas and others had reconciled the Muslim harvest of classical learning with Christian theology, the preferred order of Aristotelian learning for the Renaissance scholars became: 1) logic; 2) mathematics; 3) natural science; 4) moral philosophy; and 5) metaphysics. The Jesuits transmitted Aristotelian cosmology, physics, and meteorology through their Scholastic theory of knowledge, but they presented deductive logic as a technically forbidding set of terms opaque for non-Christian Chinese.

Later, Protestants in the nineteenth century presented inductive logic and Western reasoning with little added precision or care, and their lexical use of many Chinese terms was misleading. Kurtz concludes that logic in China had multiple identities, which represented the personal preferences of the Jesuits and Protestants rather than the field of logic per se. For the Chinese, logic did not matter very much until they associated logic with global civilizational ideals in a comparative context. This ironically led Chinese to construct and balance regional notions of Chinese, Indian, and Western logic as different forms of reasoning.

Zhang Baichun’s article looks at the history of the Chinese terms for machines (*jìqì* 機器) and machinery (*jìxié* 機械). Zhang’s account reveals how Jesuits and Protestants successfully incorporated the terms for machines and machinery in their translations. Zhang details how Ming literati and artisans had applied other terms, such as tool or implement (*qì* 器), controlling mechanism (*jī* 機), and device, contrivance, or weapon (*xié* 械), to utensils and cannon. Johann Schreck’s (Terrenz, 1576-1630) “Diagrams and Explanations of the Marvelous Devices of the Far West” (*Yuanxi qiqi tushuo luzui* 遠西奇器圖說錄最, 1627), for instance, presented traditional European craftsmanship in light of Chinese artisanship. Later, Qing Chinese and Manchus assimilated these terms to industrial machinery in the nineteenth century.

Iwo Amelung delineates the complicated and paradoxical reception of Western mechanics in late imperial China. In the case of the Chinese term for mechanics, two legitimate translations competed in the 1860s. These terms could be traced back to Schreck’s “Diagrams and Explanations of the Marvelous Devices of the Far West,” which discussed the principles of weight (*qingzhong* 輕重) and force (*liyi* 力藝). Although Schreck’s account coined the term for the “study of weight” (*zhongxue* 重學), that is, a pre-Newtonian notion of mechanics, his account also stressed the role of force (*liyi* 力藝). The former term likely influenced nineteenth century translations of mechanics by Alexander Wylie, John

Fryer, Joseph Edkins, and Li Shanlan. William Martin, however, challenged their translations in his 1868 textbook on the sciences when he prepared a section on mechanics, which he entitled “Introduction to Force” (“*Lixue rumen*” 力學入門). A similar confusion of terms for mechanics prevailed in Meiji Japan. Amelung notes that the shift to force as the standard translation for mechanics in China occurred circa 1910. As in the case of logic, the failure to establish exact equivalences for Western mechanics allowed Chinese to equate the field with Chinese traditions drawing from the Mohist Canon, which Chinese invented as a native tradition of mechanics.

The fourth set of papers describes how Chinese translators chose “their own terms” to negotiate the adaptation of new terms for new ideas. David Wright’s article looks at translators such as Lin Shu, whose translated texts became popular even though Lin did not know the source languages. Wright also describes Yan Fu’s benign attitudes towards lexical ambiguity from the angle of infidelity and ingenuity in translations. Yan Fu used neologisms for his scientific translations, which referred to native traditions that he thought successfully illuminated the source-texts. Remarkably, Yan invented ingenious linguistic parallels for his “new terms” from the classical storehouse of Chinese thought.

Ingo Schäfer’s article discusses the physics and metaphysics underlying Tan Sitong’s concepts of *qi* 氣 and *yitai* 以太. It should be read in light of David Wright’s article entitled “Tan Sitong and the Ether Reconsidered” (*Bulletin of the School of Oriental and African Studies* 57 [1994]), because Schäfer idiosyncratically avoids linking Tan’s discourse on *yitai* with the role of “ether” in contemporary Euro-American physics. For Schäfer, Tan’s appropriations of terms and ideas from Western natural philosophy were incised subjectively into his philosophical and political outlook. While, this internalist view of Tan’s natural philosophy is useful, it is also a bit solipsistic. Tan’s use of the *yitai* began in an essay published in 1897 in which he unified the materialistic framework for the chemical elements by making ether (= *yitai*) the origin of all the elements. Earlier William Thomson (Lord Kelvin) had theorized that ether might turn out to be the universal substratum for all physical phenomena. Drawing on the Chinese notion of *qi* as an undifferentiated, primal stuff from which all things derived, Tan redefined the *yitai* (= ether) as an unchanging essence behind all external phenomenal forms, which connected the physical, mental, and spiritual realms through the action of benevolence (*ren* 仁).

Of course Tan Sitong’s understanding of Western science was uniquely his own, but he drew on notions of the ether and electricity held by eminent Western scientists at the time, which had been presented first in science translations for the Jiangnan Arsenal, which Tan had purchased while in Shanghai. Moreover, Tan’s use of the concept of *yitai* in his “Studies of Benevolence” (*Renxue* 仁學) maintained the traditional Chinese notion of a continuum between the physical and spiritual realms. In the nineteenth century, however, the wave theory of light, the discovery of electromagnetic fields, and the propagation of electromagnetic waves revived theories of the ether to explain theoretical problems in physics.

Since 1854, William Thomson and others in Britain were searching for a consistent physical theory of ether and matter that would explain the continuum of matter through space. Earlier the notion that ether was a carrier of waves of light and radiant heat had been developed, but its electrical, magnetic, and thermodynamic characteristics were not understood.

Accordingly, Tan's appropriation of the *yitai* paralleled the attempt by European physicists to affirm "ether" as the fundamental unity of spiritual and material phenomena. Balfour Stewart, whose English primers on physics had been translated by Young J. Allen (1875) and Joseph Edkins (1886) into Chinese, had claimed as a coauthor of an 1875 volume entitled *The Unseen Universe or Speculations on a Future State* (New York: Macmillan) that the human personality survived as a spiritual entity after death in a parallel universe. Similarly, before 1905 when electromagnetic fields were better understood, James Maxwell and his supporters believed that ether was not reducible to any known physical substance. Moreover, the attractiveness of idealist thought in nineteenth-century Europe among those who sought to redirect the mechanistic physics of atomists toward a spiritually informed world, made it possible for the concept of ether to appeal to both specialists and non-specialists. In China, publicists such as Tan Sitong and Kang Youwei drew on this view of ether (= *yitai*) as an active medium in the universe and molded its content in light of Chinese natural philosophy.

Reassessing a longstanding inquiry, Wang Yangzong's article presents a new look at the translations of chemical terms by John Fryer and Xu Shou, which James Reardon Anderson among others described earlier. Wang explains the terminological choices Fryer and Xu made in their translation. For the individual chemical elements they successfully integrated both phonetic and graphic aspects. But their resourceful efforts to invent terms for chemical compounds by combining the Chinese terms used for each of the elements proved unproductive. Their felicitous translations for chemical concepts also revealed the limitations in their understanding of modern chemistry. Wang's article shows that for the missionaries and their collaborators their translation abilities alone were not enough to render modern science accurately.

We should add that chemical terminology in particular became contentious among competing translators. Considerable variations in Chinese terms for the same chemical elements, for example, occurred in five early and influential chemistry translations associated with Benjamin Hobson in 1855, William Martin in 1868, John Fryer in 1869, John Kerr in 1870-1871, and Anatole Billequin in 1873, among others. The German missionary Wilhelm Lobscheid developed an earlier nomenclature for chemical elements from 1866 to 1869 for his English and Chinese Dictionary (*Ying-Hua zidian* 英華字典) in Hong Kong, but his translations neglected the phonetic element in Chinese characters and were problematic. Even the Chinese for the notion of a chemical element varied among translators. Rival translations created animosities. Fryer and John Kerr, for instance, began corresponding in November 1869 about their different translations of the same chemical text, namely David Wells' *Principles and Applications of*

*Chemistry* (N.Y. and Chicago, 1858, 1862). In 1895, their enmity over the issue still lingered on when Kerr was criticized by Fryer in a missionary journal.

For the fifth set of articles, the authors continue the theme of “competing nomenclatures” raised above. Shen Guowei uses three bilingual dictionaries to analyze the creation of technical terms in English-Chinese dictionaries from the nineteenth century. He shows that the personal views of the missionary translators influenced their dictionary efforts. Elijah Coleman Bridgman avoided coining new terms in his dictionary, which led to semantic confusion because “new terms” were elided into traditional concepts and thus lost their cutting-edge meanings. Despite the initial influence of Bridgman’s *Chinese Chrestomathy*, however, its limited circulation meant that few of Bridgman’s terms became normative. Moreover, Bridgman presented English translations for Chinese phrases with a Cantonese Romanization of the Chinese characters. Lobscheid was bolder for his *English and Chinese Dictionary*, but his nomenclature for the chemical elements also reflected his peculiar understanding of the Chinese language. Justus Doolittle successfully synthesized the wide range of lexical terms that were available to him for his dictionary in 1872, but the compound words he presented never survived the competition with rival terms that inundated China from Japan after 1900.

Andrea Bréard’s valuable account of mathematical terminology shows how important numeracy as a complement to literacy is in any account of culture crossing in nineteenth century China. In her article, Bréard shows how modern mathematical terminology was modified and extended from the traditional Chinese semiotic framework. She demonstrates that the translation of mathematical texts required not only a new set of terms but also a new set of operational symbols. These new symbols survived somewhat more successfully after 1900 when the translations for new terms were quickly superseded by even newer Japanese loan words. Li Shanlan’s and Alexander Wylie’s translation entitled “Step by Step in Algebra, the Differential and Integral Calculus” (*Dai weiji shiji* 代微積拾級, 1859) successfully reintroduced the Cartesian algebraic symbols rejected in 1712 by the Kangxi emperor.

Wylie and Li resourcefully translated mathematical notations, concepts, and theorems for the calculus. They made the symbols look Chinese, enough to be compatible with native “four unknowns’ notation” (*siyuan shu* 四元術). The new notional forms had to be convincing if Chinese were to grasp the suitability of the calculus. When Alexander Wylie and John Fryer finally introduced the differential and integral calculus in the middle of the nineteenth century, Li Shanlan and others appreciated its sophistication because they had already mastered “single unknown” (*tianyuan shu* 天元術) and “four unknowns” problem-solving skills. Traditional mathematics thus contributed to shaping the translation of the calculus. The translations for the differential and integral calculus also reflected Li Shanlan’s and Hua Hengfang’s training in traditional mathematics. Li Shanlan invented the Chinese notations that would become standard for these terms. These traditional forms were replaced, however, by Japanese expressions in the early

twentieth century, ironically after Li Shanlan's and Hua Hengfang's notations had first been introduced in Japan.

Georges Métaillé concludes this section by addressing the formation of modern botanical terminology in the late nineteenth century. He demonstrates how between 1858 and 1898 new botanical terms emerged, many of them from pre-modern Chinese materia medica (*bencao* 本草) traditions. Despite these efforts to link "new terms" with "old concepts," Métaillé adds that the modern botanical terms later developed in the 1920s had nothing in common with this earlier terminology. As in many other fields of learning after the Sino-Japanese War, new terminology from Japan trumped the earlier botanical terms because of Japan's place of eminence as a superior window on the West after 1895.

The sixth and final set of articles focuses on "grammars of alterity." Alain Peyraube's contribution modifies our usual understanding of the process of linguistic "Orientalism" in China whereby modern linguists usually conceptualized the grammatical structures of the Chinese language using the grammatical terms used for Western languages. Peyraube's account of the first grammar of the Chinese language by Ma Jianzhong shows that earlier claims that Ma's approach was based on Western grammars is overstated. According to Peyraube, Ma sought to create a universal grammar using the Chinese language. Nevertheless, Peyraube, like Haun Saussy, shows how the Chinese language was deprived of its own grammar by a Chinese linguist such as Ma Jianzhong, just as it had been so deprived by Western linguists.

Michael Lackner looks at two Chinese translators long separated in time, the medievalist Dao'an faced with translating Buddhist texts and the modernist Yan Fu faced with Western texts. Despite their separation in time, Lackner shows that they had similar difficulties in conceptualizing the syntactical differences between the Indo-European source-texts they were translating and the native Chinese they were using to invent the "new terms" of correspondence. Although neither Dao'an nor Yan Fu was able to define these linguistic differences between the source and target texts clearly, their pragmatic use of lexical analogies allowed both of them to complete relatively successful translations. We see in Lackner's account of the cognitive process informing translation that linguistic commensurability was often a hybrid that assumed each side had the same pragmatic agendas. But Dao'an and Yan Fu each realized, however, that the Buddhist and Western learning they were translating into the target language was unique and not easily assimilated by the host culture.

We should add mention here of Christoph Harbsmeier's efforts to conclude the volume by seeing that linguistic developments in China were comparable to those in other places when natives were faced with a radical change in "rhetorical preferences." Harbsmeier considers the Westernization of Chinese discourses in the late nineteenth century as a Hellenization of Chinese forms of argument and problem solving, although he makes no effort to show how his account matches up with Kurtz's more cautionary tale about the adventures of logic in China. Harbsmeier goes on to describe the role of the May Fourth Movement in the

formation of a modern Chinese lexicon after 1919, which Harbsmeier sees as a culmination of the earlier discoveries and tendencies described in this volume. As in other countries this patriotic agenda involved the creation of a national language to act as a standardized linguistic medium for nation-building. Thus, for Harbsmeier the modern Chinese resemble earlier European and Japanese who devised efforts to utilize their language more effectively for national solidarity and shared socio-political rhetoric.

Such a rich volume by a group of outstanding editors and contributors will because of its price not fall into the private hands of many owners. Nevertheless, it should be read widely because of its close interrogation of the intersections between language and history and because of its problematization of the role of translation in inventing linguistic commensurabilities between peoples and cultures. Borrow it from the library and read each of the articles carefully. They are filled with information and new points of view. But perhaps the agenda of translation should be problematized a bit further.

What united the Jesuit and Protestant eras in late imperial Chinese history was the religious program they brought as foreigners to China. Their primary project of religious conversion required that they translate Christianity into Chinese, orally and textually, as well as in ritual practice. Hence, Christians worked with Chinese literati converts to present Catholic and Protestant beliefs orally and in readable classical Chinese, the *lingua franca* of educated Chinese until the twentieth century. The majority of works produced by this workmanlike partnership were religious works. A significant minority dealt with the emerging social and natural sciences, early modern for the Jesuits, and modern for the Protestants.

How the Jesuits and Protestants worked with their native Chinese informants to legitimate the West from 1600 to 1750 and after 1850 is one of the keys to understanding the translation enterprise, which packaged Christianity and European science together. Jesuits and Protestants tainted their translation project with their own conscious and unconscious predispositions by massaging the literal meaning of original European texts. Often they chose simply to capture the spirit of the original through a wide-ranging engagement with the classical resources of the target language and audience. At other times the missionaries and their Chinese partners created new terminology to present Christian religious and scientific views. Usually however, both sides could find acceptable terms in the vernacular and classical lexicon of Chinese to accommodate the meaning of the Western source. Between 1850 and 1900, the new disciplines of chemistry and the calculus, for example, increasingly required new concepts—not only new words. Such concepts shaped new realities, which empowered many Chinese to grasp new scientific discourses.

In this volume, the authors have bracketed the religious texts that the Catholics and Protestants spent most of their time translating into Chinese. Instead, they spotlight the early modern and modern political, linguistic, and scientific texts often translated jointly by Christian missionaries and Chinese literati. These

science translations were not simply innocent, secular byproducts of the missionary enterprise, however. The science texts the missionaries successfully translated into classical Chinese were encoded with Christian messages and religiously-induced silences. Hence, we should not overlook the willful infiltration of Christian beliefs in many of the scientific and political textbooks translated into Chinese that influenced men like Yan Fu and Lu Xun, who trained at the Fuzhou Shipyard and Jiangnan Arsenal, as well as reformers such as Kang Youwei, Tan Sitong, and Liang Qichao.

The scientific translations by the missionaries and their converts encoded their unspoken ideological predispositions. This lack of transparency has been underestimated in previous accounts of translation in China and Japan as high-minded efforts at achieving verisimilitude. Jesuit and Protestant translators did not just fail to achieve a seamless word-by-word correspondence from the Latin, French, German, or English to the Chinese. Nor were they simply idealistic failures because they unsuccessfully sought to transmit the spirit of the source through more adventuresome literary tactics. The translation enterprise in Japan, for example, followed a different cultural trajectory altogether because the Japanese barred the Jesuits early on and stressed their own translations of science in the nineteenth century, rather than relying on Protestant middle men.

To be sure, the Jesuits should not be “black-boxed,” as a religious enemy of science. Many were “closet” Copernicans or Newtonians at a time when they could not publicly disown the ecclesiastical positions the Pope and the Jesuit order took against Copernicus and Galileo. In the end, as Nathan Sivin has explained, European cosmology was discredited by its own internal incoherence. In the seventeenth century, Jesuits in China first presented Copernicus as a follower of Ptolemy (and geocentrism) and then of Tycho Brahe (and geoheliocentrism). When Michel Benoist finally presented Copernican heliocentrism in the mid-eighteenth century, Chinese literati thought the presentations too confused to take seriously.

Similarly, the Protestants opposed Darwin’s theory of evolution, particularly the survival of the fittest through natural selection. Lacking a unified church such as Catholicism under the Pope, the Methodists, Presbyterians, and other Protestants who came to China after the Opium War nevertheless were surprisingly even more unanimous in opposing Darwin than the Jesuits had been contra Copernicus. Few Protestants in China were “closet” Darwinians; almost all favored Christianized versions of evolution. Still, the Protestants were not unrelenting enemies of science either, even though they delayed the translation of modern biology in China by three decades.

As translators, the Jesuits and Protestants in China rejected the European original when the native source betrayed their religious sensibilities. The result was not a failure to communicate. Competent in vernacular Chinese, the Jesuits and Protestants communicated well enough to their Chinese partners who produced the classical translations. Rather, the enterprise of translation became a mindful, Christian effort not to translate Copernican heliocentricity or Darwinian

evolution in the original to the target audience. We see in this act of dissembling about the social and natural sciences a sense of religious commitment that we should not underestimate. Jesuit and Protestant dissembling tells us that we must further problematize the act of translation ideologically and recognize that the Chinese were not privy to the untranslated passages that we are today. What they were not told about Copernicus and Darwin before 1900 mattered.