MALUKU: ITS PLACE IN THE HISTORY OF SCIENCE

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The contributions made to natural science by workers who have conducted major research in Maluku is analysed, with emphasis on the work of Rumphius and Wallace. A brief account of other scientific work carried out in Maluku is included.

INTRODUCTION

For a group of islands so small in area and so far from the European centers of activity where most of the formal work in natural science was occurring in the 15th through the middle of the 19th centuries, Maluku has played a surprisingly important role in scientific history. In such domains as geographical knowledge, naval architecture, and the methodology and instrumentation of celestial navigation, one needs only to consider the enormous gains that were made during this period which resulted from the European demand for the products of two trees, the clove and the nutmeg, that were native to, and originally found only in, Maluku. These are, however, topics which have been discussed at great length by many historians and geographers, and are merely mentioned here in passing as a reminder that the golden period of European exploration of much of the rest of the earth was driven by the quest for some of the natural products of Maluku.

The main objective of this paper is to recount the contributions made to science by two workers whose ideas were shaped by their research in Maluku, and whose publications reflect the contributions of the natural phenomena that they observed in Maluku. These are Georg Everhard Rumpf (1627 or 1628–1702) and Alfred Russel Wallace (1823–1913). The second objective is to survey briefly some of the other scientific work conducted in Maluku.

RUMPHIUS

Georg Everhard Rumpf (later Latinized to Georgius Everhardus Rumphius, as was then customary with names of scholars) was born in or near Hanau, Germany, in 1627 or 1628,[1] of German or perhaps Dutch origin.[2]

At the age of eighteen he was recruited by an unscrupulous nobleman from Hanau, ostensibly to become a soldier of the Republic of Venice. In fact, he had become an employee of the Dutch West India Company. He believed he was bound for Venice; in reality the ship on which he embarked sailed for Brazil. On the way

the ship was captured by the Portuguese, and the men sent to Portugal. He stayed there three years serving as a soldier before returning to Hanau.[3]

In 1652, he entered the service of the Dutch East India Company. On Dec. 26, 1652, he sailed as a midshipman and reached Batavia in June 1653. He was to remain in the tropics for the rest of his life. In late 1653 or early 1654, he arrived in Maluku. For some time he remained in military service involved in planning and constructing fortifications. He learned Arabic, was acquainted with Hebrew, and later prepared a manuscript for a Malay dictionary.[4] In 1657, his military stint ended when he was appointed second merchant (*onderkoopman*) at Larike, southwest Ambon. During this time he was married. In 1660, he was appointed Chief (*opperhooft*) of Hitu (the northern peninsula of Ambon), and in 1662 promoted to First Merchant (*koopman*) of Hitu, and stationed at Hila (de Wit 1959).

He had started, in a serious way, making observations on plants and animals both marine and terrestrial.[5] He made drawings from life and prepared extensive notes which he then developed into manuscripts of three major works: *Amboinsch Kruidboek* (book of [medicinal] herbs, later *Herbarium Amboinense*), *D'Amboinsche Rariteitkamer* (cabinet of natural curiosities), and *Amboinsch Dierboek* (book of animals). He also wrote a geography of Ambon and a history of Ambon.

On Aug. 20, 1663, he sent a letter to the Board of XVII, the Directors of The Company, describing his (spare time) studies in natural history and asking that books bought for him by contacts in Holland be carried by Company ships to Ambon. Governor General Maetsuycker supported the request and The Company assented (de Wit 1959).

In 1666, he was temporarily appointed *secunde* at Ambon, directly under the governor. Later, he was replaced by a political appointee but given a "consolation gift" of a small piece of land near City Hall which he used to start a botanical garden (Physic Garden) in the fall of 1666 (de Wit 1959).

In 1667, his contract expired. He applied to be dismissed, but then asked permission to stay in Ambon eight to ten months more "to the End of an unmarred prosecution of his curious studies" (de Wit 1959:5). The request was denied, as only employees of The Company were allowed to remain in Ambon, but he was asked to prolong his contract for another year during which the Company promised not to transfer him, and "in order to promote said curious studies, We will be agreeable that he receive facilities, and be allowed such periods of leisure as may be borne without damage to the Company's interest" (de Wit 1959:6).

A year later, in 1668, he again announced his plan to depart. When the time came to embark, he complained that the ship (the "Loenen") was not a safe means of travel for his family. Again he asked to stay on at the end of his contract in order to pursue his natural history work; again he was refused. Again he stayed in Ambon and continued to work both for The Company and toward his own ends.

In April 1670, he became blind. Shortly thereafter, the Governor of Ambon ordered him to appear without delay in the town "being desirous to be instructed what hopes remained for his recovery, judging that, he so continuing, the required service shall not be maintained" (de Wit 1959:7). At this time Rumphius still had

some perception of light in one eye, but travel caused this perception to vanish. He appealed to remain in Hitu; the appeal was refused by the governor, and he arrived in the town on June 21, 1670. The government in Batavia, being informed of this high-handed action, sent an official letter of reproach to the governor; Rumphius remained in the town of Ambon as a high-ranking government official. His wife assisted him in his natural history work.[6]

On February 17, 1674, the Chinese New Year, Mrs. Rumpf and their youngest daughter went to visit a Chinese friend to take part in the celebration. Rumphius went for a walk through the town. There was a major earthquake. Mrs. Rumpf and her daughter were killed when a wall fell upon them. Rumphius survived, but the Daily Record maintained at Victoria Castle noted: "And very sad it was to perceive that man sitting beside these his bodies, and to hear his lament, both on this accident and upon his blindness" (de Wit 1959:7). He continued his scientific work with the help of his son, Paul August, also a government employee, and he maintained extensive correspondence with friends and scientists abroad.

In 1681, for example, he was appointed as a member of *Academia Naturae Curiosam* of Nürnberg, with the title *Plinius Indicus*, and the Academy published some of his letters reporting on natural history between 1683 and 1698 (de Wit 1959).

On January 11, 1687, a great fire burned most of Ambon town. Rumphius's house with his library, many manuscripts (but not all), and his own original illustrations for the *Herbarium Amboinense* were destroyed. The government provided him with assistants, including artists, and, under the supervision of his son, the plates were redone. The manuscripts were rewritten.

Late in 1690, the first six (of twelve) manuscripts for volumes comprising the *Herbarium Amboinense* were sent to Java. In mid-1692, these were sent off to the Netherlands on the ship "Waterlandt." On September 12, 1692, this ship was sunk by the French and the manuscripts, including the original (redone) illustrations, were lost.

However, as Henschel (1833, quoted by Sirks 1945) wrote, "But neither the sun which blinded the writer with its rays, nor the fire that consumed his writings, nor the water that buried the manuscript beneath its waves, could deprive the world of this precious piece of work." Governor-General Camphuys, who had long supported Rumphius's work, had arranged for the original manuscripts and illustrations to be copied in Batavia before being sent abroad. Now Camphuys had a second copy made, and the first copy was sent to the Netherlands on February 8, 1696. The copying process was repeated with the rest of the twelve volumes (despite some minor mishaps such as the theft of sixty-one plates from Rumphius's Ambon quarters in 1695), and by 1701 all had been sent to the Netherlands where they eventually arrived safely. The manuscript of a final volume, the *Auctuarium* ('Augmentation'), was sent from Ambon to Batavia in 1701 and copied there before shipment to the Netherlands (Sirks 1945).

The Directors of the Company were full of praise for the work, and as a consequence promoted Rumphius's son to the position of Merchant, with a salary of

fl. 60 per month. However, the "Noble Seventeen" were still not ready to authorize publication of the work. On February 19, 1700, they declined a request from printers with the comment: "After deliberation it is understood that the publication of the aforesaid books is not desirable" (Sirks 1945).

On June 15, 1702, Rumphius died in Ambon.

On September 15, 1702, the Directors changed their minds and authorized the publication provided that there would be no expense to The Company. There were no takers.

Eventually, the main part of the work was published in six volumes between 1741 and 1750, with the *Auctuarium* appearing in 1755. Rumphius had originally written in Latin, the customary language for scientific writing at the time, but he later translated it into Dutch (Sirks 1945). As published, it contained both Rumphius's Dutch text and a new Latin translation prepared by Professor Johan Burman of Amsterdam. The plates, already two versions removed from Rumphius's originals, were converted from drawings (many in color) to etchings in order to save publication costs.

D'Amboinsche Rariteitkamer, a less technical work on natural history, fared better. The manuscript was sent directly to one of Rumphius's friends, the Burgomaster of Delft, who received it in 1701. The book was published in 1705. The third major work, the *Amboinsch Dierboek* which treated animals scientifically in the same way the *Herbarium Amboinense* treated plants, suffered an uncertain fate. The manuscript was never published as such, but it was widely suspected that the zoologist Valentijn, who published *Oud en Nieuw Oost-Indiën* in 1724–1726, with a section *Verhandelingen der dieren van Amboina*, drew freely from Rumphius's manuscripts and plates, without giving adequate credit to Rumphius.

What is Rumphius's place in the history of science? His *Herbarium Amboinense*, which actually included information on plants from throughout the Dutch East Indies, not just Ambon, is the classical work, the first major botanical work on the islands of Indonesia. Consequently, his books contained the oldest descriptions and illustrations of plants and animals from Southeast Asia.[7]

Taxonomic nomenclature in the biological sciences is today based on a series of formal codes which closely resemble codes of law. When a scientist encounters a species which he or she believes to be "new", that is, not to have been previously described in the scientific literature, the scientist prepares a careful description, gives the organism a formal name, selects a specimen to serve as the nomenclatural "type" specimen, preserves it permanently, deposits it in a museum, and conveys all this information in a paper published in a scientific journal. (If the organism is a plant, it is further specified that the description of the species be published in Latin.) The oldest scientific name published for that species then becomes its correct name, and the starting point for the whole process is the work of Carolus Linnaeus, the Swedish naturalist, who was the first scientist to use consistently a binomial system for naming organisms.

The starting point for reckoning priority of plant names is Linnaeus's *Species Plantarum* published in 1753. Since Rumphius's work (except for the supplemental

Auctuarium) was published before 1753, his plant names have no standing as such in scientific literature. However, Linnaeus and subsequent workers used the *Herbarium Amboinense* as a reference in preparing their work, and some three hundred and fifty plant species names have been established since 1753 based solely on the text and illustrations in the Rumphius work. Although today it is required that each new species name be attached to a type specimen from a real plant, such refinement was not the norm in the 18th century. Rumphius, like most of his contemporaries, did not regularly preserve specimens of his plants. Thus, the types of these species based on *Herbarium Amboinense* are simply the text and illustrations appearing there.

In many cases, there was no problem determining just what plant Rumphius meant. In other cases, problems arose. Seventeenth century scientists tended to use different criteria than modern ones do when classifying living organisms and some important features of the plant currently considered essential to its classification were often not even mentioned. Furthermore, the illustrations in *Herbarium Amboinense* were in at least their third redrawn version since Rumphius had prepared and seen them and, in each version, new errors were likely to creep in. These complications sometimes made it difficult to apply the names to real plants.

Thus a number of workers attempted to interpret Rumphius's work and to relate it to the Linnean system of classification. The first of these was Linnaeus's student Olaf Stickman. Another was Johan Burman, who had prepared *Herbarium Amboinense* for publication. A number of other 19th century scientists also took on the task but, in the absence of specimens, European scientists who had neither visited Maluku nor observed tropical plants in their natural settings were attempting the impossible.

By 1900, it was decided that the only way to complete this task was to send trained botanists to Ambon to do the necessary field work and collect the essential reference specimens. In 1900, J. G. Boerlage of the Buitenzorg Botanical Garden was sent to Ambon to do this work. Shortly after he arrived in Ambon, he contracted a fever and died at Ternate while on his way back to Java; no results of his expedition were ever published. In June 1913, Charles B. Robinson, an American botanist working in the Philippines under the direction of Elmer D. Merrill of the Bureau of Science in Manila was sent to Ambon to make another attempt at resolving the problem. He worked diligently, collecting specimens and making copious notes from late June to December 5. On that date, he met with an unfortunate end when he was killed in a small village between Aerlouw and Seri about fifteen kilometers from the town of Ambon.

According to one published account (de Wit 1959), Robinson was thirsty and wanted to ask permission to cut a coconut to drink. He confused the phrase *potong kelapa* with *potong kepala* and the residents reacted to this unseemly request by killing him. Another account (Merrill 1917) suggests that Robinson was mistaken for a mythical *potong kepala*, a person who wandered around cutting off heads. In either case, Robinson was killed and hindsight suggests that it is unwise to roam

about remote places without a reasonably adequate command of the language and customs.[8]

Before his untimely death, Robinson had collected enough notes that Merrill was able to publish in 1917 *An Interpretation of Rumphius's Herbarium Amboinense* which resolved many of the old problems, reassured the place of Rumphius as the major scholar that he was, and again called to the attention of the world the role of Maluku, and especially Ambon, as the cradle of knowledge of Southeast Asian natural history.[9]

WALLACE

It can be convincingly argued that the most significant contribution to scientific thought in the 19th century was the proposal of a theory of organic evolution by natural selection, providing evidence for the idea that species are not merely immutable creations of a Deity but are ever-changing and giving rise to new species. The name of Charles Darwin is always closely linked with development of evolutionary theory; the name of Alfred Russel Wallace should be equally closely linked.

Alfred Russel Wallace was born in Usk, Monmouthshire, England, in 1823. His formal education ended at the age of thirteen when his family declared bankruptcy. He had some training as a surveyor, but was largely self-educated and developed a deep interest in natural history. In 1848, he and Henry Bates, who also became a respected scientist and made his own important contributions to evolutionary theory, set off for the Amazon where they planned to pay their expenses by collecting plant and animal specimens for sale to museums. They spent four scientifically productive years in the Amazon where both not only collected specimens but began their scientific writings. Wallace returned to England in 1852, and in 1854 departed for what he called the Malay Archipelago. He remained in Southeast Asia for eight years, about four of which were in Maluku, and returned to England in 1862. He had an important scientific career and died in 1913 without ever revisiting either the Amazon or the Malay Archipelago (Beddall 1969; Fichman 1981).

Wallace had long been thinking about the question of species immutability. While he and Bates were in the Amazon they discussed it at great length and both wrote about it in relation to their Amazonian field work. Wallace continued to develop his ideas while in the Malay Archipelago. In late 1854 and early 1855, while in Sarawak as a guest of Rajah Brooke, he prepared a paper entitled "On the law which has regulated the introduction of new species" that was published in England in 1855. This paper generated much interest from Darwin, with whom Wallace corresponded regularly, and is now recognized as an important contribution to evolutionary theory, although Wallace had not yet considered the principle of natural selection.

From 1857 to 1861, Wallace was in Maluku. While he travelled widely within Maluku, during much of the time he kept his headquarters in a small rented house in Ternate.[10] On Ternate, in late February 1858, while he was recovering from an

attack of malaria which had struck him on a trip to Halmahera (or Gilolo as Wallace knew it), all the pieces of the theory finally fell into place, based in part on his observations in Maluku. He had hit upon the concept of natural selection as the driving mechanism of evolution. He prepared a paper "On the tendency of varieties to depart indefinitely from the original type" which he mailed to Darwin from Ternate.

Darwin was in a dilemma; he realized that Wallace, working far away and completely independently, had developed exactly the theory of a mechanism of organic evolution on which he had worked for so many years. He consulted his scientific friends in England, and it was decided that Darwin would prepare a brief paper summarizing his ideas which would be read jointly with Wallace's paper from Ternate at the July 1, 1858, meeting of the Linnean Society. Thus both would be co-proposers of the theory of organic evolution by natural selection.

The papers were read but generated little immediate discussion outside the British scientific community, even when they were published together a month thereafter in the *Journal of the Proceedings of the Linnean Society of London, Zoology* (Darwin and Wallace 1858). In 1859, Darwin published his fundamental work *On the Origin of Species*, and the controversy about the validity of the theory of evolution began in full force. Since then historians of science have filled many volumes that attempted to evaluate the relative contributions of Wallace and Darwin, and to examine the evidence to determine whether Wallace's Sarawak and Ternate papers had provided essential ideas which helped Darwin bring his work to completion (see for example Beddall 1969, Brackman 1980, Brooks 1984, Fichman 1981, McKinney 1972, Williams-Ellis 1966, and the references cited by these authors).

In the time since then, Darwin's name has been consistently associated with the theory of organic evolution by natural selection; Wallace's name has not. If Wallace felt that his work had been overshadowed, he was good at concealing it. In 1869, he dedicated his splendid book on natural history, *The Malay Archipelago*, "To Charles Darwin, author of *The Origin of Species* I dedicate this book, not only as a token of personal esteem and friendship but also to express my deep admiration for his Genius and his Works."

Wallace continued to publish on the topic of evolution by natural selection (Wallace 1870, 1889, 1891).[11] He consistently showed his respect for Darwin in his writings and speeches,[12] and even served as a pallbearer for Darwin in 1882 (Moorhead 1969).

Wallace's name has been perpetuated primarily for his pioneering work in biogeography. Wallace's Line, which he proposed as the separation between the Oriental and the Australian faunal regions, and which runs between Bali and Lombok, and between Borneo and Sulawesi (Wallace 1860, 1869, 1880), is today familiar to every student of biogeography and of Indonesian natural history .

OTHER WORK

Although Rumphius and Wallace were probably the most renowned natural scientists to have worked extensively in Maluku, this group of islands with its surrounding seas has contributed to the studies of many others.

From the first voyages of circumnavigation to modern scientific expeditions, Maluku has often been a destination for the explorer. Magellan's ships called at Ternate in 1521; so did Drake's "Golden Hind" in 1579. Since then at least fifty expeditions have visited Maluku primarily for scientific exploration. They have included expeditions under British, Dutch, French, American, Prussian, Danish, German, Austrian, Japanese, and Indonesian sponsorship. Among these, some of the more important were the Challenger Expedition (British, 1872–1876), the Siboga Expedition (Dutch, 1899–1900), the Snellius Expedition (Dutch 1929–1930), and Operation Raleigh (British and Indonesian, 1987).[13]

In addition, a number of scientists from many different disciplines have visited Maluku individually or in small groups. For example, more than two hundred different workers have collected botanical specimens from Maluku that are now conserved in museums and botanical gardens around the world. Many others have carried out zoological, geological, and oceanographic work in the area. Among the naturalists who have worked and traveled widely in Maluku are the Italian Count Odoardo Beccari (several visits between 1872 and 1878), the Scot Henry Forbes (1880 to 1882), and the American David Fairchild (one visit in 1900, another in 1940).

Over the past forty years, there have been a number of expeditions to Maluku. These projects have been sponsored by the Indonesian Institute of Sciences (LIPI), by the Flora Malesiana Foundation in the Netherlands, and by other groups. In the early 1970s, the Indonesian National Institute of Oceanology (LON) (now the Center for Research on Oceanology), established a research station on the campus of Pattimura University. Using this station as a base, four Rumphius Expeditions were carried out over the next decade. These brought together Indonesian and foreign scientists who conducted both basic and applied research in marine biology and oceanography throughout Maluku. Operation Raleigh brought a number of Indonesian and foreign scientists to Seram in 1987, and a book on the natural history of Seram is now in preparation at the Royal Botanic Garden, Edinburgh.

Thus, building on the base erected by Rumphius, Wallace, and many other workers from all over the world, Maluku continues to play an important role in the development of human understanding of natural science.

NOTES

1. There are three fairly extensive accounts in English of the life of Rumphius, from which the biographical data in this paper have been drawn. The oldest is Sirks (1945), which was based on a chapter from his dissertation *Indisch Natuuronderzoek*, (Amsterdam: Amsterdamsche Boek- en Steendrukkerij, 1915). De Wit's 1959 report forms the first chapter of the *Rumphius Memorial Volume* which he edited. Beekman's (1981) study is the introduction to his volume of translations of the writings of Rumphius. All three accounts draw heavily on the 1871 biography by P. A. Leupe, "Georgius Everardus Rumphius, Ambonsch natuurkundige der zeventiende eeuw," *Verhandelingen der Koninklijke Akademie van Wetenschappen* 12:1–63. They also cite J. E. Heeres in M. Greshoff (ed.), "Rumphius Levensloop, naar de mededeelingen van P. A. Leupe" *Rumphius Gedenkboek 1702–1902*, pp. 1–13. (Haarlem: Koloniaal Museum, 1902). The three accounts do not always agree. For example, Sirks (1945: 295) concluded that Rumphius was born in late May or June 1628, de Wit (1959:2) said, "Probably it was in 1627," and Beekman (1981:2) stated, "He was born either late in 1627 or in the beginning of 1628 (the latter date appears to be the consensus)."

2. De Wit (1959:2–3) suggested that Rumphius may have been at least partly of Dutch origin because half of the Hanau population at that time was composed of Dutch religious refugees, because his mother's name was Anne Elisabeth, because "Rumphius wrote Dutch to perfection and without germanisms", because "Rumphius was wont to spice his writings by a quiet, lightfooted, typically Dutch humor, widely different from the heavier German kind", and because, although he was baptized with the German name "Georg", he enlisted with the Dutch East India Company under the Dutch name "Jeuriaen". By 1977, de Wit (p. 50) was "more convinced than ever that Jeuriaen's home language was Dutch, which explains his descriptions of plants in a racy Dutch. So thorough a command of a foreign language can hardly be acquired."

3. It was probably during this time that Rumphius became attracted to the study of natural history. It has been suggested he may even have seen the book published in 1563 by Garcia ab Orta, *Coloquios dos simples e drogas da India*, which was one of the earliest books on the plants of tropical Asia (Beekman 1981).

4. Rumphius, sometime before 1670, had completed the Malay dictionary through the letter P. The manuscript apparently was stolen from him and much later found in a "thieves market" (Beekman 1981). It was never published.

5. Both de Wit (1959, 1977) and Beekman (1981) suggested that Rumphius's real motive for going to the East Indies was to have an opportunity to study natural history. His position with The Company, in which he served long and well, was merely the vehicle by which he could pursue the tasks he really wanted to accomplish. Beekman (p. 5) quoted from a letter Rumphius wrote in 1663 that he "went to India [i.e., the East Indies] ... in order to scrutinize Ambonese plants. De Wit (1977:50) quoted Rumphius as writing that his merchantship was "a masque I am compelled to wear ... to earn a living for myself and my dependents."

6. Little is known of Rumphius's first wife, except that her name was Susanna. Beekman (1981) suggested that she was not Dutch, because if she had been

there would have been documents concerning her. He suspects she may have been of mixed race. De Wit (1977:57) stated she was "apparently an Ambonese girl." Her role in assisting Rumphius in his botanical work is implied in the text of *Herbarium Amboinense* when he described a species of orchid (now known as *Platanthera susannae*): "Because I could not find a Malay or an Amboina name, I named this flower in Latin *Flos susannae*, in Malay Bunga Susanna, in memory of her who during her life was my first Companion and Helpmeet in the search for herbs and plants, and who showed me this flower for the first time" (de Wit 1977:57). At some time after her death he married Isabella Ras, a Dutch woman, who died in 1698.

7. Rumphius was a keen observer of nature and wrote careful descriptions of what he had observed. He was the first botanist to note the presence of pollen in orchids, he recognized orchid seed-pods as fruit, and recognized, although he did not state explicitly, that the "flour" or "fine sand" in the fruits were actually seeds (de Wit 1977). Both de Wit (1959, 1977) and Beekman (1981), while recognizing that his writing does not conform to the technical standards and conventions of modern scientific writing, emphasize its clarity, its subtlety, and its literary qualities. Beekman's book is basically an English translation of selections of Rumphius's writing, with copious annotations; de Wit's papers include several shorter selections in English translation.

8. In some societies which practice headhunting, the act of cutting off a human head is euphemistically referred to in the vernacular as "cutting a coconut."

9. In 1959, de Wit updated Merrill's (1917) *Interpretation*, with a "Checklist" included in the *Rumphius Memorial Volume* (p. 339–460)

10. In 1986 a local guide showed me a house on Ternate that, she maintained, was the very house in which Wallace had worked. I did not have time to inspect it, so cannot verify the accuracy of the guide's account. However, Wallace provided a good description, and a floor plan, of the house, the condition of which he described as "rather ruinous," on pp. 234–236 of *The Malay Archipelago* (1869), so it should be possible for other visitors to determine if it is, in fact, the Wallace house.

11. In his book, *Darwinism* (1889), Wallace said: "Although I maintain, and even enforce, my differences from some of Darwin's views, my whole work tends forcibly to illustrate the overwhelming importance of natural selection over all other agencies in the production of new species."

12. At the Jubilee Celebration organized by the Linnean Society to celebrate the 50th anniversary of the July 1858 meeting, Wallace, then 85, was honored with a medal for his work in natural history and geography. In his acceptance speech, Wallace made a number of remarks which expressed his attitude about the controversy of who had discovered what, and when: "Since the death of Darwin, I have found myself receiving credit and praise under a misapprehension. It has been stated ... that Darwin and myself discovered

"Natural Selection" simultaneously, while a more daring few have declared that I was *the first* to discover it, and I gave way to Darwin! What is often forgotten by the Press and the public is, that the idea occurred to Darwin in 1838, nearly twenty years earlier than myself (in February 1858); and that during the whole of that twenty years he had been laboriously collecting evidence." Wallace went on to comment: "The idea came to me as it had come to [him] in a sudden flash of insight; it was thought out in a few hours—was written down with such a sketch of its various applications and developments as occurred to me at the moment—and sent off—all within one week. I was then (as often since) the 'young man in a hurry': *he*, the painstaking and patient student." Finally, he said: "It was really a singular piece of good luck that gave to me any share ... and it was only Darwin's extreme desire to perfect his work that allowed me to come in." (Williams-Ellis 1966)

13. Two important sources of information on the botanical history of Maluku are the list of collectors and expeditions provided in the introductory volume of *Flora Malesiana* (van Steenis 1950), with supplements in subsequent volumes, and the accounts of expeditions and collections reported in the *Flora Malesiana Bulletin*, an annual newsletter issued by the Flora Malesiana Foundation. Since the sources are so widely scattered, it would be very time consuming to locate comparable data for work in zoology, geology, and oceanography. I have not attempted to do so for this paper.

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REPUBLIK MALUKU SELATAN AND SOCIAL CHANGE IN AMBONESE SOCIETY DURING THE LATE COLONIAL PERIOD

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This article seeks to examine the political developments in the Ambonese islands which led to the proclamation of the *Republik Maluku Selatan* (RMS) in the light of the processes of social change in Ambonese society during the last ninety years of colonial rule. The analysis rests on the assumption that these political developments can only be understood in the context and structure of the society in which they occurred. The article will focus on various groups in Ambonese society, in particular the emergence of a "middle class" of soldiers, teachers and minor officials from the Christian community, a process of emancipation in the Moslem community, and a relative decline in the power and authority of traditional leaders.

AMBONESE SOCIETY

Before proceeding with the discussion, I would first like to establish the parameters of "Ambonese Society." Geographically, Ambonese society includes the islands of Ambon, Saparua, Nusa Laut and Haruku together with the coastal areas of southern and western Seram and coastal areas of south and east Buru. The region constitutes the Ambonese cultural area delineated by a network of intervillage *pela* relationships (Bartels 1977). Although *pela* relations had little direct influence on the events discussed in this article, *pela*, as an important element in a common *adat* heritage, does symbolize the underlying unity of Ambonese society, binding Moslem and Christian Ambonese together as members of one society.

In the last census of the colonial period, the religious composition of the Ambonese society was 65.9 percent Christian and 32.7 percent Moslem (*Volkstelling 1930* 1:91).[1] The Christian community was the product of contact with European missionaries and later colonial administrations, while the Moslem community developed from an earlier association with Moslem sailors and traders from Java, Makassar, and the northern Moluccas. Outside the town of Ambon itself, Christians and Moslems live in separate villages or *negeri* each with its own village head or *raja*.[2] The Dutch colonial administration ruled the Ambonese islands through the mediation of the *raja*. The town of Ambon was the center of