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# “THE SINGLE MOST ASTONISHING FACT OF HUMAN GEOGRAPHY”: INDONESIA’S FAR WEST COLONY

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The title of this paper is taken from the following paragraph by Jared Diamond:

These Austronesians, with their Austronesian language and modified Austronesian culture, were already established on Madagascar by the time it was first visited by Europeans, in 1500. This strikes me as the single most astonishing fact of human geography for the entire world. It’s as if Columbus, on reaching Cuba, had found it occupied by blue-eyed, blond-haired Scandinavians speaking a language close to Swedish, even though the nearby North American continent was inhabited by Native Americans speaking Amerindian languages. How on earth could prehistoric people from Borneo, presumably voyaging on boats without maps or compasses, end up in Madagascar?<sup>1</sup>

Though he regards the presence of these “prehistoric people from Borneo” on the isolated island of Madagascar as the most astonishing fact of human geography, Diamond does not, to his credit, dismiss it as impossible: he recognizes the strength of the evidence. Not only do Madagascans *look* astonishingly like Indonesians, they also *speak a language* that derives from Borneo (Kalimantan). This paper surveys the long series of studies that established this linguistic relationship and deals with a number of different types of evidence not examined by Diamond. It is hoped that this will answer

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<sup>1</sup> Jared Diamond, *Guns, Germs, and Steel: A Short History of Everybody for the Last 13,000 Years* (London: Vintage, 1998), p. 381.

his “how on earth” question, and it may be possible to answer the “why on earth” question as well.

Why is an Austronesian presence in Madagascar *so* astonishing? Things astonish us if they do not agree with our view of the world and what is or was possible. The greater the lack of agreement, the greater our astonishment. Those of us who have had a Western schooling will probably never have heard of an Austronesian presence in Madagascar, and may well never have heard of the Austronesians at all. Certainly this lack of knowledge is common in Australia, even though the continent is so close to the Austronesian world. Knowledge of Madagascar itself is not very great among Westerners, though a few are aware of its unique fauna, and the region is no longer perceived as quite the remote and frightening place it was to nineteenth-century Europeans. (Findlay, for example, speaks of stagnant lagoons and fever-breeding jungles, the haunts of crocodiles; the dreadful effluvia of jungles, swamps, and marshlands carried by the land breezes; and the deadly climate that caused the abandonment of Fort Dauphin, the earliest settlement of the French in Madagascar.<sup>2</sup>) The Indonesians are better known than the Austronesians.

In this paper, I use the term “Indonesian,” despite its present use as the name of a nation state that did not exist in the period described here, as shorthand for “people from the interior of Kalimantan, from Java, and from Sumatra, possibly associated with the kingdom of Srivijaya”—all places located within the territory of the modern state. Whatever name we choose to identify these inhabitants, they have no place at all in the standard Western narratives of the great discoveries, which are known to have been carried out by Europeans in large sailing ships (large for their time, that is—the Portuguese ones look tiny now). Even compared to other Asian groups, Indonesians are generally rated very low on the status ladder both in terms of technological advancement (though their *aesthetic* triumphs, such as the stupendous temple of Borobudur, are acknowledged, these are not generally attributed to advanced technology) and in socio-economic organization: hence Diamond’s initial thought that the Indonesians were probably brought across the ocean by *Indian* traders. And the Indian Ocean’s wide expanse stretching between Indonesia and Africa was a challenge even to nineteenth-century European sailors voyaging in the largest and most technically evolved sailing ships. According to Findlay’s 1866 guide for British sailors, this ocean has a much more complicated and difficult system of winds and currents than is found in other parts of the globe, so that it was still a problem for British sailors to know, *inter alia*, whether they were facing true cyclones or shifting gales or atmospheric waves. They also had to face the south-west monsoon, “a remarkable exceptional phenomena [sic] which is one of the most formidable manifestations of the power of the wind that can be adduced in any part of the globe.”<sup>3</sup>

Given these conditions, it is not surprising that Diamond is astonished to find prehistoric “Borneans” in Madagascar. Yet there they are. The “how on earth” question will involve thinking about such issues as: Was it by accident or by design? and, Who

<sup>2</sup> Alex Geo. Findlay, *A Directory for the Navigation of the Indian Ocean with Descriptions of its Coasts, Islands, etc., from the Cape of Good Hope to the Strait of Sunda and Western Australia; including also the Red Sea and the Persian Gulf; the Winds, Monsoons, and Currents, and the Passages from Europe to its Various Ports* (London: Richard Holmes, 1866), pp. 391–93.

<sup>3</sup> *Ibid.*, pp. 2–27.

else may have been involved? The other large question yet to be solved is: When did this settlement take place? This paper will begin by reviewing the linguistic and DNA data that constitute the most incontrovertible evidence of the Indonesian colonization of Madagascar.

### **Linguistic Evidence for the Origins of Malagasy**

One of the major reasons that the astonishing fact of an Indonesian settlement of Madagascar is accepted as such by Diamond and by other scholars is the linguistic evidence. Work on Malagasy and its linguistic affiliation began as early as the sixteenth century and continued step by step through the succeeding centuries. Notable advances are summarized below.

Cornelis de Houtman published a small vocabulary of 21 plus 18 words, from two dialects, in 1598. His brother, Frederick, published a much larger one of c. 2,750 words in 1603. Etienne de Flacourt's dictionary appeared in 1658<sup>4</sup>; the castaway Robert Drury's word-list of less than 700 words appeared in 1729; and the Abbé Challan's vocabulary of around 2,000 words in 1773. There are also unpublished works by Barthélemy Huet de Froberville, and grammars by Flageollet and Louis Armand Chapelier. The first mention of a relationship with Malay languages was by the Portuguese priest Luis Mariano in his description of a voyage to Madagascar in 1613–14; he says that the island's inhabitants must have come from Malacca.<sup>5</sup>

The first person to publish a comparison between Malagasy and an Indonesian language was the Dutch professor Adriaan (or Hadrianus) Reland, in 1708. He was also the first to give some indication of phonetic correspondences [e.g., b>v], which were scarcely understood at that period.<sup>6</sup> Reland in his 1706–08 *Dissertationum Miscellanearum, Trajecti ad Rhinum* indicated a connection between Malay and the language of Madagascar.

William Marsden described the relationship of Malagasy with Indonesian languages as one of the most extraordinary facts in the history of language, a distinction confirmed when we consider the immensity of the intervening ocean (the total reach of Southeast Asian and Pacific Austronesian languages may be still greater, but numerous languages are spread out from one island to another, rather than having one language vault across a wide ocean). Marsden remarks, after an examination of the lexicon on the opposite coasts of Madagascar, that the language had been thoroughly disseminated, in a remarkably uniform way, across this great island. And even in modern times, the difference between dialects on Madagascar is limited to their phonetic evolution and especially their vocabulary. Grammar is remarkably uniform, and no dialectal differences, among different groups of native speakers, are very great. Otto Christian Dahl finds this linguistic uniformity of the world's fourth largest island astonishing when compared with the linguistic diversity of Indonesia<sup>7</sup>—in fact,

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<sup>4</sup> Etienne De Flacourt, *Dictionnaire de la Langue de Madagascar: D'après L'édition de 1658 Et L'histoire de la Grande Isle Madagascar De 1661* (Charleston, SC: BiblioBazaar 2010).

<sup>5</sup> Otto Chr. Dahl, *Malgache et Maanjan: Une Comparaison Linguistique*, Egede-Instituttet, Avhandling, no. 3 (Oslo: Egede-Instituttet, 1951), pp. 9–13.

<sup>6</sup> Ibid., pp. 14–15.

<sup>7</sup> Ibid., p. 6.

it is astonishing with regard to most other countries, except such one-time colonies as America and Australia, though these differ significantly in having been politically united throughout their history, in comparison to Madagascar's political fragmentation. Marsden was of the opinion that the language of Nias was Malagasy's closest relative.<sup>8</sup>

The noted Spanish linguist Lorenzo Hervas realized the importance of grammatical structure and was the first to discover Indian words in Malagasy.<sup>9</sup> Systematic studies began with d'Urville's early phonetic comparison, followed by the dictionary of the English missionaries Freeman and Johns.<sup>10</sup>

W. von Humboldt's work on Kawi (Javanese literary language), published between 1836 and 1839, represents the debut of modern linguistics in the study of Austronesian languages. Even before this work was published, however, Freeman had proved the affinity of Malagasy and Malay using grammatical forms. More vocabularies and grammars—all synchronic studies—appeared in the 1840s and 1850s. In 1865, the first comparative study since Humboldt's and Freeman's appeared, written by H. N. van der Tuuk, who found correspondences with Batak that made him think the Madagascans came from Sumatra. The work of Richardson and Abinal appeared in the 1880s, and the Norwegian linguist Lars Nilsen Dahle published a series of articles on Malagasy grammar and a comparison with other Indonesian languages. At the Leyden International Congress of Orientalists in 1883, Aristide Marre presented work comparing Malagasy with Indonesian languages; this grammatical analysis was not an advance on Humboldt's work, but did include more vocabulary.<sup>11</sup> In 1884, J. L. A. Brandes published his great comparison of the phonetics of Indonesian languages, including Malagasy.<sup>12</sup> The work of Renward Brandstetter, comparing Malagasy with Malay [only], appeared in 1893, and that of Gabriel Ferrand, following van der Tuuk's Batak theory, in 1909. Between 1934 and 1938, Otto Dempwolf published his reconstruction of Austronesian. In the second volume (1937), he showed how the Malagasy phoneme corresponded to each of his phonemes of [proto] Indonesian.

The culmination of all this centuries-long work on the affiliation of Malagasy was to be the work of Otto Christian Dahl. Dahl acknowledges that it was M. Walter Aichele who first suggested he look at the Southeast Barito language, Maanyan—and we have to be thankful that Dahl actually followed up a suggestion to track down a relationship that at first (and, indeed, second) sight would appear highly unlikely. Maanyan is spoken by a relatively small group who live in the interior of Kalimantan at a latitude of around two degrees south, in a region bounded on the west by the Barito River and on the east by mountains that separate them from the east coast. The closest languages seem to be Lowangan to the north and Samihim to the southeast, both little known.<sup>13</sup> Following Aichele's advice, Dahl succeeded in proving that

<sup>8</sup> William M. Marsden, *Miscellaneous Works* (London: Parbury, Allen, and Co., 1834), pp. 31–32.

<sup>9</sup> Dahl, *Malgache et Maanjan*, p. 16.

<sup>10</sup> *A Dictionary of the Malagasy Language*, ed. J. J. Freeman (vol. 1, English and Malagasy) and D. Johns (vol. 2, Malagasy and English) (Antananarivo: London Missionary Society, 1835).

<sup>11</sup> Dahl, *Malgache et Maanjan*, p. 20.

<sup>12</sup> J. Brandes, *Bijdrage tot de vergelijkende klankleer der Westersche afdeeling van de Maleisch-Polynesische taalfamilie* (Utrecht: P. W. van de Weijer, 1884).

<sup>13</sup> Dahl, *Malgache et Maanjan*, pp. 15–23.

Malagasy was, indeed, a Southeast Barito language. As Adelaar remarks, though Dahl's theory has never been formally challenged, neither did it obtain the widespread recognition it deserved.<sup>14</sup>

Malagasy is grammatically much richer than Maanyan, in this respect being more like the Philippine languages. Dahl claims its development parallels, in certain respects, the development of the Germanic languages due to the fact that Indonesia and Europe have both undergone a process of very great grammatical simplification,<sup>15</sup> while Adelaar attributes the structural changes in Maanyan to the influence of Malay on the languages of West Indonesia.<sup>16</sup>

Adelaar notes that the Malay and Javanese loanwords found in Malagasy<sup>17</sup> belong to all sorts of semantic domains. Malay loanwords are, however, particularly well represented in the domain of maritime life and navigation, as well as vocabulary relating to the human body.<sup>18</sup> Javanese loans are fewer than those from Malay and more difficult to spot. In Malagasy, the higher numerals and calendrical terms are originally Malay and/or Javanese adaptations of Sanskrit terms. Sanskrit loanwords came into Malagasy via Malay or Javanese, as their shape or meaning often indicates. Dahl classifies the Sanskrit words into three categories, i.e., 1. religious or political, implying the existence of some form of court life; 2. calendar words, names of months and seasons, which display a connection with Sanskrit names in Old Javanese; and 3. seven words roughly described as "commercial," i.e., "ten thousand," "debt," "balance/remainder" (of a sum of money), "glass" or "bottle," "betel," "lemon/acid/vinegar," and "ginger." All these loan words, except "ginger," are found in other Malayo-Polynesian (Malayo-Polynesian is a subgroup of Austronesian) languages of Southeast Asia,<sup>19</sup> and Adelaar believes they were borrowed from Malay, but says that this is impossible to demonstrate conclusively due to lack of early Malay texts.

## DNA

The linguistic evidence is, in itself, sufficient evidence of an Indonesian presence in Madagascar. But it is nice to know that the DNA evidence tells the same story. Unlike

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<sup>14</sup> Alexander Adelaar, "The Indonesian Migrations to Madagascar: Making Sense of the Multidisciplinary Evidence," in *Austronesian Diaspora and the Ethnogeneses of People in the Indonesian Archipelago*, ed. Truman Simanjuntak, Ingrid H. E. Pojoh, and Mohammed Hisyam (Jakarta: LIPI Press 2006), p. 1.

<sup>15</sup> Dahl, *Malgache et Maanjan*, pp. 370–71.

<sup>16</sup> Adelaar, "Indonesian Migrations," p. 2. Roger Blench quotes Simon's work as showing that Malagasy actually branched off from the Barito group somewhere between Dejah and Samihin, which implies that Maanyan is not, in fact, its closest relative. See Roger Blench, "The Ethnographic Evidence for Long-Distance Contacts between Oceania and East Africa," in *The Indian Ocean in Antiquity*, ed. Julian Reade (London: Kegan Paul/British Museum 1996), p. 418. However, Adelaar retains Dahl's claim for Maanyan. Adelaar, "Indonesian Migrations," p. 1.

<sup>17</sup> There are also some Sulawesi loanwords, which Adelaar attributes to contact prior to the migration to Madagascar. Adelaar, "Indonesian Migrations," pp. 8–9.

<sup>18</sup> *Ibid.*, p. 4.

<sup>19</sup> Keith Taylor, "Madagascar in the Ancient Malayo-Polynesian Myths," in *Explorations in Early Southeast Asian History: The Origins of Southeast Asian Statecraft*, ed. Kenneth R. Hall and John K. Whitmore (Ann Arbor, MI: Michigan Papers on South and Southeast Asia, The University of Michigan Press, 1976), p. 47.



the language, the DNA of Madagascar has only recently been studied.<sup>20</sup> A study by M. E. Hurles and colleagues was able to attribute every maternal and paternal lineage found in the Malagasy to a likely geographic origin, revealing approximately equal African and Indonesian contributions. The most likely origin of the Indonesian ones is Borneo (Kalimantan).

All but two Malagasy lineages can be found in either East African or Southeast Asian populations.<sup>21</sup> The closest single island Southeast Asian or Oceanic population to the Malagasy is that from Banjarmasin. The pooled “Borneo” population—i.e., including the second sample from Kota Kinabalu—is significantly closer to the Malagasy than is any other island Southeast Asian population—of which there was only one sampled, from the Philippines. No other Indonesian population apart from the two from Kalimantan was sampled.

The authors of this DNA study bemoan the relative lack of published island Southeast Asian HVS-1 (hypervariable segment 1) data (a deficiency that the present author has found to be the case with all sorts of evidence from Indonesia): exact matches could be found in their database for all six maternal lineages that appear to be Africa derived, but there are exact matches for only three out of eight Asia-derived maternal lineages, which show, of course, that the settlement involved Indonesian women as well as men. It appears that the level of geographical resolution used was not sufficient to enable the researchers to identify a single likely source population in island Southeast Asia, suggesting that other Malay/Indonesian peoples may have been involved in settling Madagascar. However, their results are sufficient to exclude the possibility that a Pacific Island population was the sole source of these maternal lineages.

The Malagasy appear to have a genetic diversity that is significantly lower than that seen in island Southeast Asia and Mozambique populations, but higher than that seen in the Pacific Islands, which were colonized within the past 3,500 years. This lower genetic diversity in the Malagasy, compared with both ancestral populations, suggests either that early migrations were relatively restricted in numbers, duration, and origin, or that subsequent population bottlenecks resulted in a post-settlement reduction of diversity. Recently colonized islands often exhibit reduced genetic diversity as a result of a combination of founder events and elevated genetic drift due to lower population sizes. However, this impact does not appear to be as severe in the Malagasy as it is for Pacific Island populations with a similarly recent settlement. This observation holds true even when only Asia-derived lineages are considered. The authors say this fact may suggest a direct, rather than multistep, process of migration from Indonesia. Alternatively, successive waves of migration from Asia may have brought different sets of lineages to Madagascar, which seems quite likely.

<sup>20</sup> M. E. Hurles, B. C. Sykes, M. A. Jobling, and P. Forster, “The Dual Origin of the Malagasy in Island Southeast Asia and East Africa: Evidence from Maternal and Paternal Lineages,” *American Journal of Human Genetics* 76 (2005): 894–901.

<sup>21</sup> The two unaccounted-for lineages are single chromosomes belonging to haplogroups L\* and R1b. Haplogroup L\* is found at appreciable frequencies only in populations bordering the northern Indian Ocean, and haplogroup R1b reaches highest frequencies in northwestern Europe. The authors believe these two lineages most likely reflect recent admixture events as a result of Indian Ocean trading links and European colonization, respectively.

The Asia-derived lineages are significantly more diverse than the Africa-derived ones. Given that the diversity apparent within the two ancestral populations is comparable, this implies that migrations from Africa may have been more limited than those from Indonesia. (This suggests that the relatively shorter voyage from the African coast to Madagascar was more difficult for the peoples of the African coast than the voyage across the Indian Ocean was for the Indonesians; see further below regarding the fact that longer voyages are not always harder than shorter ones.)

The proportion of African admixture is estimated at 56–58 percent. Further microgeographic sampling within Madagascar will be required to explore how admixture proportions vary among different Malagasy ethnic populations. (These populations, living in different parts of the island, all speak varieties of the same language and have much in common culturally, despite political differences, though they now exhibit some somatic differences; for example, naïve observers’ accounts have commented that some look “very Asian” and others “more African.”)

The “Polynesian motif” is present among maternal Malagasy lineages, but direct migration from Polynesia can be discounted since the predominant Y-chromosomal haplogroups found in Polynesians are not found at all among Malagasy paternal lineages.

Among the ten potential ancestral populations in island Southeast Asia and the Pacific that were sampled in the study by Hurles et al., the Borneo populations had Y-chromosomal haplogroup distributions that were the most similar to those observed among the Malagasy. Now that the region of origin of this migration has been identified, further microgeographic sampling within Indonesian islands may pinpoint more exactly the origins of the Malagasy. It is intriguing that the majority of Asia-derived mtDNA types present in the Malagasy do not have exact matches in an extensive database of HVSI sequences, and identification of these specific mtDNA sequence motifs within potential ancestral populations in Indonesia (the most obvious populations to investigate being the Malays and the Javanese, given the linguistic evidence) should be a high priority. Hurles et al. remark, however, that it must be remembered that genetic diversity in contemporary populations is an imperfect proxy for variation within ancient populations. They point out that the ongoing processes of population fission and fusion, as well as genetic drift, may prohibit the identification of a precise contemporary population that exactly represents the ancient population from which migrants departed. In addition, the possibility remains that the original migrants in question derived from several genetically distinct sources within Indonesia or that the migration was kin structured, such that no ancient population ever had the same lineage distribution as that of the migrants to Madagascar. It is a great pity that DNA samples for this study were taken only from Kalimantan and not from any other part of Indonesia.

As well as their language and their DNA, the Indonesian settlers brought other things to Madagascar. These are briefly summarized in the following sections.

## Rice and Other Plants

Even more than Africa, Madagascar is a crossroads of diverse vegetable worlds. Botanists estimate that 27 percent of the flora on the island is African and 7 percent Indonesian. The Indonesian flora includes groups of plants sharing a forest or steppe environment, and, especially, food-producing plants such as rice.<sup>22</sup>

Javanese *bulu (javanica)* rice is very widely distributed: northwards to the Philippines and Japan<sup>23</sup> and westwards as far as Madagascar. In Madagascar, it is cultivated, in part, by the wet-rice cultivation methods for which Java is famous. (The seventeenth-century writer Richard Boothby's euphoric account, intended to encourage English settlement, is lyrical but inaccurate in depicting Madagascar as a virgin land untouched by the spade.<sup>24</sup>) Strangely, neither Blench nor Adelaar<sup>25</sup> includes Javanese *javanica* rice in their list of plants imported from Indonesia. Diamond does mention Asian rice, but not specifically *javanica*.

Blench's work demonstrates that some particular Indonesian cultigens of certain plants—especially water-yam (*dioscorea alata*) and taro and some types of banana—were imported into Madagascar in early times.<sup>26</sup> Diamond notes that bananas, Asian yams, and taro were already widespread in sub-Saharan Africa in the 1400s.<sup>27</sup> In fact, the banana, native to Southeast Asia and New Guinea, had reached Africa a good deal earlier than the fourteenth or fifteenth century. A relatively conservative account<sup>28</sup> puts the arrival of plantains, probably accompanied by taro and water yam, at three thousand years ago in West Africa, while Tim Denham and Mark Donohue tentatively suggest this crop may have arrived as early as five thousand years ago in Uganda.<sup>29</sup> It has been suggested that the introduction of these tropical Asian crops was a factor enabling the southward migration of the Bantu.

## Archaeology: The Human Settlement of Madagascar

Madagascar has a much shorter prehistory than most of the world. Although some archaeologists have claimed that there were people living on the island before the arrival of the Indonesians, the evidence for this consists only of one or two supposed

<sup>22</sup> Michel Mollat du Jourdin, "Les contacts historiques de l'Afrique et de Madagascar avec l'Asie du Sud et du Sud-Est: le Role de l'Océan Indien," *Archipel* 21 (1981): 37.

<sup>23</sup> Ann Kumar, *Globalizing the Prehistory of Japan: Language, Genes, and Civilization* (London and New York, NY: Routledge Studies in the Early History of Asia, 2009), p. 63.

<sup>24</sup> Richard Boothby, *A Briefe Discovery or Description of the Most Famous Island of Madagascar or St. Laurence in Asia neare unto East-India: With Relation of the Healthfulness, Pleasure, Fertility, and Wealth of that Countrey [sic] ... also the Condition of the Natives ... also the Excellent Meanes and Accommodation to Fit the Planters there* (London: Iohn Hardesty, 1647).

<sup>25</sup> Adelaar, "Indonesian Migrations," p. 18.

<sup>26</sup> Blench, "Ethnographic Evidence," p. 417.

<sup>27</sup> Diamond, *Guns, Germs, and Steel*, p. 388.

<sup>28</sup> Roger Blench, "Bananas and Plantains in Africa: Reinterpreting the Linguistic Evidence," *Ethnobotany Research and Applications* 7 (July 30, 2009): 363–80.

<sup>29</sup> Tim Denham and Mark Donohue, "Pre-Austronesian Dispersal of Banana Cultivars West from New Guinea: Linguistic Relics from Eastern Indonesia," *Archaeologica Oceania* 44 (2009): 26.



stone tools, which it is doubtful are actually of human workmanship.<sup>30</sup> There are, thus, no Palaeolithic or Neolithic remains; the first settlers seem to have arrived not much before the Christian era and were users of iron tools.<sup>31</sup> The island was not settled until after the Indian Ocean developed into an active zone of maritime trade, and trade goods from the northern and eastern rim of the Indian Ocean are common in archaeological sites dating from the first millennium of settlement.<sup>32</sup> So the island's ties with the external world were through trade. Early settlement was overwhelmingly coastal, and much of the interior was settled fairly late in prehistory. The interior, though amply provided with resources for subsistence agriculture, remained little occupied during the early centuries of human settlement on the island, presumably because the costs of constructing suitable ships, or taking passage on these, were prohibitive for subsistence farmers. In terms of archaeology, the inland Imerina is the best known region of the island, with tens of thousands of recorded sites, yet the earliest known settlement there was not established until the thirteenth century.<sup>33</sup> So the coastal area, where the original settlement of traders took place, has received less attention from archaeologists, presumably because of the difficulties it presents. Dahl argues on linguistic evidence that it was the west coast of the island that was settled first, suggesting that the Indonesian settlement of the island was subsequent to their exploration of the African coastal areas.<sup>34</sup>

With the passage of time, and especially after the Portuguese disruption of pre-existing Indian Ocean trading networks that began early in the sixteenth century, the demographic trend of Madagascar was towards a population ever less maritime (an analogous development took place in the Sultanate of Aceh, which, like Madagascar, transformed itself from a mercantile to an agricultural polity because of pressure from a European power, in this case the Dutch). Because of the great geographical diversity of Madagascar, sometimes called "continentally diverse," there is now tremendous human ecological diversity, encompassing dry forest hunter-gatherers, cattle pastoralists, swidden farmers, and growers of irrigated rice.

### Outriggers and Seafaring

Austronesian boats from Hawaii to Madagascar share the same construction method: they are not held together with nails or with any other metal fastener, but are lashed together. In essence the lashed-lug method was to leave projecting lugs on the planks when they were carved out with an adze from the split trees. The planks were cut out of the solid hardwood in exactly the shape that would fit together to make a boat. The projecting lugs on the planks then fell at exactly the right places to form rows across the boat. The lugs were the attachment points for a complicated internal framework that was in tension, putting the hull itself into compression like a pre-

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<sup>30</sup> H. Neville Chittick, "The East Coast, Madagascar and the Indian Ocean," in *The Cambridge History of Africa*, vol. 3, *From c. 1050 to c. 1600*, ed. Roland Oliver (Cambridge: Cambridge University Press, 1977), p. 220.

<sup>31</sup> Robert E. Dewar, "Does it Matter that Madagascar is an Island?," *Human Ecology* 25,3 (1997): 481–89.

<sup>32</sup> *Ibid.*, p. 483.

<sup>33</sup> *Ibid.*, p. 485.

<sup>34</sup> Dahl, *Malgache et Maanjan*, p. 365.

stressed arch. Ribs were lashed down with rattan to the lugs and to each other. These rattan lashings, often twisted like a Spanish windlass to increase the tension, pulled the edges of the planks against each other. As a way of compressing the plank edges together, the lugs are an extraordinarily elegant design, but such a boat can only be constructed by shipwrights who have undergone a long apprenticeship. The size and curvature of every plank in three dimensions must be exact. The lugs must be in exactly the right places or they will not correspond across the boat. Joints in the planks can only come at particular places.<sup>35</sup> Indonesian lashed-lug boats are remarkably similar to iron-age boats bearing projecting perforated lugs that have been dug from the bogs of Northern Europe, for example the Nydam oak boat and the Hjortsprung boat from the Scandinavian pre-Roman Iron Age, which means that this technique is found in two widely separated places.<sup>36</sup>

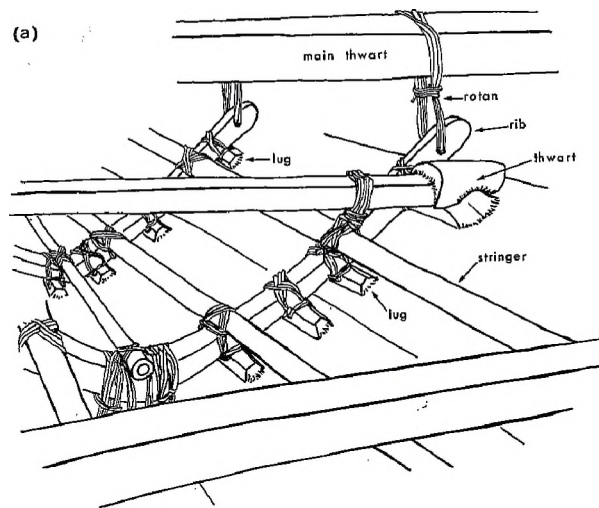


Figure 1. Diagram of lashed-lug construction, from Adrian Horridge, *The Lashed-Lug Boat*, p. 55

The combination of single outrigger and triangular sail<sup>37</sup> pushed up by a tilting pole was unique to the Austronesians. It is totally different in principle from the Indian

<sup>35</sup> Adrian Horridge, *The Prah: Traditional Sailing Boat of Indonesia* (Kuala Lumpur, Oxford: Oxford University Press, 1981), pp. 51–52.

<sup>36</sup> G. Adrian Horridge, *The Lashed-Lug Boat of the Eastern Archipelagoes*, National Maritime Museum, Maritime Monographs and Reports no. 54, 1982, Greenwich, London, p. 54.

<sup>37</sup> Indonesian seaborne traffic across the Indian Ocean had its effect on boat building. According to Adrian Horridge, the westward spread of the Austronesian triangular sail into the Indian Ocean about 200 BCE provides us with the probable origin of the Arab triangular lateen sail that spread into Egypt and even into the Mediterranean by late classical times, say 200 CE. See Adrian Horridge, "The Austronesian Conquest of the Sea—Upwind," in *The Austronesians: Historical and Comparative Perspectives*, ed. Peter Bellwood, James J. Fox, and Darrell Tryon (Canberra: ANU E-Press, 1995), p. 145. See below concerning the replacement of the triangular sail in the Southeast Asian archipelago by the trapezoid sail, which has spread eastwards into Indonesia from the Indian Ocean over the past two thousand years. The *jong*—see below—had a canted square sail. See Pierre-Yves Manguin, "The Southeast Asian Ship: An Historical

Ocean rigs with a fixed mast.<sup>38</sup> With the passage of time, different Austronesian societies built ships based on new designs, yet still using the lashed-lug technique. One such variation is the double-outrigger construction.

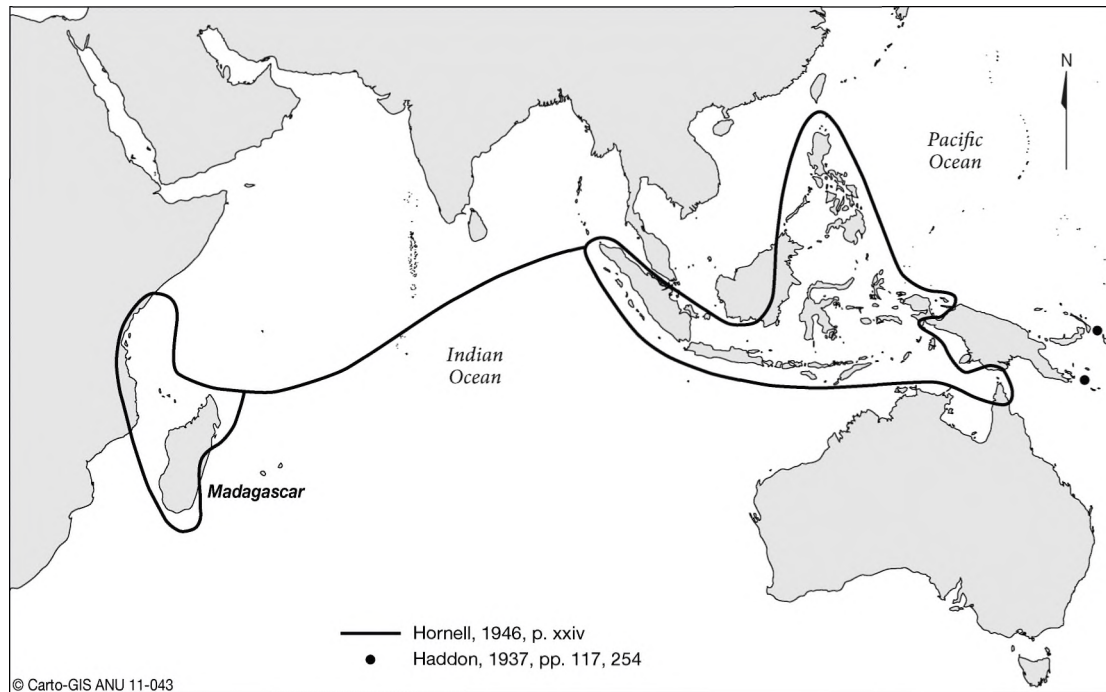


Figure 2. Distribution of double-outrigger construction<sup>39</sup>

The map above makes it clear that the double outrigger is found only: a) in Indonesia and its outskirts, and b) in Madagascar and east Africa.

The twin-masted, spread-square-sail is the typical rig of the Indian Ocean, but it is not Arab in origin. Both the outrigger and this twin-masted rigging are found in Madagascar, and not on the island's east coast but only on the west,<sup>40</sup> which seems in accordance with Dahl's conclusion, based on linguistic evidence, that it was the west coast of the island that was settled first, subsequent to Indonesian exploration of the African coastal areas (see above). One or other or both of the Indonesian constructional features—the outriggers and the square-sail rig—are found both in East Africa and in

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Approach," *Journal of Southeast Asian Studies* 9,2 (1980): 272. The Borobudur ships—see below—have tilted rectangular sails and a bowsprit with a square sail.

<sup>38</sup> Horridge, "Austronesian Conquest," pp. 149–50.

<sup>39</sup> Map based on Edwin Doran, Jr., *Wangka: Austronesian Canoe Origins* (College Station, TX: Texas A&M University Press, 1981), p. 79.

<sup>40</sup> A. M. Jones, *Africa and Indonesia: The Evidence of the Xylophone and Other Musical and Cultural Factors*, (Leiden: E. J. Brill, 1964), p. 189.

West Africa.<sup>41</sup> Hornell remarks on a constructional feature, a “peculiar connective” of the African double outrigger, as cognate with a type still used in northern Java.<sup>42</sup>

Ibn al-Mujawir, writing in 1233 CE, reports that the people of Madagascar have outrigger boats.<sup>43</sup> Double outriggers are also used on the east coast of Africa, between Lamu in the north and Mozambique in the south.<sup>44</sup> There is not much evidence of outriggers in West Africa—perhaps for the same reason that has been suggested for their absence on the east coast of Madagascar (as opposed to the north and west coasts), i.e., that the surf-beaten eastern side is too rough for such vessels. However, the typical Indonesian twin-masted, square-sail rig is, indeed, in evidence in West Africa, in Ghana.<sup>45</sup> The ship rigging and canoe forms suggest Indonesian influence on boats used in the Gulf of Guinea, and the same dovetail dug-outs suggest their possible influence, also, in the Congo basin. Hornell found canoes with three Indonesian features (a bifid stem, projection of the paddling thwarts through the side planks, and closure of seams by sewn longitudinal battens) at Lake Victoria.<sup>46</sup> Lake Victoria is *well* inland, but Blench points out that it was the terminus of an ancient trade route to the sea, which means that Indonesian influence might have extended this far.<sup>47</sup> It is possible that ivory, rhinoceros horn, and other products of the interior were sought here as trade goods.<sup>48</sup>

This much is clear, but both the history and the usefulness of the double outrigger as an oceangoing craft are far less so, and there is considerable divergence of opinion among the authorities. Concerning the antiquity of this type of vessel, Hornell states that there is little reason to doubt that the double outrigger antedated the single one. He sees the origin of the single outrigger canoe as springing from the circumstance that, in the Pacific islands, in Ceylon, and on the coasts of India, dangerously exposed conditions beset sailors compared with the relatively sheltered seas of the Indonesian archipelago. In bad weather, the double outrigger can be a grave handicap, which led to the discarding of the outrigger frame and its float on one side, usually the port side.<sup>49</sup>

Edwin Doran, Jr., contests Hornell’s conclusion concerning the antiquity of the double outrigger. He argues that the three configurations of multihulled craft found in the Pacific are all basically seaworthy, and notes the forgiving nature of multihulls, which must have saved countless lives and may be one of the factors that made voyages across the reaches of the Pacific possible. However, in five aspects of seaworthiness, he found there were significant differences among the configurations.

<sup>41</sup> Ibid., p. 192.

<sup>42</sup> A. C. Haddon and James Hornell, *Canoes of Oceania*, vol. 3 (Honolulu, HI: Bishop Museum Press, 1936–38), p. 18.

<sup>43</sup> G. Mokhtar, *Ancient Civilizations of Africa*, p. 788; and Ivan Hrbek, “Egypt, Nubia, and the Eastern Deserts,” in *The Cambridge History of Africa*, vol. 3, pp. 20–21.

<sup>44</sup> Jones, *Africa and Indonesia*, p. 190.

<sup>45</sup> Ibid., p. 191. Slaves also introduced outriggers, mostly double, to the West Indies.

<sup>46</sup> James Hornell, *Water Transport: Origins and Early Evolution* (Cambridge: Cambridge University Press, 1946), p. 268.

<sup>47</sup> Blench, “Ethnographic Evidence,” p. 431.

<sup>48</sup> Eric Tagliacozzo, personal communication.

<sup>49</sup> Hornell, *Water Transport*, p. 269.

Doran concludes that, as the most seaworthy watercraft are the double outriggers of Indonesia, these are likely to be the youngest type, *pace* Hornell. The double canoes and tacking single outriggers of Polynesia are less seaworthy than craft to the west and, therefore, are presumed to be the oldest canoe types in the Pacific.<sup>50</sup> He ranks the different types of craft as follows, from youngest (double outriggers) to oldest (rafts of bark):

- Double outriggers
- Single outriggers (shunted)
- Single outriggers (tacked)
- Double canoes
- Rafts of wood or bamboo
- Bark boats
- Rafts of bark<sup>51</sup>

Doran reasons that what seems to be the youngest boat type in Austronesia is the double-outrigger canoe with boom lugsail. Its relatively young age is, he says, clearly suggested by the analysis of its seaworthiness and also by its relatively central and small geographical distribution compared to the distribution of other boat and sail types. The (eighth-century) Borobudur relief sculptures must, according to Doran, considerably postdate the development of this type of boat, given the high level of development of the different ships depicted in the reliefs and given that religious sculptures of traits almost certainly follow, by some appreciable time, the invention of these traits.<sup>52</sup> More will be said about these Borobudur ships below.

Doran also states that the Austronesian boats whose designs are the most complex can generally be found in the islands surrounding Sulawesi,<sup>53</sup> and that this region was probably the center of innovation from which many of these design features spread outward.<sup>54</sup> Here at least he and Hornell agree, since Hornell states that the geographical center from which the outrigger spread was Indonesia.<sup>55</sup> Though certain common construction features were used across the Austronesian world, innovations were more often invented and introduced in the Malayo-Indonesian world, and this circumstance led to increased complexity in boat design and the development of substantial vessels, something that is not found elsewhere. The practice of sewing together the planks of the hull was replaced in various regions over the past 2000 years by the use of internal dowels to connect edge-to-edge planking.<sup>56</sup> Dowelling appears to have spread eastwards into Indonesia from the Indian Ocean during the past 2000 years, along with the trapezoid sail set on a fixed mast, an element that also involved the adoption of the fixed quarter rudder. These innovations and the introduction of metal tools and pulleys into Indonesia and the Philippines resulted in technological

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<sup>50</sup> Doran, *Wangka*, pp. 69–71.

<sup>51</sup> *Ibid.*, p. 79.

<sup>52</sup> *Ibid.*, p. 71.

<sup>53</sup> *Ibid.*, p. 87, map.

<sup>54</sup> Doran suggests that the Dongson culture of northern Vietnam may have been the source of the double outrigger canoe: outriggers are "said to have been used in Vietnam formerly"—no source is cited for this claim. See Doran, *Wangka*, p. 92.

<sup>55</sup> Hornell, *Water Transport*, p. 263.

<sup>56</sup> Horridge, "Austronesian Conquest," p. 150.



advances in historic times, and it speaks for an openness and flexibility in Indonesian shipbuilders that extended to the colonial era, when they often adapted and adopted European shipbuilding.

### Written Sources on Shipping

Chinese accounts of trade and shipping written before around the seventh century are rare.<sup>57</sup> We do know, however, that Southeast Asians already had very large, very fast ships in the early centuries CE (i.e., half a millenium before the Borobudur ships). A third-century Chinese account says large *po* (the word used by the Chinese to describe Southeast Asian ships) are more than 50 meters long and stand out of the water by four to five meters. According to this report, the ships carry from 600 to 700 persons, with 10,000 bushels of cargo (according to various interpretations, this load would weigh anywhere between 250 to 1,000 tons). The ships may have as many as four sails, which do not face directly forward but are set obliquely, and so arranged that they can all be fixed in the same direction, both to receive the wind and to spill it. The pressure of the wind swells the sails from behind and is thrown from one sail to the other, so that they all profit from its force. If the wind is violent, the sailors diminish or augment the surface of the sails according to the conditions. This oblique rig, which permits the sails to receive from one another the breath of the wind, obviates the anxiety attendant upon having high masts. Thus, according to the source, these ships can sail without avoiding strong winds and dashing waves, and by navigating such rough conditions, they can make great speed. An eighth-century account says a *po* can carry more than 1,000 men, in addition to cargo, and that *po* are over 60 meters long, lying six or seven feet deep in the water. The ships are constructed by assembling several layers of side-planks, for the boards are thin and might break. No iron is used in fastening.<sup>58</sup> In tropical waters, iron crumbles and rots the surrounding plank, with disastrous consequences, as Portuguese seafarers were to discover.

We can assume these ships had no outriggers, as the Chinese would have mentioned such a conspicuous feature. The features mentioned in these Chinese accounts are the same as those of the sixteenth-century Southeast Asian *jong* described by the Portuguese, and discussed below.<sup>59</sup>

It is important to note that China did not possess oceangoing ships before the eighth or ninth centuries. The shippers of the trans-Asiatic trade route calling at Chinese harbors were foreigners, many of them from the *nanyang*.<sup>60</sup> It was only after the Sung came to power that the Chinese started building a powerful oceangoing navy. By the thirteenth century, the Yuan dynasty dominated the South China Sea and, to some extent, the Indian Ocean. Manguin comments that we can assume that, in

<sup>57</sup> J. Wisseman Christie, "State Formation in Early Maritime Southeast Asia; A Consideration of the Theories and the Data," *Bijdragen tot de taal- land- en volkenkunde* 151,2 (1995): 263.

<sup>58</sup> Pierre-Yves Manguin, "The Southeast Asian Ship," p. 275.

<sup>59</sup> There are also some shipwrecks of prehistoric and early historic Southeast Asian ships, all of which were of Southeast Asian construction and did not incorporate elements from any external boat-building tradition; see Wisseman Christie, "State Formation," p. 248.

<sup>60</sup> *Nanyang* is a Chinese term used to refer to the region south of China in which many Chinese settled, and is usually considered to comprise Vietnam, the Philippines, Thailand, Singapore, Malaysia, and Indonesia.

developing the large oceangoing Chinese "junk,"<sup>61</sup> shipbuilders employed techniques used in Chinese river or coastal shipping vessels (i.e., separation of the hold by strong bulkheads into watertight compartments, axial stern-post rudders, etc.), but also borrowed Southeast Asian techniques, such as the rigging of multiple masts and sails, and the fastening of several sheaths of planks to the hull.<sup>62</sup> Horridge, on the other hand, finds no trace of technological sharing between Chinese and Austronesian boats.<sup>63</sup>

### Early European Accounts of Island Southeast Asian Ships

After the arrival of Europeans in island Southeast Asia, the sources contain rather more descriptions of the traditional craft of these waters. The Portuguese found the *jong* were more often than not larger than their own ships, and they made extensive use of them. One *jong* is described as having four superimposed layers of planks. Wooden dowels were used in such boats, there were two masts and three rudders, and no iron was used. The average burthen was 400 to 500 metric tons, with a range of 85 to 700 tons; one ship built by Pati Unus of Japara (c. 1513) may have had a burthen of 1,000 tons and carried 1,000 men.<sup>64</sup> Layered sheathing was used for the hull.

The *jong* had from two to four masts, plus a bowsprit. Sails were made of vegetal matting, and the canted square sail was in common use. Sixteenth-century Portuguese sources say that the main shipbuilding areas were the north coast of Java, especially around Rembang and Cirebon; the southern coast of Borneo and adjacent islands; and Pegu, which was the largest center. The main differences distinguishing the *jong* from the Chinese junk were that the Chinese used iron nails and clamps and had different steering on their ships—from earliest times, they used the single axial stern-post rudder, considered one of China's greatest contributions to nautical technology. Southeast Asian ships generally used two lateral quarter-rudders.<sup>65</sup>

### Pictorial Representations of Eighth-Century Javanese Ships

The eleven boats carved in the galleries of the eighth-century Buddhist temple Borobudur range from a simple canoe with upturned ends to several large ships with outriggers. There are a number of small ships depicted with upturned stem and stern, a single tall mast, and tilted rectangular sail. Then there are five bas-relief depictions of large vessels with outriggers. They are not five depictions of the same vessel: while the five vessels are obviously similar, and may be seen as illustrating a distinct type of vessel, there are differences in the clearly observed details. The depictions are probably not all by the same artist. The larger boats each have two sails, two tripod masts, lateral rudders, and outriggers. Each also has a bowsprit on which is hung a square sail that looks something like the foresail (*artemon*) of a Greek ship of classical times, or the type

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<sup>61</sup> Manguin points out that the use of this word to describe the very different sorts of vessels used by Chinese and Southeast Asian sailors is a source of confusion. Manguin "The Southeast Asian Ship," p. 266.

<sup>62</sup> Ibid., p. 276.

<sup>63</sup> Horridge, "Austronesian Conquest," pp. 146–47.

<sup>64</sup> Manguin, "The Southeast Asian Ship," pp. 267–68.

<sup>65</sup> Ibid., pp. 270–72.

of sail found on the junk. These ships are unlike any other ship described from the ancient world, nor do they resemble any modern sailing ship in Indonesia. However, they resemble in general form the *kora-kora*, a very distinctive and unusual type of Indonesian outrigger vessel, described by Hornell as “lordly,” and typically owned by potentates.<sup>66</sup> Moluccan *kora-kora* were encountered by early Western colonists.<sup>67</sup> These Moluccan boats were very long (roughly 10 meters) and thin and carried as many as five rows of paddlers. Originally used as fighting ships, they were later put to more peaceful purposes. However, the name *kora-kora* is also sometimes applied to other craft of rather different design.

The hulls of the most clearly delineated boats at Borobudur have outrigger floats supported on paired outrigger booms. They have tripod masts supporting tilted rectangular sails. They also have lateral rudders and a superstructure built up with poles, which probably were, at times, covered with mats—all these features resemble those of the *kora-kora*. Horridge thinks the Borobudur ships are fighting ships and says that there were certainly other boats better designed to carry cargo during that period. Chinese records reveal that large Indonesian ships without outriggers carried on trade with ports of South China from the eighth to the fifteenth centuries, and temple carvings in Kampuchea from the same period as the Borobudur reliefs show boats without outriggers.<sup>68</sup>

It is clear from a contemporary website<sup>69</sup> that it is not actually possible to say with complete certitude that the Borobudur ships definitely *had* double outriggers as is generally believed—after all, the reliefs only show one side at any time. The fact that the reliefs show four pictures of outriggers on the windward side and one of an outrigger on the leeward side could indicate the existence of double outriggers, or, alternatively, single outriggers that might be placed on either side. Yet technical considerations make it improbable that the Borobudur ships had single outriggers: the single outrigger canoes used on some parts of the north coast of Java shift the outrigger boom from one side to the other when changing tack—a simple stratagem that would be unsuitable for a seagoing vessel.

Manguin writes that the ships depicted at Borobudur with outriggers, multiple masts, bowsprit, canted mainsails and bowsprit sail, and double quarter rudders cannot represent the large oceangoing ships of the Indonesian powers that Chinese sources describe, since the Chinese sources make no mention of outriggers. He says that it is well known that double outriggers can only be used in protected seas, such as those of the Indonesian archipelago, and can be a considerable hindrance on the open ocean.<sup>70</sup> Yet Doran (see above) found the double outrigger construction to be the most seaworthy type, and it seems that there are outriggers and outriggers, and one should beware of overgeneralizing about their performance at sea. Modern Indonesian vessels generally have long outriggers (relative to the length of the hull), and these are susceptible to breaking off when pitching into a headsea. The Borobudur outriggers,

<sup>66</sup> Hornell, *Water Transport*, p. 259.

<sup>67</sup> Adrian Horridge, *Sailing Craft of Indonesia* (Oxford and Singapore: Oxford University Press, 1986), p. 6.

<sup>68</sup> Adrian Horridge, *The Prah*, p. 1.

<sup>69</sup> [www.borobudurshipexpedition.com/index.htm](http://www.borobudurshipexpedition.com/index.htm), last accessed May 18, 2011.

<sup>70</sup> Manguin, “The Southeast Asian Ship,” p. 273.

according to Manguin, though they are of complicated construction, are relatively short and small, which means they would be robust, but would provide little buoyancy and stability relative to the size of the ships and their sail area. They are also not faired to cut through the water. Therefore, he concludes, these outriggers must have served a function other than providing stability—perhaps they were seats for paddlers to propel the vessel in calms and during naval battles. Hornell, on the other hand, describes the two-masted Borobudur ships as stoutly built and seaworthy, and provided with the stoutest and most scientifically designed outriggers ever employed.<sup>71</sup> Considering that Hornell had seen a very large number of vessels with outriggers, his opinion of the Borobudur ships must carry some weight. The modern *perahu konteng* of East Java, when planked up to increase the freeboard and cargo capacity, has a profile much like a Borobudur ship.

So could Indonesians have sailed to Madagascar and beyond on ships like the ones depicted at Borobudur, with their "towering hulls"? Probably they could have, because in 2003–04 their remote descendants managed to do so in a replica of a Borobudur ship, called the *Samudra Raksa*, built according to the ratios of a nineteenth-century *kora-kora*. This ambitious enterprise was supported by the Indonesian government, the British Council, and Unesco, as well as by a large number of commercial firms. The ship sailed straight across the Indian Ocean, not via India and Sri Lanka, passing north of the Seychelles before sailing south between Madagascar and the African coast, finally rounding the Cape and reaching the Ghanaian port of Tema.

### Arab Accounts of the Land of Waq-waq and Its People

Arabic sources constitute most of the written sources for the history of the Indonesian settlement of Madagascar prior to the coming of Europeans. Though this paper is not about Arab geographical writings, a small amount of information about them may help readers to evaluate the information they provide.

Arab pilots began searching the shores of Southeast Asia for spices and drugs in the early seventh century.<sup>72</sup> The information they obtained appeared in travelers' accounts and in the geographical, historical, and medical literature. The earliest known compilations of Arab travelers' tales dealing with Southeast Asia date from the mid-ninth century, though some of the stories included in the compilations are older. Most of the places mentioned in the various Arabic geographies and navigational tracts cannot be identified with certainty, nor can place names be assumed to mean the same thing to each sailor or author. Thus, there is no definite identification of Zabaj, which might refer to Java, Sumatra, or Srivijaya, or to more than one of these, or might even refer to different places at different times. "Jaba" could be Java, Sumatra, or both. "Ramni," however, is clearly Sumatra. As for the Islands of Spice, even as late as the fifteenth century, references to the Moluccan and Banda Islands are not well informed regarding the islands' latitude. "Islands of spices of less definite identity are described in earlier Arab writings, recorded by different names, and not placed in clearly

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<sup>71</sup> James Hornell, "Indonesian Influence on East African Culture," *Journal of the Royal Anthropological Institute of Great Britain and Ireland* 64 (July–December 1934): 313.

<sup>72</sup> Thomas Suàrez, *Early Mapping of Southeast Asia* (Singapore: Periplus, 1999), p. 50.



identifiable places, but probably all refer to the Moluccas ... ”<sup>73</sup> according to Thomas Suárez. Locations originally based in fact often acquired mythological status, and some fanciful places may derive from the story of Alexander the Great or perhaps from attempts to reconcile Ptolemaic geography with the Qur’an.

Arab geographic knowledge after 1000 CE had two major problems. First, Arabs generally failed to incorporate current information—even Ibn Battuta’s reports of his journeys, the only first-hand Arab travel narrative,<sup>74</sup> were not utilized. Second, the introduction of Ptolemaic geography created irreparable confusion when it was applied to the Arab data on Southeast Asia. This confusion was exacerbated by the Ptolemaic idea of an enclosed Indian Ocean, which led to a mixing up of information from the Indonesian region (al-Zabaj) with material from East Africa (al-Zanj), even though Arab geographers did not accept the existence of the Ptolemaic land bridge (between Africa and Southeast Asia).

Navigational texts offer better insights into the Arab geographic conception of Southeast Asia than do the geographers’ treatises, but the earliest navigational guides are from the latter part of the fifteenth or early sixteenth centuries (though they incorporate earlier material), and so were composed much later than the period in which we are interested. They were written by two fifteenth-century sea captains, Ahmad ibn Majid and Sulaiman al-Mahri. They give compass bearings and latitudes measured in *isbah* (approximately 1° 43’) from a given star. Ibn Majid is not, in fact, very observant of nautical affairs.<sup>75</sup> His work draws on the accounts of the “three lions” of eleventh-to-twelfth-century nautical literature, and he declares himself to be the fourth and leading lion<sup>76</sup>—an example of the boastfulness deplored by his translator.<sup>77</sup>

It is clear that even major place names in Ibn Majid’s text do not all have a clear single referent: for example, “Sirandib” is used to identify both Ceylon and Sumatra.<sup>78</sup> The captain’s coverage of the area now comprising Malaysia and Indonesia is notably inaccurate. Up until he reaches Melaka, the report is extremely detailed and fairly accurate, but after that things go badly awry. There are only occasional latitude specifications, usually hopelessly wrong. Place names can only be identified if one can match them with toponyms in other sources. Ibn Majid has completely misaligned Java and the Lesser Sundas.<sup>79</sup> When describing the relative situations of the Javanese north-coast ports, he places them in several different orders.<sup>80</sup> Bali and Sumbawa are attached

<sup>73</sup> Ibid., p. 55.

<sup>74</sup> Whether Ibn Battuta, in fact, reached Southeast Asia is, however, a matter of dispute.

<sup>75</sup> G. R. Tibbetts, *Arab Navigation in the Indian Ocean before the Coming of the Portuguese*, Royal Asiatic Society of Great Britain and Ireland, Oriental Translation Fund New Series, Vol. 42 (London: Luzac and Company, 1971), p. 3.

<sup>76</sup> Ibid., pp. 5–6.

<sup>77</sup> Ibn Majid’s translator deplores his style, “if one can call it that,” and his constant boasting and repeated mention of his superior qualifications. See Tibbetts, *Arab Navigation*, pp. 13–15.

<sup>78</sup> Ibid., p. 219

<sup>79</sup> Ibid., pp. 472–73.

<sup>80</sup> Ibid., p. 497.



to the south coast of Java.<sup>81</sup> Borneo (Kalimantan) is not recognized as one complete island.<sup>82</sup> And so on.

Unlike the Arab navigational texts, Arab geographical treatises and travel narratives from this period give descriptions of fauna, vegetation, strange peoples, and other lore. With the passage of time, however, mythologizing creeps in. Accounts appear of the following fabulous places:

*The Island of Women.* The tenth-century *Marvels of India* (attributed to Buzurg ibn Shahriyar, a Persian from Ramhormoz) recounts the story of a ship in the Sea of Malayu en route to China that was storm-driven onto an unknown island. A party of women arrived from the interior—one thousand or more to each man—and forced them to satisfy their carnal desires. All but one of the men died.

*The Island of the Castle.* This island features a white castle and is variously described as bringing either safety, profit, and good luck to those who set foot on it, or misfortune and insanity, which could only be cured by eating a particular fruit that grew there.

*The Motionless Sea/Sea of Darkness*—in which no tide runs. Whosoever falls into this sea is never seen again.

The Sindbad tales also record some distant, highly mythologized, memory of Arab voyages to Southeast Asia.<sup>83</sup>

### The Land of Waq-Waq and the Genesis of a Myth

Given the imprecision of the Arabic sources, is it possible to narrow down the land of origin of the Waq-waq, whose economic and military activities are described in these texts? One must say at the outset that "Waq-waq" is a name actually used of two different groups. Raymond Mauny notes that there are two main categories of Waq-waq, one from the "Far East" and the other from South East Africa.<sup>84</sup> It is the first group with which we are concerned. The Waq-waq Islands are variously said by authors writing in Arabic to lie to the east (Ibn Kurdadbi), behind (Ibn al-Fakih), or at the extremity of China (Mafatih al-Ulum), in the southern part of the Sea of Darkness. They are also said to be close to the islands of Zabag (Sumatra) (according to Qazwini) and are reportedly reached by the Chinese sea (according to Dimasqi). Different sources report their numbers as being anywhere between more than 100 to as many as 30,000. According to Ibn al-Wardi, Nias is part of the archipelago of Waq-waq, and an island around forty-five hours of sailing from Campa is also part of Waq-waq. According to the *Marvels of India*, it would take one year to sail from East Africa to these islands.<sup>85</sup> Based on this information, Western scholars have made different

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<sup>81</sup> Ibid., pp. 497–98.

<sup>82</sup> Ibid., pp. 500–02.

<sup>83</sup> Suárez, *Early Mapping*, p. 52.

<sup>84</sup> In contrast to the Asian Waq-waq, the South-East African Waq-waq are said by the Arabs to have no ships, and some of the people are described as hideous and deformed "Negroes." Raymond Mauny, "The Wakwak and the Indonesian Invasion in East Africa in 945 AD," *Studia* 15 (May 1965): 11.

<sup>85</sup> Ibid., p. 9.

deductions: Goeje says the Waq-waq are from Japan, whereas Ferrand (influenced by his belief in Malagasy being related to Batak) says they are from Sumatra and its small neighboring islands.<sup>86</sup> Dahl believes that the location proposed by Ibn al-Faqih, i.e., *vis-à-vis* or beside China, is more in accordance with geographical reality, and that the term “Waq-waq” seems to be used by Arab writers in a vague way to represent “the unknown archipelago of the Far East.” It was the archipelago that was to the east of the Arab sailors’ route to China (Canton), meaning that the Waq-waq Islands included the Philippines and Kalimantan, to which last location Dahl leans. Mauny concludes that there is no doubt that the Waq-waq archipelago is Indonesia, without specifying a particular location.<sup>87</sup>

Some sources say the name comes from a wonderful tree called Waq-waq, the fruit of which makes a “waqwaq” sound when it falls. Mauny thinks this may be the pandanus tree: its Batak name is Bakkuwan, and it is grown in Madagascar, where it is called Vakwa. Hoogervorst is of the opinion that the place name is more plausibly derived from the Malagasy word *vahoak*, meaning “people, clan, tribe” (from the Malay *awak-awak*, “people, crew”).<sup>88</sup> If this is so, and it seems very likely, it would mean that there never was a place actually called Waq-waq.

Nevertheless, reports of Waq-waq land continued to appear in the Arabic sources. The tenth-century *Marvels of India* includes stories of fireproof birds, speaking trees, and hares that can change sex.<sup>89</sup> Al-Biruni (973–1048) tried to stop the circulation of stories of a tree that produces human heads instead of fruits. He locates the island of al-Waq-waq in the Qmair (i.e., Khmer) islands. Another twelfth-century work, the *Kitab al-Jughrafiya*, relates the way young girls grow on this tree, from their feet upwards, and places Waq-waq at the end of the inhabited world to the east. Qazwini (d. 1283) repeats this story and says that al-Mubarak of Siraf traveled to this land and saw the queen seated on the throne naked, surrounded by four thousand virgin slaves, also wearing no clothes.<sup>90</sup> The fabulous Waq-waq tree is depicted in Islamic art with both male and female “fruit”; there is also a Thai version of this marvelous tree.<sup>91</sup>

Sharif al-Idrisi, a twelfth-century Sicilian geographer, made the earliest Arab atlas. This shows the islands of Waq-waq, a colorful land with plentiful gold and trees with blossoms of girls, in the sea off China. It also illustrates, literally, common Arab mapping errors. For instance, various small “Java” islands are shown lying to the east (left) of Ramni. There is a long, narrow, prominent island dominating the Indian Ocean, which al-Idrisi identifies as al-Qumr, which is Madagascar, the island lying in its “proper” place off the wildly mislocated African coast. Al-Idrisi notes that this island is also called Mala’i. In addition, one of the toponyms on the island is “Qmar,” which means Khmer. Thus the island may be both Madagascar and part of the Southeast Asian mainland and Sumatra. Champa is erroneously depicted as an island.

<sup>86</sup> Dahl, *Malgache et Maanjan*, p. 360.

<sup>87</sup> Mauny, “The Wakwak,” pp. 9–10.

<sup>88</sup> Personal communication.

<sup>89</sup> Buzurg ibn Shahriyar, *The Book of the Marvels of India*, trans. from Arabic by L. Marcel Devic and from French by Peter Quennell (London: George Routledge and Sons, 1928), pp. 57, 148–49.

<sup>90</sup> Suárez, *Early Mapping*, p. 53.

<sup>91</sup> *Ibid.*, p. 54.

And there are three archipelagoes off eastern "Madagascar," to wit, Ma'id, Muja, and Qamrun—three places described in the mid-ninth-century-text *Akhbar al-Sin* as lying between India and China. Al-Idrisi has interpreted this source to mean that these archipelagos are located along the sea route, but actually they are on the *land* route: Qamrun is Assam, while Ma'id and Muja are kingdoms along the border between Burma and Yunnan.<sup>92</sup>

### The Waq-waq and their African Trade and Campaigns

Some of the Waq-waq are black according to Al-Biruni, while others resemble the Turks, according to the *Marvels of India*.<sup>93</sup> The latter build large ships and floating houses, according to Ibn al-Wardi, and are clever in every art, according to the *Marvels of India*. All authors report that gold is abundant in this land, and it is said to be better than the gold of Sofala.

The *Marvels of India* gives an account of an invasion, by the Waq-waq, said to have taken place on the coast of Tanganyika and Mozambique in the mid-tenth century CE.<sup>94</sup> This work says that the inhabitants of Waq-waq are numerous. Some of them resemble the Turks. They are the most industrious of all Allah's creatures, but are treacherous, cunning, and lying.<sup>95</sup> The author quotes Ibn Lakis's account of the incredible things the Waq-waq had done; for example, in 334 (945–46 CE), they arrived in one thousand boats and fought with extreme vigor to take the citadel Qanbaloh,<sup>96</sup> though eventually without success. This account was written only about a decade after the attack it describes.<sup>97</sup> Later, according to the *Marvels of India*, some Waq-waq were asked why they had attempted to conquer this particular place, and they said it was because it had goods suitable for their country and for China, such as ivory, tortoise shells, panther (skins), and ambergris, and because they wanted to capture and take Bantu (called Zeng or Zenj) who were strong and bore slavery easily. They said they had come from one year's distance, and that they had plundered some islands six days from Qanbaloh and had taken a certain number of villages and towns of Sofala of the Bantu, not to speak of others that "we did not know." Their account, if truthful, confirms what Ibn Lakis said of the Wakis islands, i.e., that they are in front of China—presumably meaning that one comes upon them before reaching China.<sup>98</sup>

Ibn al-Mujawir reports in 1233 CE<sup>99</sup> that the people of Madagascar, in a naval expedition with great numbers of men, captured Aden<sup>100</sup> after a period when the city had been abandoned to fishermen following the decline of the Pharaohs' empire

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<sup>92</sup> See reproduction of map in *ibid.*, pp. 56–57.

<sup>93</sup> Buzurg ibn Shahriyar, *Marvels of India*, p. 150.

<sup>94</sup> Mauny, "The Wakwak," p. 7.

<sup>95</sup> Buzurg ibn Shahriyar, *Marvels of India*, p. 150.

<sup>96</sup> This was a trading center and is usually identified with Pemba: see Chittick, "The East Coast," p. 195.

<sup>97</sup> *Ibid.*, p. 220.

<sup>98</sup> Mauny, "The Wakwak," p. 8.

<sup>99</sup> Ferrand provides a translation of this account of the Madagascan conquest of the Aden peninsula; see Gabriel Ferrand, "Le K'ouen-Louen et les anciennes navigations interocéaniques dans les mers du Sud," *Journal Asiatique*, 1919 (reprinted by *Imprimerie Nationale*, 1919): 145–49.

<sup>100</sup> Hornell, "Indonesian Influence on East African Culture," p. 312.

(meaning, perhaps, the Roman empire?). He also says that the Madagascans took possession of the peninsula and established themselves on the mountains that dominate the port. Here they constructed durable buildings using stone and cement obtained from the valleys. These still existed when he wrote. However, the Madagascans were later driven out by a revolt of a group of Arabs, called the Barabar, who had come to live among them. The Barabar settled in the valleys and constructed mat huts. Then they abandoned the place, which remained uninhabited until the immigration of Persians. Now, there is nobody left who has knowledge of the maritime activities of the Madagascans or the sort of life they led.<sup>101</sup>

Idrisi lays emphasis on the production of iron in the middle part of the Sofala coast. He says the people of Java transported the iron to India, where it was esteemed to be of the highest quality and used for the manufacture of swords of unequalled excellence.<sup>102</sup>

Al-Biruni in the eleventh century describes shipping between Sofala and China and island Southeast Asia.<sup>103</sup> Idrisi indicates that voyages from the east to Africa were being made in the twelfth century: he says the inhabitants of the island of Zalej (Java, or perhaps Sumatra) sail to the Zanj country in large and small ships to trade, and speak each other's language. This seems to indicate that an Indonesian tongue was spoken on the African mainland.<sup>104</sup>

## Music and Culture

The most thorough exploration of Southeast Asian musical and cultural influence on Africa has been carried out by A. M. Jones in 1964. Other considerations are ancillary to the main argument of his book, which is based on musical phenomena—especially the xylophone and the particular type of music played on it. Jones notes the presence of the xylophone and the concomitant musical culture up the West African coast from at least as far south as Angola. The xylophones of the most advanced design and construction occur in the *coastal* areas of the Gulf of Guinea, which also, Jones claims, exhibit most powerfully a complex of Indonesian cultural features.<sup>105</sup> The following two paragraphs sum up his principal findings.

According to Jones, the *slendro* (pentatonic scale)-type African xylophones exhibit the same compass, the same pitch-range, and approximately the same number of keys as the Javanese *slendro* xylophones. The three scales to which the xylophones are tuned occur nowhere else in the world except where African slaves have taken them. Jones concludes that, whether we approach the matter from the musical standpoint of sound (scale and pitch) or the organological aspect of internal organization (range and keys), the relationship between the xylophones of Indonesia and those of Africa must be seen to be very intimate, indeed.<sup>106</sup> Madagascar presents a "curious enigma" in that there

<sup>101</sup> G. Mokhtar, *Ancient Civilizations of Africa*, p. 788; Ivan Hrbek, "Nubia and the Eastern Deserts," in *The Cambridge History of Africa*, vol. 3, pp. 20–21.

<sup>102</sup> Chittick, "The East Coast," p. 195.

<sup>103</sup> Dahl, *Malgache et Maanjan*, p. 357.

<sup>104</sup> Chittick, "The East Coast," p. 221.

<sup>105</sup> Jones, *Africa and Indonesia*, pp. 226–27.

<sup>106</sup> *Ibid.*, p. 118.

are no developed xylophones and hardly any art on the island. Lormian has suggested that the original colonists were perhaps lower-class pirates who lacked artistic abilities; Jones suggests, that at some early date, the cultured sections of the population became aware of West Africa as a much more congenial place to live and left Madagascar.

Jones claims that his investigation has penetrated far beneath the superficial organological similarities of the material form and construction of the instruments and has probed deep into their fundamental musical characteristics. He believes he has uncovered a whole complex of musical thought and musical practice, all of which is combined and crystallized in the xylophones themselves. Each xylophone is, as it were, a representative of a whole musical complex, and that complex is the same in both Indonesia and in Africa.<sup>107</sup>

Proving that the African elements were directly derived from Indonesia is far less easy for xylophones than for DNA. The earliest attested xylophones *are* from Southeast Asia: there is a ten-key vertical xylophone depicted on the Borobudur. The xylophone is also known in Vietnam, and it is said to have been found in Neolithic sites there, though I have not located any written source to confirm this claim as yet. But we do not have a metric that would enable us to calculate the likelihood that the this instrument was independently invented in Africa versus the likelihood that it was borrowed. Jones' book was reviewed in condemnatory fashion by E. Heins,<sup>108</sup> who declared that it was sad that it was ever published and that it had put the clock back by fifty years for the young science of ethnomusicology.<sup>109</sup> Heins actually suggests that Jones should have confined himself to Madagascar, "even though the connection between Indonesia and Madagascar itself rests on very tenuous evidence."<sup>110</sup> It beggars belief that any scholar—a *fortiori* one who is heir to the distinguished Dutch record in this area—can dismiss as "tenuous" a conclusion based on four centuries of solid linguistic work, none of it suggesting anything other than a Malayo-Polynesian affiliation for Malagasy. In reality, Jones cannot be accused of anything worse than going to a lot of trouble to investigate a subject that, by its nature, does not allow for unarguable proof to be established one way or another. Nevertheless, given that he knew of the linguistic relationship between Malagasy and East Barito, his investigation was no more tenuous than, say, trying to trace the influence of Spanish music on the Spanish-speaking populations of South America. Blench, like Heins, does not accept Jones's case for identifying the xylophone as an Indonesian export to Africa, but he does believe that there *has* been an Indonesian musical influence on Africa, though this influence is manifest in other instruments, such as the stick zither, the leaf-funnel clarinet, and some musical instruments made with plantains.<sup>111</sup> Blench envisages a scenario of purposive voyages between Indonesia and Africa establishing a slaving and trading culture (not a "high culture").<sup>112</sup>

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<sup>107</sup> Ibid., p. 229.

<sup>108</sup> E. Heins, "Indonesian Colonization of West- and Central Africa," *Bijdragen tot de Taal-, Land- en Volkenkunde van het Koninklijk Instituut (BKI)* 122,2 (1996): 274–82

<sup>109</sup> Ibid., p. 281.

<sup>110</sup> Ibid., p. 276.

<sup>111</sup> Blench, "Ethnographic Evidence," p. 427.

<sup>112</sup> Ibid., p. 432.



Other cultural features Jones sees as deriving from Indonesia are board games, a particular design of bellows, *plangi* dyeing,<sup>113</sup> patterns, and bronzes, and some tribal customs.<sup>114</sup> With respect to the category of social organization, he notes that Big Kingdoms are found mostly in Uganda, the Congo, and in West Africa, that is to say, once again, within the xylophone areas.<sup>115</sup> In short, Jones believes that there is sufficient evidence to show that the Indonesian settlers made a lasting contribution to Africa in many fields, such as agriculture, boat-building, political and social institutions, and music.

### Background: The Austronesian Seafaring Tradition

The astonishment that so many scholars express when confronted with the theory that early Indonesians settled Madagascar is caused, in part, by a general lack of background knowledge of the seafaring tradition of the peoples of island Southeast Asia. There are a number of reasons for this ignorance, one of which is that these peoples are generally assigned to the unhelpful category "Southeast Asia." This is a perfectly adequate geographic category but highly unsatisfactory as a historical one, particularly when we are looking at maritime history, in which the different societies of "Southeast Asia" differ so much. To grasp the maritime history of the region, the category of "Austronesian" is far more illuminating.

The reality is that the Austronesians developed in early times a precocious command of the sea that many Europeans have been slow and reluctant to realize. As an expert on pre-modern voyaging puts it,

In European waters prior to the beginning of the Christian era and for several centuries thereafter, the sailors of every country, with the possible exception of Phoenicia and Carthage, appear to have had little deep sea enterprise. They lacked the reckless courage and foolhardy spirit of adventure that has characterized the peoples of the island world of Oceania from time immemorial. The Odysseys of the Greeks, for example, are but picturesque accounts of comparatively short voyages performed timorously along the coasts of the Mediterranean and Black Seas.<sup>116</sup>

The later seagoing achievements of Atlantic Europeans are well known to everyone descended from them or living in a country dominated by them—and that's a lot of people. Accounts of the voyages of pioneering European sailors are not only collected in the volumes of such learned organizations as the Hakluyt Society and the Linschoten Vereeniging, but are also celebrated in the popular media. By contrast, the achievements of the Austronesians are known only to a small number of specialists. Yet as Finney remarks,

Long before the Portuguese and Spanish inaugurated Europe's Age of Exploration, even before the Vikings ventured across the North Atlantic, on the

<sup>113</sup> *Plangi* (also spelt *pelangi*) is a specialized form of resist tie-dyeing.

<sup>114</sup> Jones, *Africa and Indonesia*, Chapter Ten.

<sup>115</sup> *Ibid.*, pp. 227–28.

<sup>116</sup> Hornell, "Indonesian Influence," p. 305.

other side of the globe another seafaring race had already spread over two oceans ... The geographical spread of these Austronesian-speaking peoples far surpassed that of the world's next largest cultural-linguistic grouping, the Indo-Europeans. Just take Polynesia alone, the easternmost province of the Austronesian world. The Polynesian triangle, bounded by New Zealand, Hawaii, and Easter Island, would if cast upon Eurasia stretch from England across Europe and Asia to the Aleutians and then south almost to the tip of India!<sup>117</sup>

### Origins and Early History of the Austronesians

Robert A. Blust's reconstruction of Proto-Austronesian, the ancestral Austronesian language, and its daughter branches, established that Taiwan was the linguistic homeland of the Austronesian languages.<sup>118</sup> (This is not to say, however, that all speakers of Austronesian languages today have a genetic ancestry in Taiwan, or that all features of present-day Austronesian cultures derive exclusively from Taiwan.) The sea was central to the Austronesian world, and Horridge points out that the earliest Austronesian colonists in the Pacific were in the same situation as the Vikings on the coast of Norway, the Portuguese on the Iberian peninsula, and later the English and the Dutch, whereby they were able to make voyages of exploration confident that they would be blown back close to home—a situation that created a continual stimulus for sailors.<sup>119</sup>

The Neolithic finds associated with the Austronesians in Taiwan date from 4300 BCE,<sup>120</sup> with some evidence of rice by 3000 BCE. From there, the Austronesian Neolithic culture spread to Southeast Asia. There is a continental shelf linking China, Japan, and Indonesia that makes things easier for sailors (compared to, say, the six-kilometer-deep Java Trench south of Java, the deepest part of the Pacific—not for nothing is the Goddess of the South Sea feared by the Javanese). Nevertheless, it should not be thought that the South China Sea is all plain sailing, since it is among the areas in the Northwest Pacific most frequented by tropical cyclones of an intensity reaching that of a "tropical storm" or stronger, and is also an area of significant tropical cyclone genesis.<sup>121</sup>

The Neolithic culture in Southeast Asia was based on agriculture and the domestication of animals, and spread rapidly: the earliest date is from around 3000 BCE, and by 2500 BCE it is all over the region. The archaeological record shows that Neolithic populations occupied the whole region of mainland Southeast Asia, including the Malay Peninsula, by 2000 BCE at the latest. There is evidence that by 1500 BCE, and very possibly earlier, Austronesians had reached Indonesia. We find in Indonesia evidence that highly sophisticated Bronze–Iron societies—not just Neolithic

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<sup>117</sup> Doran, *Wangka*, p. 11.

<sup>118</sup> Robert A. Blust, "The Reconstruction of Proto-Malayo-Javanic: An Appreciation," *BKI* 138,2–3 (1981): 231–50.

<sup>119</sup> Horridge, "Austronesian Conquest," p. 157.

<sup>120</sup> Peter Bellwood, *Prehistory of the Indo-Malaysian Archipelago*, rev. ed. (Honolulu, HI: University of Hawaii Press, 1997), p. 212.

<sup>121</sup> Wang, Guihua, Jilan Su, Yihui Ding, and Dake Chen, "Tropical Cyclone Genesis over the South China Sea," *Journal of Marine Systems* 68,3–4 (December 2007): 318–26.

agricultural societies—were present by 1000 BCE. The archaeological remains from such societies include luxuries like gold objects, evidence of a wealthy society with an élite class.<sup>122</sup> It is in regions with such cultures that we find the emergence of powerful kingdoms exercising power over extensive tracts of land, and with sophisticated nautical technologies to carry out extensive oceangoing voyages.

### The Austronesian Conquest of the Pacific

The Austronesian expansion spread beyond Southeast Asia to cross the Pacific, reaching the Marquesas by about 200 BCE, and by about 500 CE colonizing Hawaii and Easter Island.<sup>123</sup> This enormous expansion was so little understood until recently that the dashing Thor Heyerdahl achieved celebrity status with his Kon-tiki voyage, the basic premise of which was that early rafts and reed boats *followed* winds and currents, and that Easter Island was settled from South America rather than Asia. Patrick Kirch<sup>124</sup> describes the long scholarly debate between those who view Austronesian expansion as resulting from purposive voyages of exploration versus those, such as Andrew Sharp,<sup>125</sup> who see it as having resulted from the accidental drift of canoes being blown off course. Archaeologists, however, have always favored the former explanation because of the evidence they have found of *preparedness*—the pigs, dogs, fowl, and crop plants brought along by the settlers.

The theory proposing “drift” also simply does not make sense given Pacific wind and current patterns. Theories concerning drift, shipwreck, and chance reflect the fact that we tend to think of large solid craft as necessary to transoceanic voyages. In 1893, however, Norwegians crossed the north Atlantic in a reproduction of the Gokstad Viking ship, taking only twenty-seven days to cross two thousand miles in bad weather. This feat was repeated in 1958, when seven Norwegians crossed the Atlantic in twenty-two days in a reproduction of a Viking ship.<sup>126</sup> One of the issues preventing Western scholars from accepting that islands and coasts around the Pacific were settled by purposive voyages of exploration has been that this would involve traveling eastwards *against* the prevailing winds and currents. Horridge’s response is that the problem of how the Pacific was colonized against prevailing winds and currents is solved if we accept that the earliest path-finders had boats of similar design to the fast, long-distance single-outrigger with a tilting triangular sail, because these boats sail best a little upwind or with the wind on the beam.<sup>127</sup> Austronesian exploration is considered to have been favored by sailing into the wind, with a downwind return.

<sup>122</sup> Bellwood, *Prehistory*, pp. 219–54.

<sup>123</sup> According to Martin Lewis (personal communication), Austronesians must actually have reached South America, as otherwise one cannot explain the presence of the sweet potato in New Zealand.

<sup>124</sup> Patrick Kirch, *Feathered Gods and Fishhooks: An Introduction to Hawaiian Archaeology and Prehistory* (Honolulu, HI: University of Hawaii Press, 1985), pp. 58–66.

<sup>125</sup> Andrew Sharp, *Ancient Voyagers in the Pacific*, Memoirs of the Polynesian Society, No. 32 (Wellington: Polynesian Society, 1956).

<sup>126</sup> Jones, *Africa and Indonesia*, p. 183.

<sup>127</sup> Basically, the Austronesian triangular sail pivoted on a universal joint and behaved like that of a windsurfer, self-steering when balanced on the wind, but the hull sailed closer to the wind than a windsurfing board typically does because it gripped the water. The modern windsurfer gives some idea of the performance of a triangular sail on a flat hull; a canoe with the lee side flattened must have been an

Horridge also remarks that downwind from an undiscovered island there is a scent of land and an interference pattern from the wind-created waves converging behind the island, as well as flotsam on the surface, phenomena described by numerous sailors. Nature thus provides clues of nearby land on the approach side of the island, exactly where they are needed. In contrast, Heyerdahl's Kon-Tiki square-sailed raft ended its journey by crashing helplessly on the windward side of a reef, which is not the way to explore or colonize. Expert seamen approach land upwind and lay-off until they find a calm landing, as they could certainly do in an outrigger canoe with a tilting triangular sail. Those looking for new land, sons of chiefs in Horridge's hypothesized scenario, had to sail eastwards because that was the direction in which their boats would naturally take them on the least foolhardy explorations if the voyagers hoped for a safe return.

### **An Austronesian Migration to Japan**

During what would become known as the Yayoi period, a particular group of Austronesians, speakers of Javanese, introduced an advanced metal-working civilization into Japan, which up until then had been a hunter-gatherer society. In my experience, "What—they sailed up the map?" or "It's too far!" are not infrequent responses to this proposition. Yet this incredulity may perhaps be lessened by the fact that the ancestors of the Indonesians had already made the more difficult voyage from northeast Asia to Indonesia, sailing *against* the Kuroshio current, which flows south to north. So making the easier voyage north, following the Kuroshio (however much this direction appears "uphill" to non-sailors), would not have been much of a problem for Indonesians, who, as we have seen, developed the largest ships in the Austronesian world. What is more, distance is not always the main difficulty confronting sailors, so long as they can carry enough provisions; compare, for example, Findlay's graphic description of the perils of the relatively short voyage from Bengal to the Gulf of Martaban<sup>128</sup> with his description of the much longer cross-ocean voyage from the Strait of Sunda and Eastern Straits to the Cape of Good Hope, a course that required, as he describes it, "very simple navigation."<sup>129</sup>

Fortunately, the Javanese who migrated to Japan left a good deal of evidence, evidence that, I believe, can only be explained by one hypothesis. Some of it is material evidence, such as pottery and metalwork<sup>130</sup> (including both weapons and ceremonial objects) and Javanese rice (*javanica*/*bulu*). But the strongest, most helpful, and most illuminating evidence of all consists of Japanese DNA and their language. Studies of d-loops<sup>131</sup> and of the whole mitochondrial genome<sup>132</sup> have revealed that Japanese and

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improvement on a windsurfer, if the materials could withstand the stresses. Horridge, "Austronesian Conquest," pp. 157–58.

<sup>128</sup> Findlay, *Directory*, pp. 189–90.

<sup>129</sup> *Ibid.*, pp. 161–62.

<sup>130</sup> Not as much of this from the Javanese side as one would like, given the abysmal state of archaeological investigation.

<sup>131</sup> Ann Kumar, "An Indonesian Element in the Yayoi?: The Evidence of Biological Anthropology," *Anthropological Science* 106,3 (1998): 265–76.

<sup>132</sup> Masashi Tanaka, Vicente M. Cabrera, Ana M. González, José M. Larruga, Takeshi Takeyasu, Noriyuki Fuku, Li-Jun Guo, Raita Hirose, Yasunori Fujita, Miyuki Kurata, Ken-ichi Shinoda, Kazuo Umetsu, Yoshiji



Indonesians share some DNA that is not found in any other population, and that this came about “recently,” meaning in late prehistoric times, not in early prehistory. Here, too, the evidence of maternal DNA shows that Indonesian women were part of this migration. The actual percentage of the Indonesian component of the population is small, but significantly larger than, say, the percentage of Norman-French in the British population.<sup>133</sup>

Like the Normans—or perhaps a better comparison would be the earlier Romans—these newcomers made a major contribution to the language of the country they settled in. This Javanese contribution to Japanese covers a significant number of semantic fields (a “semantic field” is a group of words whose meanings relate to the same subject or area). Apart from general vocabulary (words such as *to pour*, *to cover*, and *to grow or increase*, as well as words expressing more abstract concepts such as time, manner, and likelihood), there are a significant number of Javanese–Japanese cognate words that cluster in particular semantic fields. One such semantic field relates to land clearing and rice cultivation and preparation, with cognate words for *rice field*, *open field*, *rice mortar*, *boundary of field*, and *cooked rice* in Javanese and Japanese. Other semantic fields relate to metallurgy (including weaponry), cloth weaving, storehouses, and fences, as well as to less tangible innovations, such as a kinship system, the idea of leadership, and a complex of religious beliefs that would form the basis of Shintoo. The evidence from these semantic fields coincides with much that is already known about the major innovations of the Yayoi period. The linguistic evidence indicates the nature of the Javanese influence—that is, that it was derived from an élite group. This was a culturally, politically, and perhaps most significantly of all, technologically advanced group that introduced rice agriculture; new technologies in pottery, metalwork, and architecture; new art forms; a new hierarchical social structure culminating in the Emperor; and a new religion.<sup>134</sup> All of this was brought by sea.

### The Wider Context of Indonesian Voyages to Africa

The short summaries provided above reveal that Austronesian sailors were so skilled that they had already crossed the South China Sea, both ways, and conquered the Pacific in prehistoric times. We have surveyed the evidence for the Indonesian settlement of Madagascar: the question now is, what is the context and rationale for this distant colony? The voyages to Madagascar and its settlement were, in fact, intimately linked to trade networks that reached beyond the Austronesian domain, to China at one extreme and to Rome at the other. These trade links also had a powerful effect on state formation in Indonesia.

It is most likely that the earliest trade routes of the Indian Ocean developed about five thousand years ago, linking the Indus Valley and the Persian Gulf, possibly

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Yamada, Yoshiharu Oshida, Yuzo Sato, Nobutaka Hattori, Yoshikuni Mizuno, Yasumichi Arai, Nobuyoshi Hirose, Shigeo Ohta, Osamu Ogawa, Yasushi Tanaka, Ryuzo Kawamori, Masayo Shamoto-Nagai, Wakako Maruyama, Hiroshi Shimokata, Ryota Suzuki and Hidetoshi Shimodaira, “Mitochondrial Genome Variation in Eastern Asia and the Peopling of Japan,” *Genome Research* 14 (2004): 1832–50, 1845 ff.

<sup>133</sup> Kumar, *Prehistory of Japan*, p. 163; and Tanaka et al., “Mitochondrial Genome Variation.”

<sup>134</sup> Ann Kumar and Phil Rose, “Lexical Evidence for Early Contact between Indonesian Languages and Japanese,” *Oceanic Linguistics* 39,2 (December 2000): 219–55.



contemporaneously with initial Austronesian expansion in Southeast Asia. Though there is a lack of good archaeological documentation for the millennium from the fifth century BCE onwards,<sup>135</sup> it is clear that, by the late centuries BCE, Southeast Asia was already part of a world trading system linking the civilizations of the Mediterranean basin and Han China.<sup>136</sup> Wisseman Christie describes a very large upsurge of trading activity between about 500 and 200 BCE in the Malacca Straits and in the Java Sea, due to the rise of substantial élites in southern China and parts of India, who provided a ready market for high-status commodities and medicinal substances. This trade stimulated the spread of advanced metallurgical techniques in Southeast Asia, a region already tied into maritime trade networks of considerable antiquity and possessing what was, by the standards of the time, an advanced marine technology and considerable navigational experience. Trade also led to the growth of states in island Southeast Asia. Wisseman Christie regards trade, not a Marxian Asiatic Mode of Production or Wittfogelian Oriental Despotism, as the mainstay of these early states—even those of Java and Bali.<sup>137</sup> The Javanese states had largescale distribution systems, exported local crops, handled the spices of the eastern islands, and manufactured bronze axes, which were traded to other islands. This Southeast Asian trade fed into Indian trade to the west, and it seems likely that the carriers of much of this trade were Malays and Indonesians. Cloves were already known in China in the third century BCE and were described by Pliny in the first century CE.<sup>138</sup> Ancient Egyptian texts, as well as Phoenician sources and Hebrew texts, dating from the late second millennium and early first millennium BCE refer to the importation of cinnamon from locations along the east coast of Africa. The specific terminology used to designate the cinnamon in these early texts indicates that its origin is in South China. Miller postulates a cinnamon route in which this spice was brought by the Malayo-Polynesians of Madagascar and East Africa—the only textually based argument for the presence of Malayo-Polynesians in this region before the time of Christ.<sup>139</sup> The Greek word for cinnamon is of Malayo-Polynesian origin.

The second stage in the process of state formation in the maritime region seems to have occurred between about 200 BCE and 300 CE, when the coastal polities of maritime Southeast Asia were drawn into more direct contact with the major empires of the time and became both links in the commerce chain and suppliers to the first great Old World trading system, which coalesced in the first century CE. The "favored" coasts of this system included the north coasts of Java and Bali and the coast of central Vietnam.<sup>140</sup> Trade continued to expand with the fourth-century increase in population and wealth in south China, raising the volume of trade in maritime Southeast Asia.<sup>141</sup> Important early historic polities were Srivijaya, located on the southeast coast of Sumatra, and Ho-ling, probably located on the north coast of central

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<sup>135</sup> Bérénice Bellina and Ian Glover, "The Archaeology of Early Contact with India and the Mediterranean World, from the Fourth Century BC to the Fourth Century AD," in *Southeast Asia: From Prehistory to History*, ed. C. Glover and P. Bellwood (London and New York, NY: RoutledgeCurzon, 2004), pp. 69–71.

<sup>136</sup> *Ibid.*, p. 83.

<sup>137</sup> Wisseman Christie, "State Formation," pp. 242 and 250–51.

<sup>138</sup> Bellina and Glover, "Archaeology of Early Contact," p. 69.

<sup>139</sup> Taylor, "Madagascar," pp. 38–39.

<sup>140</sup> Wisseman Christie, "State formation," pp. 277–79.

<sup>141</sup> *Ibid.*, p. 253.

Java, between Pekalongan and Semarang. Ho-ling was the major trading center linking China with northeast India in the mid-seventh century and must have taken over from the ports of west Java the dominant position in the spice and sandalwood trade. By the late seventh century, Srivijaya was dominant, but the balance of economic power shifted back to Java again by the end of the eighth century after Ho-ling merged into the larger central Javanese polity of Mataram.<sup>142</sup>

Though I have no more than a small acquaintance with Wallersteinian scholarship, it is clear that the case of island Southeast Asia is both illuminated by his approach and constitutes something of a challenge to the theory. Philippe Beaujard points out that Wallerstein forged the concept of the world-system in relation to the modern era,<sup>143</sup> whereas, in fact, the creation of an Eurasian and African world-system can be traced much further back in time, specifically to the first century CE. This first-century world-system had three sub-systems: the China Sea, the eastern Indian Ocean, and the western Indian Ocean. The Eurasian and African world-system evolved through four cycles that saw growing integration of its parts, population increases, general growth of commerce and production, and the simultaneous development of hierarchical relations between cores and peripheries in an international division of labor.

The maritime historian Alfred Thayer Mahan once categorically claimed that both travel and traffic have always been easier and cheaper by water than by land, *pace* the landlubber's acute awareness of the perils of the deep,<sup>144</sup> and we can see that the world-system described above is based on maritime trade. Zones at the intersection of two sub-systems were particularly favored as they had good opportunities to become a trade nexus. Maritime Southeast Asia was one such zone. Beaujard adduces evidence of a direct link between Indonesia and Africa/Madagascar in the first to third centuries.<sup>145</sup> He also considers Southeast Asia to have been relatively insulated against the economic recessions the system periodically suffered (which might be as short as seventy years or as long as four centuries), due to its climatic stability, to the strategic importance of the Straits of Malacca, and to the high demand for spices from the Moluccas. Southeast Asians could also quickly respond when China emerged from a recession and entered an upward trend. As is well known, according to Wallerstein's core-periphery dichotomy, the periphery is exploited, subordinated, and dependent, but Beaujard feels that Southeast Asia, a "semiperiphery," was not entirely devoid of the power to innovate—notably in the development of navigation around the first century CE. He sees Southeast Asia as a "pivotal" region that retained a "primordial" role in the trade networks throughout history. In the eleventh century, Srivijaya had enough economic clout to develop a monopoly in the trade of sandalwood, and perhaps other products too. Together with the maritime trade networks, city-states played a vital role in the development of capitalism, and among these were Samudra-Pasai, the cities of the north coast of Java, and later Melaka and Aceh. The role of these city-states and entrepôts is fully documented by Kenneth Hall in an article countering

<sup>142</sup> Ibid., pp. 263, 374.

<sup>143</sup> Philippe Beaujard, "The Indian Ocean in Eurasian and African World-Systems before the Sixteenth Century," *Journal of World History* 16,4 (December 2005): 411–65.

<sup>144</sup> Alfred Thayer Mahan, *The Influence of Sea Power Upon History: 1660–1783* (London: Sampson, Low, Marston, Searle, and Rivington, 1890), p. 25.

<sup>145</sup> Beaujard, "Indian Ocean," Map 1.

the unsubstantiated claims of what he calls "revisionist" historians, who argue that the role of foreigners was of primary importance in the development of Southeast Asian maritime commerce.<sup>146</sup>

So the presence of an Indonesian colony on Madagascar is less astonishing if one is aware of the context formed by this far-flung world of maritime trade. Indonesians' active and privileged role in the first world-system, the antiquity of sophisticated Indonesian metal-working societies going back to 1000 BCE, and the economic resources of well-endowed states provide the frame for the evidence we have considered regarding their language, their DNA, and their large, advanced, seagoing ships, which put them at the forefront of maritime technology at that time.

### **What Conclusions Does this Evidence Suggest?**

Let me begin by acknowledging that the question of who constituted the largest Indonesian group that settled in Madagascar had already been answered long before this paper was written. They were people from the interior of Kalimantan, members of the South-east Barito group, who spoke Maanyan or a closely related language.

I shall now address Diamond's "how-on-earth" question, breaking it down into a number of separately stated, but interrelated, questions.

*Was the settlement of the Maanyan in Madagascar accidental or planned?*

This is the primary question to be resolved. Scenarios have been proposed featuring wrecked boats drifting over the ocean to explain, for example, the existence of a "peculiar connective" in the African double-outrigger, which is the same as the equivalent device still used in northern Java. This surprising fact has been explained by the supposition that a wrecked boat, carried by the monsoon, and drifting five thousand miles across open sea, washed up in Madagascar, where its construction was copied by the local people—a supposition Jones has described as an unnecessary attempt to wriggle out of the evidence of history.<sup>147</sup> The attitude behind this theory is highly reminiscent of the attitude to Pacific voyaging displayed by Heyerdahl and others described above. Responding to this old theory of boats blown off course and arriving in Africa, Dahl argues that, lacking substantial provisions, the people on them would surely have perished.<sup>148</sup> Certainly they would not have been able to recreate an Indonesian society.

As we have seen, those who contend that such voyages were purposive have been around for a long time, and they arrived at this conclusion on the basis of different kinds of evidence. Marsden, for instance, thought that the *linguistic* evidence could only be explained by deliberate settlement. He asserted that it could not have been caused merely by the effects of commerce or the accidental settling on Madagascar of the crews of tempest-driven "praws": "Such visits have never been productive of a

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<sup>146</sup> Kenneth R. Hall, "Local and International Trade and Traders in the Straits of Melaka Region: 600–1500," *Journal of the Economic and Social History of the Orient* 47,2 (2004): 213–60.

<sup>147</sup> Jones, *Africa and Indonesia*, p. 190.

<sup>148</sup> Dahl, *Malgache et Maanjan*, p. 356.

radical change in the language of a great country," he writes.<sup>149</sup> In other words, the introduction of an Indonesian population into Madagascar must have involved a purposive settlement. Christie, on the other hand, examined *oceangoing skills*, and concluded that, in the early centuries CE, Indonesians would have had no difficulty in sailing straight across this ocean. Villiers concluded that Indonesians could even have reached the west coast of Africa and Gulf of Guinea, but to get *back* round the Cape would have been very hard.<sup>150</sup>

*Did the Maanyan supply their own ships?*

If we accept, as I believe we must, that the arrival of Indonesians on Madagascar was not accidental, this still does not wholly answer Diamond's "how-on-earth" question, as, after all, the Barito were not among those Indonesian groups with an oceangoing tradition: the Maanyan and their neighbors are forest-dwelling Dayaks, not sailors. Also, some Malagasy are wet-rice farmers, while Dayaks are generally dry-rice cultivators. This raises the questions of how and why these inland forest dwellers came to live on a rather inaccessible island at the other side of a great ocean and establish wet-rice cultivation there. As we have seen, the main source of the Indonesian element in Malagasy is Maanyan, or a closely related neighboring language, with smaller contributions from Malay and Javanese. Ferrand quotes a Portuguese source, which says that they met Javanese in Madagascar in the sixteenth century, to which Dahl responds that the Javanese are not famous sailors, and perhaps the Portuguese could not tell one Indonesian language from another.<sup>151</sup> Perhaps the Portuguese were, indeed, linguistically ignorant; perhaps they used the word "Javanese" in a wide sense to designate the peoples of the island world.<sup>152</sup> However, we should not make judgments based on the very bad practice of projecting the present situation back into the past, for this is bound to lead to error. While it is true that the defeated and colonized Javanese of Dahl's time were not doing much long-distance sailing, the undefeated ones in the early centuries CE were doing a great deal, since their economies rested as much on maritime trade as on rice agriculture (see above). By the eighth century, they were actually establishing their supremacy in places as distant as north Vietnam and Cambodia, and, as we have seen above, the north coast of Java remained one of the three main shipbuilding centers in Southeast Asia as late as Portuguese times (the south coast of Kalimantan opposite Java being one of the others).

It is also claimed that certain aspects of the administration, culture, and statecraft of the Merina kingdom are strikingly like those of the Indianized Malays and Javanese and unlike anything found in Maanyaan society. While Dahl supports the idea of a direct migration of Maanyan, Adelaar suggests, in my opinion more plausibly, that the Maanyan were brought to Madagascar by Malays. This raises the question of why Malays, as well as Javanese (given the evidence of loan words and wet-rice cultivation), took the Maanyan on their trading fleets. It seems unlikely that it was just to provide extra hands on deck, particularly since the Maanyan would have had no

<sup>149</sup> Marsden, *Miscellaneous Works*, pp. 31–32.

<sup>150</sup> Jones, *Africa and Indonesia*, p. 186.

<sup>151</sup> Dahl, *Malgache et Maanjan*, p. 365.

<sup>152</sup> Adelaar, "Indonesian Migrations," p. 12.



seagoing background.<sup>153</sup> It seems more likely that Maanyan were recruited to provide labor to grow rice, thus ensuring their masters a local food supply that would enable them to spend more time scouring the African mainland for trade goods—goods that could be stored on Madagascar. The Maanyan may well have been slaves, since we know that one of the main things the Indonesians sought from Africa was Bantu slaves.<sup>154</sup> So the whole enterprise must have been highly capitalized, as well as technologically advanced.

In view of all the above, Diamond’s comment, quoted above, concerning the astonishing nature of the Indonesian presence in Madagascar, applies much more to the Maanyan than to the Malays and Javanese. It is also possible that some other Indonesian peoples besides the Maanyan, Malays, and Javanese were involved in the migration to Madagascar. We will not be able to answer this question until we have more Indonesian DNA samples: so far, we have them only from Banjarmasin and Kota Kinabalu.

*When did the colonization begin?*

Certainly, the colonization of Madagascar began a good deal earlier than Diamond’s proposed date of 1500 as the *terminus ad quem*. However, numerous different dates have been suggested, covering almost a millennium.

Taking into account the evidence of plant cultigens, Blench concluded that Indonesians were exploring westward perhaps 2,200 years ago. They mingled with the Cushitic inhabitants of the African coast and remained there, conducting trade, until they were swamped by the expansion of the Bantu to the coast,<sup>155</sup> a development also suggested by Horridge. Jones considers the implications of patterns, the meager number of Sanskrit words in Malagasy, and the absence of metal gongs and of large orchestral ensembles as suggesting that the Indonesian impact on Africa must date to before the middle of the first millennium CE. In establishing a *terminus a quo*, he gives 100 CE as the time at which the Iron Age had spread over Indonesia, and concludes that the colonization of Africa took place during the early centuries of the Christian era. (In fact, however, in western Indonesia the use of iron dates back to 1000 BCE.) He suggests that there may have been waves of colonization spread over a considerable period of time, perhaps four or five centuries.<sup>156</sup>

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<sup>153</sup> Unless, that is, as has been suggested, the Maanyan once lived on the coast and subsequently moved inland. There are many examples of this occurring in New Guinea: the Biak coastal people and others were notorious raiders of other islands, and the inhabitants of those islands could find safety only inland (Jared Diamond, personal communication). Establishing that this had, indeed, happened would involve an investigation of the history not only of the Maanyan, but also the speakers of the other languages related to Maanyan.

<sup>154</sup> Did the Malay and Javanese leaders choose Madagascar for settlement because it was a location from which their slaves could not escape and melt into the African mainland (rather like the Nazis, who considered Madagascar as a possible place to settle the Jews)? Or could the Indonesians possibly also have been involved in other activities, such as mining the gemstones for which the island is famous? These are speculations for which there is, at present, no evidence one way or the other.

<sup>155</sup> Blench, “Ethnographic Evidence,” p. 432.

<sup>156</sup> Jones, *Africa and Indonesia*, pp. 224–25.



Other scholars have envisaged a single migration bringing the Maanyan to Madagascar. Marre, and much later Dahl, have pointed out that the number of Sanskrit words in Malagasy is very limited compared with the large number in Indonesian languages, which means the Indonesian settlers must have come at the beginning of the Hindu influence on Indonesia.<sup>157</sup> The *yûpa* post with a Sanskrit inscription, dated to around 400 CE, from Muara Kaman, east Kalimantan (one of seven such posts from this area), prompts Dahl to suggest 400 CE as the approximate date of the Maanyan migration.<sup>158</sup> It should be noted, however, that the dating of the *yûpa* posts (also known as the Kutei or Kotei inscriptions) was done by Vogel on palaeographical grounds, and Vogel's conclusion has been described by Taylor as a "self-admitted questionable chronological assignment."<sup>159</sup>

Adelaar's opinion that the Sanskrit loans in Malagasy must have come from Malay, and that Sanskrit influence on Malay cannot be earlier than the seventh-century Sumatran Old Malay inscriptions,<sup>160</sup> causes him to date the migration that brought the Maanyan to Madagascar to that time, at the earliest. He rejects the arguments of those like Dewar, which are based on I Wayan Ardika and Peter Bellwood's work showing trade relations with India going back to the early centuries BCE, that Sanskrit influence would have been introduced considerably earlier, and dates the appearance of Sanskrit influences to more than a millennium later than the earliest trade links.<sup>161</sup> These inscriptions do appear to demonstrate a special link between the Barito and Srivijaya, since in the Telaga Batu and Kota Kapur inscriptions of 686 CE there are a few lines at the beginning that appear to be written in a form of Maanyan, though attempts at their translation have not been entirely successful.<sup>162</sup> This does not mean, however, that this connection between the Barito and Srivijaya could not have begun earlier than 686. Adelaar believes that there may have been some earlier, pre-Barito connection between Indonesia and Madagascar, based on Blench's work on plant cultigens. And, in fact, many authorities have come to the conclusion that there was more than one migration from Indonesia to Madagascar and/or Africa. Hornell, for example, claims that, in early times, outrigger people from Sumatra and Java voyaged westward, leaving evidence of their passage in Ceylon and the southern and western shores of India. They reached the shores of East Africa, whence, after a temporary halt, they went to Madagascar and established a permanent home. At a later date, around the eighth to tenth centuries, a second migration to Madagascar took place, according to Hornell, this time employing craft like those seen on the Borobudur relief sculptures. These voyagers carried out slave-raiding expeditions across the Mozambique channel. Occasional trading trips appear to have been made to Aden, while there was frequent communication with the Comoro islands, and some Indonesians settled there, later forming a hybrid population with Arabic-speaking people.<sup>163</sup>

<sup>157</sup> Dahl, *Malgache et Maanjan*, p. 367.

<sup>158</sup> *Ibid.*, p. 368.

<sup>159</sup> Taylor, "Madagascar in the Ancient Malayo-Polynesian Myths," p. 48.

<sup>160</sup> This decision seems to be based partly on the "remarkable maritime past" of the Malays (see Adelaar, "Indonesian Migrations," p. 15), but the Javanese had, if anything, a more remarkable one.

<sup>161</sup> Adelaar, "Indonesian Migrations," p. 13.

<sup>162</sup> *Ibid.*

<sup>163</sup> Hornell, *Water Transport*, p. 264.

With respect to the question of when the *first* Indonesians came to Madagascar, archaeology, though limited, is suggestive of an earlier rather than a later date. As noted above, archaeology reveals that the first settlers seem to have arrived not much before the Christian era and were users of iron tools.<sup>164</sup> The island was not settled until after the Indian Ocean had become an active zone of maritime trade, and trade goods from the northern and eastern rim of the Indian Ocean are common in archaeological sites dating from the first millennium of settlement.<sup>165</sup> So the island's ties with the external world were through trade. Early settlement was overwhelmingly coastal, and much of the interior was settled fairly late in prehistory. Blench remarks that the African coast across from Madagascar lacks archaeological sites, even though we know from the Periplus that there was a coastal community there. The traces of this community may have been obliterated by geomorphological change.<sup>166</sup>

#### *How long did the Indonesian connection last?*

As we have seen, Mauny reports tenth-century Arab accounts of an Indonesian invasion of the coast between Mombasa and Sofala that captured Bantu-speaking slaves and presumably took them to Madagascar,<sup>167</sup> and these same reports speak of continuing trade until at least the twelfth century. When al Idrisi was writing in the twelfth century, there were still trade links between Sumatra and Sofala. It is possible that Indonesian trade declined in the twelfth century, an era marked by Muslim expansion in Madagascar, with Arabs settling on the southeast coast. However, the connection between Madagascar and Indonesia must have endured until much later than this if the Portuguese really did see Javanese (meaning, perhaps, "Indonesians") in Madagascar.

In summary, it seems appropriate to take on board the eighteenth-century insight of Marsden, who concluded on the basis of the uniformity of Malagasy that Madagascar was deliberately settled. All the evidence is much more compatible with the conclusion that this was no accidental occurrence, but rather a planned Indonesian colonization of Madagascar in the context of organized trading on the African coast. There also seems no doubt that the Maanyan or their close neighbors were the immigrants whose language became Malagasy, but they did not sail to Madagascar on their own: Malays and Javanese were also involved. To go further than this we need a good deal more research, firstly on DNA, to establish what *other* Indonesian peoples may have been involved, and, secondly, in the fields of both archaeology—especially coastal, if at all possible—and linguistics.

### **In Conclusion**

As noted above, the Polynesian triangle alone, bounded by New Zealand, Hawaii, and Easter Island, would, if cast upon Eurasia, stretch from England across Europe and

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<sup>164</sup> See section "Archaeology: The Human Settlement of Madagascar" above.

<sup>165</sup> Dewar, "Does it Matter," p. 483.

<sup>166</sup> Blench, "Ethnographic Evidence," p. 432.

<sup>167</sup> Mauny, "The Wakwak," p. 14.

Asia to the Aleutians, and then south almost to the tip of India. Austronesians populated this great expanse, and also settled in Japan to the north and as far as Madagascar to the west—an area immensely greater. How is it that this astounding achievement has been virtually forgotten? Various factors are probably involved. Ancient civilizations that made great achievements on land are more likely to be remembered, particularly if they built monuments—one thinks of the civilizations of the Indus valley or Egypt, for example. And nobody believes that the Borobudur was the result of an accident. Achievements at sea, however, are comparatively invisible, even when they must have involved a high level of technology and political organization and considerable economic resources. In the present case, the oblivion into which these remarkable events have fallen is, to a large extent, due to the extreme paucity of sources. Atlantic seafaring is very well documented. In contrast, if the Indonesians ever wrote anything about these events, those records have suffered the usual fate of perishable material in the tropics. The Arabic sources regarding Indonesia are fairly late, and their inaccurate, conflicting, and, in many cases, mythologized information is not very helpful. The Chinese sources are not as voluminous as the Arabic ones, but they provide precious technical information on the construction of the remarkable ships involved. And, of course, the DNA and linguistic evidence is particularly helpful, and these forms of evidence must now be regarded as wonderful aids to reconstructing history where written records have been lost.

Though the memory of the achievements of Austronesian voyaging and settlements has been lost for so long, historical events lost to memory are often rediscovered and appropriated by later populations when a need arises. And so the Indonesian affiliation is currently being used by a particular group of Madagascans to support their claims to superiority over other groups. One can read, for example, an extract from a Merina website extolling the special virtues of the “Nusantarian” peoples, a proposed new category to which they and the Indonesians belong.<sup>168</sup>

Once again, as in the case of Yayoi Japan, it has been possible to make use of DNA and linguistics to shed much light on a process that has been sparsely documented in

<sup>168</sup> See <http://users.cwnet.com/zaikabe/merina/manusa.htm> for the following statement:

The importance of Madagascar in the future of the Nusantara World ... for 4,000 to 5,000 years, until around the 10th century, the nusantarian\* peoples were the greatest navigators of the world ... the civilization of Madagascar developed out of the sole ethnic ingenuity of the Nusantaraians, without any direct foreign influence ... the Arab-African influence on the Merina people is not only very limited, but also considered as a corruptive rather than formative late addition ... In this regard, Madagascar constitutes one of the best examples demonstrating the dynamism and the potentiality of traditional nusantarian civilization ... besides recalling the Nusantaraians' past, Madagascar is holding great promises [*sic*] for their future. As already pre-announced by the creation of the APEC [Asia-Pacific Economic Cooperation], indicators suggest that the Pacific basin will be the real economic heart of our planet, and also, to a larger extent, its cultural and political heart ... From now on, it is for the interests of the Nusantaraian countries of Southeast Asia to contemplate themselves, not as being on the periphery of Asia and the Pacific Ocean, but as in the very heart of the oceanic domain. The Pacific Ocean itself is not an empty space, but a crossroad and a field of expansion for the peoples from its bordering continents, a territory for self-development for the peoples who occupied it for millennia, and who beforehand were Nusantaraians. So, it is timely that Melayu, Javanese, and Tagalog peoples, among others, reassert their real attributes, as representatives of the Nusantaraians, the ... traditional masters of the Ocean, and not just a mere variety of “non-typical” and marginal Asians.

\*Author's Note: Given that the author of this Internet post is taking a strong position on the claims of the Merina to represent the pure ancient Austronesian tradition, free of Sanskrit and Arab influence, it is somewhat ironic that he has chosen a Sanskrit-derived word—“Nusantarian”—as a badge of identity.

the written record. But it is striking that, although many more Indonesians settled in Madagascar than in Japan, they did not introduce the same rich and dynamic legacy, the great range of technologies, the enduring social and political forms that would provide such a strong basis for Japan's future development. The explanation or explanations for this difference is a subject for further investigation.

Let me close by returning to Diamond's question as to how on earth "prehistoric people from Borneo" could end up in Madagascar. Like many remarkable historical phenomena, this one depended on a number of factors co-occurring. These include: the old-established Austronesian seagoing prowess inherited by the Indonesian peoples; their early participation in the first "world-system"; their particular location at the hinge of two of the three world-system sub-systems, which, as Beaujard points out, conferred on them great advantage; their immunity to the recessions that afflicted the whole system, due to their favorable situation, which made the region now belonging to the states of Indonesia and Malaysia a "pivotal" region that retained a "primordial" role; and, last but not least, their development (due partly to the resources produced by a substantial agricultural surplus as well as to trade profits) of the largest, most advanced ships in Southeast or East Asia, ships whose superiority persisted even as late as the Portuguese period. Given that the settlement of Madagascar took place much earlier than Diamond envisaged (by the seventh century at the latest, and possibly in the earliest centuries CE), it still, I believe, is an astonishing feat. To the best of my knowledge, no other colony located so very far from the motherland existed at that period. But this astonishing story makes much more sense when located in the context of Austronesian, rather than "Southeast Asian" history.