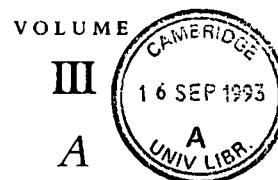


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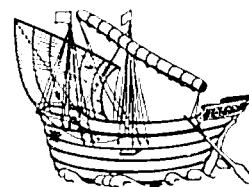
IN THE MAKING OF EUROPE

DONALD F. LACH and EDWIN J. VAN KLEY



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BOOK THREE: SOUTHEAST ASIA



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Leonardo de Argensola (1562–1631), who wrote from the reports of others. Scattered throughout Morga's *Sucesos de las islas Filipinas* are references to the projects for conquering Cambodia and his opposition to them.¹²⁷ San Antonio saw the manuscript of Morga's book before he left Manila early in 1598 but was evidently left unimpressed by Morga's contrary position. The *Conquista de las islas Malucas* of Argensola, while glorifying Spain's conquest of the Moluccas, includes a general description of Cambodia as a target for Spanish expansion in the future. Like San Antonio, Argensola may have profited from reading Morga's work in manuscript. On the other hand, it may have been that Morga, once having learned of Argensola's activities, finally decided to publish what for a long while was his semi-private manuscript.¹²⁸ Care must be exercised in using Argensola, for he sometimes confused Cambay in Gujarat with Cambodia while putting together his otherwise excellent compilation. Hereafter, a large gap appears in the European sources. In 1640 Bishop Diego Aduarte's *Historia de la provincia del Santo Rosario* was published at Manila; it details Dominican activities in the East, including Cambodia, from 1587 to 1636.¹²⁹ The Jesuits in Cambodia were under the jurisdiction of the Province of Japan.¹³⁰ Some notices of their activities in Cambodia are included in António Francesco Cardim's *Relatione* (Rome, 1645) for the period to 1644.¹³¹ In general, the European sources are of two kinds: those like the work of San Antonio, which describe the country as well as Spanish activities there, and those like Morga's, which deal mainly with the European political and missionary contacts.

For more than a century the Portuguese had known the coasts of Indochina, in particular those of Cambodia.¹³² This kingdom is bounded on the west by Siam, on the north by Laos, on the east by Champa, and on the south by the sea.¹³³ Its principal river is the Mekong, which, like the Nile, seasonally floods and inundates the surrounding plain. Six months each year the winds pile up the sands at its mouth, causing a reversal of flow in the river, which creates great lakes in the interior.¹³⁴ Cambodia's main cities are

¹²⁷On Morga and his book see above, pp. 326–28.

¹²⁸See J. S. Cummins (trans. and ed.), *Sucesos de las islas Filipinas* by Antonio de Morga ("HS," 2d ser., CXL; Cambridge, 1971), pp. 18, 27. For bibliographic details on Argensola's *Conquista* see above, pp. 311–12.

¹²⁹For bibliographical data see above, pp. 342–43.

¹³⁰For a listing of the Portuguese Jesuits in Cambodia during the entire seventeenth century see Teixeira, *op. cit.* (n. 9), I, 436.

¹³¹See above, pp. 378–79. A brief description of Cambodia is on pp. 179–80 of the French translation, Cardim's *Relation* (Paris, 1645–46).

¹³²San Antonio in Cabaton (trans. and ed.), *op. cit.* (n. 125), p. 94. Commencement of regular Portuguese trade in Indochina should probably be dated around 1525–30. See P. Y. Manguin, *Les Portugais sur les côtes du Viêt-Nam et du Cambodge: étude sur les routes maritimes et les relations commerciales, d'après les sources portugaises (XVIth, XVIIth, XVIIIth siècles)* (Paris, 1972), p. 184.

¹³³Cardim, *op. cit.* (n. 131), p. 179. Earlier authors are not as precise on these boundaries.

¹³⁴In the flood season from June to October the Mekong sediments its distributaries and its waters then flow upstream into the lake known as the Tonle Sap. See Dobby, *op. cit.* (n. 31),

"Anchor" (Angkor), "Churdumuco" (Chaturmukha or Phnom Penh), and "Sistor" (Srei Santhor) which means "great village." This last is so named because it is very important, possesses more than fifty thousand inhabitants, and is the royal capital.¹³⁵ Local products include cotton, silk, incense, benzoin, and a great abundance of rice and lac. Cambodia has silver, gold, lead, copper, tin, and alum. Precious stones are found there in large quantities. Rhinoceroses and elephants, especially the white ones, are the most striking of its wild animals. Fish are plentiful in the Mekong and the lakes, especially a kind of "thon blanc" which swims upriver with the tide.¹³⁶

The ruins of Angkor are remarked upon by Ribadeneira, San Antonio, and Argensola.¹³⁷ Informed by their contemporaries of this fantastic ancient city, these authors produce a picture of Angkor which is remarkably consistent, though not free of errors.¹³⁸ Located in an inaccessible wilderness near Siam and Laos, Angkor's ruins were first discovered in 1570 by hunters.¹³⁹ It is a marvel of construction, with streets of marble slabs and artistic monuments which are as well preserved as if they were modern works. Reputedly it was constructed by foreigners, perhaps by Alexander the Great or the Romans. Angkor is also called "the city of the five points," because of its five pyramids topped by decorated copper balls. On the inside of the stone battlement wall there are representations of elephants, ounces (a kind of panther), tigers, lions, eagles, and dogs.¹⁴⁰ Its beautiful stone houses are placed on the streets in an orderly fashion, and the workmanship both inside and out appears to be Roman. There are many stone cisterns and canals, for the living quarters are at a long distance from the temples and marketplaces.

¹³⁵San Antonio (Cabaton's edition, cited in n. 125), p. 94, and B. Leonardo y Argensola, *Conquista de las islas Malucas* (Zaragoza, 1891), p. 213, possibly derive their explanations of this phenomenon from Gaspar da Cruz. See Asia, I, 566.

¹³⁶San Antonio in Cabaton (trans. and ed.), *op. cit.* (n. 125), p. 95. Srei Santhor does not mean "great village" according to Groslier and Boxer, *op. cit.* (n. 124), p. 100. It may be that San Antonio is confusedly referring to one or another of the several names which mean "great city." Cardim, *op. cit.* (n. 131), p. 179, asserts that Cambodia's principal city is called "Raucca" (rácathâni [?], or royal city).

¹³⁷San Antonio in Cabaton (trans. and ed.), *op. cit.* (n. 125), p. 95, and Argensola, *op. cit.* (n. 134), pp. 213–14. This fish is probably the *Scumber thunina*. For an evaluation of these assertions about Cambodia's natural wealth see Groslier and Boxer, *op. cit.* (n. 124), pp. 152–54.

¹³⁸Fernandez (trans.), *op. cit.* (n. 7), pp. 169, 181–82; Cabaton (trans. and ed.), *op. cit.* (n. 125), pp. 96–97; Argensola, *op. cit.* (n. 134), pp. 214–15. A description also is included in João dos Santos, *Ethiopia Oriental* . . . (Evora, 1609), Pt. II, Bk. 2, chap. vii, fols. 39v–40r. For French translations of these Portuguese and Spanish texts see Groslier and Boxer, *op. cit.* (n. 124), pp. 75–80. Cardim, *op. cit.* (n. 131), p. 179, mentions the ruins of a great city which tradition avers was built by the Romans of old.

¹³⁹For their sources and their relationships to one another see Groslier and Boxer, *op. cit.* (n. 124), pp. 81–89. San Antonio is guilty of making more errors than the others.

¹⁴⁰Angkor was abandoned around 1432 and rediscovered around 1550. After 1570 King Satha (r. 1576–96) established his court near the ruins. By 1593 the court had been moved to Lovek. See *ibid.*, p. 23.

¹⁴¹That there were such representations is possibly an error. See *ibid.*, pp. 91–92.

Rice ordinarily flourishes in the water no matter what its depth. The "ears" of rice grow above its surface unless the flood comes too swiftly. When this happens the rice cannot grow quickly enough and so is submerged, rots, and dies.¹⁰³ Rice is sown only in May and is generally reaped as soon as the flood recedes. Sometimes it must be reaped before recession of the floodwaters because it has grown too high to support itself. This special harvest is gathered by boats, while the normal crop is collected in ox-carts. Ordinary rice is of three kinds. Wild rice, which does not require marshy soil, is "cheap and not very good"; of the two cultivated varieties, "ponlo" (?) is whiter and more expensive than the other type. Harvesting of rice is carried out by groups working and eating together. By daylight they carry the sheaves indoors and by night bullocks trample out the grain.

While most of their rice is grown in the flood plain, the Siamese also cultivate another sort in dry fields which keeps longer and is relished more. They sow it in one place and transplant its seedlings to another. Before transplanting they flood the field with water from reservoirs. Rain and irrigation water are both contained in the field "within little Banks made all around." After leveling the field, they transplant the seedlings one by one by pushing them into the soil with the thumb.¹⁰⁴ Wheat grown in the highlands is watered by hand or flooded with rainwater stored in reservoirs above the fields. Wheat or "Kaou Possali" (*khao sali*) is made into a dry bread that is reserved to the use of the king.¹⁰⁵ For farm work they use both oxen and buffaloes to pull the plow. They guide them with a rope that runs through the cartilage separating the nostrils; it is attached by running it through a hole at the end of the "draught Tree of their Plough." The plow itself has no wheels and is made of four pieces of wood held together by leather thongs.

Everything planted in Siam's fertile soil grows well "without any great care in cultivation." Roses, carnations, and tuberoses flower in all seasons. Two of their chief flowers, "mungery" (*mali*, or jasmin) and "Poursone" (*phut-san*, or gardenia), are not known in Europe. Maize was first planted in the highlands twelve or fifteen years ago (*ca.* 1670) and it grows there so well that it might soon become a common product.¹⁰⁶ Millet, beans, and pepper vines are also cultivated; "peas is the only crop not found in the country." Nothing is more profitable than the brown sugar they produce. Except for lemons and oranges, the fruits of Siam are different, sweeter, and

¹⁰³ Gervaise is here (*ibid.*, p. 7) describing the floating rice "which grows at the internodes as the water level rises." It is still cultivated around Ayut'ia. See H. Fukui in Y. Ishii (ed.), *op. cit.* (n. 4), p. 248. Also cf. a Japanese description of *ca.* 1690 cited in *ibid.*, p. 27.

¹⁰⁴ La Loubère in Wyatt (intro.), *op. cit.* (n. 93), p. 19. Rain-fed rice culture was practiced on the elevations. See S. Tanabe in Ishii (ed.), *op. cit.* (n. 4), p. 42.

¹⁰⁵ La Loubère in Wyatt (intro.), *op. cit.* (n. 93), p. 17.

¹⁰⁶ As indeed it has, particularly since World War II. It now ranks second after rice. Introduced from Mexico, maize was grown in Southeast Asia as early as the mid-sixteenth century. See Reid, *op. cit.* (n. 87), p. 19.

tastier than those of Europe. They include pomelos, bananas of seven or eight kinds, mangosteens, custard apples, mangoes, jackfruits, papayas, and pineapples. Siam's forests are spread over more than half the kingdom. Dense with bamboo, the forests make the land frontiers almost impenetrable. The Siamese also plant hedges of bamboos around their cities and personal properties. Their forests produce two types of ironwood that are almost indestructible; these are cut into planks for building. Eaglewood and calambac, both rare woods, are found in the forests near Cambodia.¹⁰⁷ Although no gold mines exist in Siam, many signs indicate that gold is there. Nuggets found in the rivers have often led the king to employ men to search for gold deposits.¹⁰⁸ The failure of these efforts has recently been balanced by the discovery of iron, tin, *calin* (a mixture of copper and tin), and salt-peter. From these mines come hot and cold springs which are thought by the Europeans to be as efficacious as the waters of Bourbon and Vichy. The Siamese, "as their temperament is different from ours, do not credit these springs with healing powers."¹⁰⁹

The forests are populated by wild elephants, cruel rhinoceroses, and ferocious tigers. Birds of many kinds exist which are not seen in Europe. In the southerly forests hares and deer are common, and "it is a great pleasure to see a troop of monkeys, young and old, playing by the water's edge." This tropical climate produces many venomous animals and insects. Some snakes are twenty feet long and a foot and one-half in diameter, with a multi-colored skin of surprising beauty. Because they can be seen from afar, they are not the most dangerous of the snakes and they usually feed on poultry. Small snakes are the more to be feared, for they get into houses and beds. The common scorpions found in brushwood are black and their sting is fatal. Centipedes are black and one foot long, with venom at least as virulent as that of the scorpion. But worst of all is the "tokay" (*tok-ke*, a gecko), which gets its name from its cry. It is a lizard-like animal which hunts rats in the thatched roofs, and its bite is fatal. Strangely, the Siamese, who are so exposed to poisonous creatures, have not developed remedies for snake-bite.¹¹⁰ The annual inundation drowns many of the lowland's pesky insects. White ants ravage the books of the missionaries. To preserve them, the Europeans varnish the covers and edges with a little colorless lac. Gnats called "marin-gouins" (*mă-lang?*) sting the legs of the Europeans through their "shamoi stockings." Thousand-leggers about six inches long pinch the unsuspecting with head and tail. Fireflies with four wings give off light from their two lower wings when flying.¹¹¹

While Siam includes many hamlets and villages, only nine of its habita-

¹⁰⁷ Cf. below, pp. 1205, 1259.

¹⁰⁸ Cf. Graham, *op. cit.* (n. 5), II, 70-72.

¹⁰⁹ Gervaise in O'Neill (trans.), *op. cit.* (n. 91), pp. 6-12.

¹¹⁰ *Ibid.*, pp. 12-14. For the gecko see our pl. 269.

¹¹¹ La Loubère in Wyatt (intro.), *op. cit.* (n. 93), pp. 15-17.

"abadas" (rhinoceroses). Not knowing how to capture or train wild elephants, the Cochinchinese import tamed elephants from Cambodia. These elephants are twice as big as the Indian variety "usually exhibited in Europe." Trained elephants generally carry thirteen or fourteen persons on both land and water. On orders from its "nayre" (*nayar* or *mahout*) the elephant kneels and makes a ladder of its legs by which the passengers mount into the coach strapped to its back. In battles the roof is removed from the coach to make it into a tower for soldiers. Sometimes the mahout prods the elephant with a hook to demand its attention, but most instructions are given orally in any one of several languages. The only thing that disturbs this placid creature is getting a thorn stuck in the soft part of its foot. Elephants were formidable foes in war until the Portuguese learned how to use fireworks to scare and rout them. Trained elephants fight only against wild elephants and the rhinoceros. Elephants are used to hunt and kill the one-horned rhinoceros. The rhinoceros is roasted and eaten by the Cochinchinese. Its hoofs and horn are made into an antidote for poison.⁴¹

Because of their country's natural wealth, the Cochinchinese never go abroad to trade. They welcome foreign merchants who exchange silver for their products. Silver is traded as a commodity whose market price varies in terms of the local currency. Their money consists of rounds of brass with a hole in the middle, each stamped with the royal insignia. Every year a fair or market is held for about four months. To it the Chinese bring silver and the Japanese quantities of fine silks. The king and the country derive great profit from the trade, the customs, and the taxes. Since the Cochinchinese apply "themselves very little to arts," they willingly pay high prices and bid against one another for trinkets such as combs, needles, bracelets, and glass pendants. They also buy curiosities such as European garments. Coral is the imported product they value most highly. While they have more than sixty harbors and landing places along their coast, the most important port is that in the province of "Cacchian" (Quảng-Nam). Here there are two inlets from the sea on one of which is located Tourane and on the other "Pulluchimpello."⁴² At the place where these two inlets meet, the annual fair is held. Here the king assigned a plot of land to the resident Chinese and Japanese merchants. This city called Fai-fo (Hội-An) is really two cities in which the Chinese and Japanese live separately with their own governors and under their own laws. While the Portuguese and others are free to attend its fair, the Dutch, "as notorious pirates," are excluded. The Portuguese have been offered a site near Tourane on which to build a city of their own.⁴³

The Cochinchinese resemble the Chinese in color, shape of face, flat nose, and small eyes. Not as tall as the Chinese or as short as the Japanese, they are stronger and more active than either. While braver than the Chi-

⁴¹ Borri in Pinkerton, *op. cit.* (n. 12), IX, 775-84.

⁴² On his map Rhodes shows an island called "Polociampelo."

⁴³ Borri in Pinkerton, *op. cit.* (n. 12), IX, 795-97.

nese, they cannot match the Japanese in contempt for death. The Cochinchinese are the most courteous, affable, and hospitable of all Asian peoples. Of a loving disposition, they treat one another "as familiarly as if they were brothers or of the same family." They are charitable to the poor and never refuse to give alms. They are also prone to ask for anything they see that is new or curious to them. In breeding and civility they are like the Chinese in "always punctually observing all niceties." In every house they have three kinds of seats. Equals and family sit on a mat spread on the floor, persons of higher quality perch on a low stool covered with a finer mat, and high administrators and divines repose on a small couch. They are courteous to foreigners and respectful of alien customs, unlike the Chinese "who despise all but their own customs and doctrine."

Generally members of all classes wear silk garments. Women modestly cover their entire body and from the waist down wear five or six petticoats of various colors. Above the waist they don checkered bodices, over which they drape a thin and transparent veil. Their hair is worn loose and as long as it will grow. Over the head they wear a cap so broad that it covers the face; the caps of women of quality are "interwoven with silk and gold." In greeting another person, women lift up the brim of the hat to show the face.⁴⁴ Men wrap themselves with material over which they wear five or six colored silken gowns with wide sleeves. From the waist down, these gowns are slashed to reveal their various colors. Like the women, men wear their hair long and cover the head with the same sort of broad hat. They never cut their sparse beards, and men of substance let their fingernails grow long as a mark of distinction. Scholars and physicians cover their gowns with black damask, wear a stole about the neck, blue silk on the arms, and cover the head with a miter-like cap. Both sexes carry fans for ornament. For mourning they wear white. To uncover the head in public is deemed unmannerly. They wear neither shoes nor stockings but prefer leather sandals or bare feet. Before entering their houses they remove their sandals and wash their feet.

The basic, everyday food is boiled rice, with which they stuff themselves before tasting other dishes. They eat four times daily, sitting cross-legged on the ground before a small round table. Each person has his own table, as a rule. Since the food is cut into small pieces before being served, they have no need for knives or forks. They eat so neatly with two little sticks that they require no napkins. When entertaining guests, rice is not served, since "every man has enough of that at home." At feasts they serve each guest with at least one hundred dishes of all the varieties of food the country offers. When the masters have eaten their fill, their principal servants take their places. Since custom requires that all the dishes must be eaten, the lowliest servants finish off as much as they can and take home whatever re-

⁴⁴ This is a cone-shaped hat called *nón* that is unique to Vietnam, where it is worn by both sexes. See Whitfield, *op. cit.* (n. 2), pp. 213-14.

on Java, Lodewyckszoon reports that elephants are used for labor and hired out by the day.⁵¹ Javans told him that rhinoceroses are to be found on the island. He apparently had not seen one for himself; the plate in *D'eerste boeck* depicts a single-horned rhinoceros.⁵² According to Lodewyckszoon, Java has many deer, wild oxen (probably buffalo), and wild pigs. Javans also raise cattle, buffaloes, sheep, and goats.⁵³ More exotic to Lodewyckszoon are the long-tailed monkeys and an animal he calls the weasel whose droll pranks he finds entertaining.⁵⁴ Of Java's birds he lists only peacocks, "parrots" (probably green parakeets), "sparrows" (by which he may have meant the *burung pipit*, which looks like a European sparrow), and a very large bird with a long neck, crooked beak, no tongue, very small or no wings, no tail, and long, thick, powerful feet. It will, he reports, swallow anything—eggs, apples, or tin, for example.⁵⁵ Javanese rivers teem with crocodiles, which are often hunted or even raised for food by the Chinese in Bantam.⁵⁶ Lodewyckszoon apparently has not eaten crocodile, although he was told that it was delicious. He has tried some of the many turtles and tortoises found on Java's coasts and thinks they taste very much like veal. The Chinese, he reports, buy tortoise shells and ship them to China. He also mentions civet cats on Java.⁵⁷ Finally Lodewyckszoon describes Javanese fighting cocks and how Javans tie lancets on their spurs and then let two such armed cocks fight to the death while onlookers lay bets on them.⁵⁸

To Lodewyckszoon the most fascinating of Javanese plants is the areca palm and its fruit, which he describes in considerable detail. In Arabic, he reports, it is called "faufel," in Portuguese "arequero," and in Malay, "pinan" (*pinang*). It grows in many East Indian localities, including Java. Wherever it does not grow, it becomes an important article of trade. The areca nut looks like a date. When it first appears, the fruit is encased in a shell which falls off as it ripens, leaving the fruit hanging on a long thick branch. Everyone in the Indies chews areca nuts with white lime wrapped in a betel leaf. Betel leaves, writes Lodewyckszoon, grow on a vine like pepper or hops, and, like areca nuts, are offered for sale everywhere in Javanese towns. Wealthy people never go anywhere without servants to carry the ingredients for their quid. To offer betel to guests is an important part of Ja-

⁵¹ *Ibid.*, p. 133. So far as we know, no one else reported that elephants were used for labor on Java.

⁵² *Ibid.*, p. 134. It is an engraver's effort to copy the rhinoceros made so popular in Europe by Albrecht Dürer. For a Javan rhinoceros drawn from life see our pl. 273.

⁵³ *Ibid.*

⁵⁴ *Ibid.* Probably a red-brown echneumon or mongoose.

⁵⁵ *Ibid.*, and Lodewyckszoon's pl. 30. The last-described bird is probably the casuarius or Ceylon emu. Cf. our pl. 276.

⁵⁶ *Ibid.*, pp. 134-35.

⁵⁷ *Ibid.*, p. 135.

⁵⁸ *Ibid.*, p. 136. See our pl. 260

vanese courtesy. Also ubiquitous is the blood-red saliva which the chew produces.⁵⁹

Lodewyckszoon also describes bamboo, used by Javans in place of wood for most building purposes. Mangoes, he reports, grow on spread-out trees with small leaves, similar to walnut trees. The yellow-green fruit with traces of red is somewhat crescent-shaped and hangs from a small twig. It is fibrous, with a rather large pit, and it tastes very good. Mangoes ripen in October, November, and December. Javans also pickle them with leeks and ginger and eat them the way Europeans eat olives. Lodewyckszoon thinks pickled mangoes are less bitter than olives.⁶⁰ He also describes pineapples in accurate detail. No finer fruit can be found, he asserts. Although they grow in abundance on Java, Lodewyckszoon realizes that the Portuguese introduced them to the archipelago from Brazil.⁶¹

Lodewyckszoon reports many tamarind trees in Java, large, spread-out trees with leaves shaped like those of the pimpernel which curl up and cover the fruit when the sun sets. Its blossoms are at first red, then white; its fruit when ripe is ash-gray turning towards red. Tamarind fruit is preserved in salt and shipped to Europe, where apothecaries use it in the treatment of fevers, constipation, and liver ailments. The "Assa" (Javanese, *asem*; Malay, *asam jawa*) tree, found in abundance on Madagascar, also grows on Java. The "excellent" fruit "Duriaon" (durian, *Durio zibethinus* Murr.; Malay, *durian*; Javanese, *duren*) grows on high trees like apples. It is about as large as a pineapple, and although its strong, unpleasant smell sometimes discourages the uninitiated, Lodewyckszoon reports that it is the best, healthiest, and tastiest fruit in the East. Later Dutch visitors call them stinkers (see pls. 272, 278). The "Lantor" (lontar, *Borassus flabellifer* L.) palm also grows on Java. Its long leaves are used like paper to write upon, and are bound together between two thin pieces of wood to make a book.⁶² Lodewyckszoon also describes the "cubebe" (cubeb, *Piper cubeba* L.; Malay, *cuba chini*; Javanese, *kumukos*), in great demand by foreign traders; "Mangostans" (mangosteen, *Garcinia mangostana* L.; Malay, *manggistan*; Javanese, *manggis*), which he erroneously describes as growing like plums; the "Talasse" (Javanese, *tales*; Sundanese, *taleus*) plant which bears no fruit but is extensively used in Javanese cooking; and, of course, pepper.⁶³

Lodewyckszoon provides shorter descriptions—but also illustrations—of what the Portuguese called "laca" (*Artocarpus intergrifolia* L.f.; Malay-Javanese-Sundanese, *nangka*; sometimes called "Jack Tree" in English); the

⁵⁹ *Ibid.*, pp. 136-38. On betel chewing see D. L. Umemoto, "The World's Most Civilized Chew," in the periodical *Asia*, VI (1983), pp. 25-27, 48. Also see our pl. 264.

⁶⁰ Rouffaer and Ijzerman (eds.), *op. cit.* (n. 28), I, 138-39. See our pl. 365.

⁶¹ *Ibid.*, pp. 139-40.

⁶² *Ibid.*, pp. 140-42.

⁶³ *Ibid.*, pp. 142-43.

notes that Javans raise chickens both for food and for cockfighting, to which they are much addicted.¹¹⁶ He describes the casuarius or emu in much the same words as had Lodewyckssoon. The chameleon, Schouten observes, is reputed to change its color to conform to its immediate surroundings and is believed to live on air, requiring no food. Schouten was unable to verify the reports about the chameleon's diet, but after several experiments found it unable to change its color. He speculates that the reports probably resulted from seasonal changes. Bontius simply says the notion that chameleons live on air is false.¹¹⁷ Everywhere, even in houses and occasionally running across your face as you sleep, are the harmless "egdissen," or as Bolling calls them, "hakedis" (Dutch, *hagedis*, lizard). Bolling contends that the frog-like *hagedis* actually guard sleeping humans from snakes, lizards, and scorpions by awakening them when in danger.¹¹⁸ Much more troublesome are what Schouten calls cockroaches and the Portuguese call *baratties* (bookworms), but which he describes as a reddish flying insect which does much damage to books, paper, clothing, and food supplies. According to Schouten they smell bad if touched and even bite people. Older ships are usually infested with them.¹¹⁹ Ships also carry poisonous centipedes or millipedes, some six or seven inches long, whose sting causes considerable pain.¹²⁰ Poisonous scorpions also abound on Java. Schouten says they crawl into cases and chests, even into books. He also saw many large poisonous spiders. Finally he briefly describes fireflies.¹²¹ Bolling describes a salamander which the Javans call "jeccho" (gecko, a harmless lizard) in imitation of its call, whose urine is so poisonous that contact with it permanently ruins one's health.¹²² Bontius mentions chickens, waterfowl, goats, buffaloes, deer, and pigs as providing the best meat on Java. Unlike European ducks and geese, Javan waterfowl live in rivers rather than lakes and marshes, which makes their flesh more wholesome.¹²³ His descriptions of rhinoceroses and tigers, both of which he apparently saw on Java, are particularly perceptive. The rhinoceros is about the same size as an elephant, but with shorter legs. Its skin is very rough and thick, with deep folds on the sides and back which have led some Europeans to think it was armor-clad. It is harmless unless provoked, eats herbs and twigs rather than flesh. If provoked it will kill, however, tossing a horse and rider up into the air as if they were flies and sometimes killing adversaries by licking the flesh off their bones with its rough tongue.¹²⁴ The tiger, on the other hand, is a very dangerous beast.

¹¹⁶ Schouten, *op. cit.* (n. 46), III, 161–62. Bolling, *loc. cit.* (n. 82), p. 329, however, said there were no sheep on Java.

¹¹⁷ Schouten, *op. cit.* (n. 46), III, 162; Bontius, *op. cit.* (n. 16), p. 65.

¹¹⁸ Schouten, *op. cit.* (n. 46), III, 162–63; Bolling, *loc. cit.* (n. 82), p. 327.

¹¹⁹ Schouten, *op. cit.* (n. 46), III, 163.

¹²⁰ *Ibid.*

¹²¹ *Ibid.*, pp. 163–64.

¹²² *Loc. cit.* (n. 82), p. 327. Bontius also described the gecko; see our pl. 269.

¹²³ Bontius, *op. cit.* (n. 16), pp. 65–67.

¹²⁴ *Ibid.*, p. 11. See our pl. 273 for Bontius' illustration of the rhinoceros.

Not because it is fast; most wild animals can outrun it. Tigers always attack their prey from ambush, rarely giving chase if they miss catching it on the first leap. For this reason they frequently prey on humans, who are not fast enough to escape. Tigers are exceedingly strong. They usually kill their prey with a single stroke, and a tiger can easily drag a buffalo three times as large as itself into the woods. Bontius describes a symbiosis or "friendship" between the tiger and the rhinoceros. The two frequently live near each other. Javans told him that tigers, regularly gorging themselves on flesh, frequently suffer stomach discomfort and use rhinoceros dung as a remedy. Bontius, however, reports having seen a young rhinoceros killed and eaten by a tiger. Bontius judges tigers to be members of the cat family, and he reports that they drink the blood of their prey before eating it.¹²⁵

Bontius' description of the Ceram emu or "Casuary" is impressively precise. It walks erect, is about five feet tall and three feet from breast to tail. Its bald black-blue head is small in proportion to its body; its eyes are "large, shiny, and malicious." Two holes in the bill serve as nostrils and a yellow-brown ornament runs from the nostrils to the crown of the head. This ornament falls off when the emu sheds its feathers and grows back again like the feathers. The feathers are red and black. On the front of its neck are two red lobes similar to those of a turkey. It has long thick legs, covered with hard scales, and short toes without spurs. Its feet are not forked like those of the ostrich, but like the ostrich, the emu cannot fly. It eats anything thrown at it, simply passing later what is indigestible.¹²⁶

Bontius also describes a "wood-pecker" or "Indian starling" which can imitate the human voice more accurately than a parrot: edible birds' nests, gathered by the Chinese, which are made from a soft substance originating from the sperm of whales and other fish; a kind of Indian codfish; flying fish with wings like bats; and the orangutan, which he claims to have seen cry, sigh, and display other human emotions. Javans told him that orangutans could speak if they wished, but chose not to for fear of being put to work. Bontius thinks this ridiculous, but he reports without comment that Javans believe orangutans are the progeny of apes and native women.¹²⁷

Nieuhof's account contains many fine copperplate illustrations as well as written descriptions of Javan animals, birds, and insects.¹²⁸ Most Europeans were fascinated with crocodiles. Merklein, for example, reports crocodiles sixteen to eighteen feet long with skin so hard no gun can pierce it. The governor-general, he reports, offers a reward for dead crocodiles.¹²⁹ Merklein also describes Java's enormous snakes. He claims to have seen one swallow a woman; another which had swallowed a pig.¹³⁰ Herport reports

¹¹⁶ *Ibid.*, pp. 217–19.

¹¹⁷ *Ibid.*, p. 257. See our pl. 276.

¹¹⁸ *Ibid.*, pp. 67, 249, 271, and 285. See our pl. 277.

¹¹⁹ Nieuhof, *Zee- en land-reize* (n. 81), pp. 265–97.

¹²⁰ *Op. cit.* (n. 81), p. 13.

¹²¹ *Ibid.*