





# The Circulation of Animals and Animal Products in the South and East China Seas (Late Medieval and Early Modern Periods)

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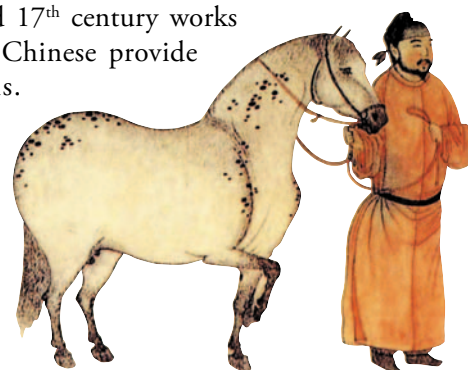
The history of maritime trade through the East and South China Seas in the early modern period, after the arrival of the Portuguese, Spanish and Dutch on the scene, has largely been analysed on the basis of Iberian and Dutch sources, which provide a wealth of data on the circulation of specific commodities, including quantities and prices. Within this context, Nagasaki, Manila, Guangzhou, Macao, Melaka, Batavia, Faifó, Fort Zeelandia, Zhangzhou and other ports took leading roles—for some decades at least—and the exchange of silk for silver has usually been perceived as a central element in the overall trade structure. Indeed, many historians have argued that Far Eastern trade in these two commodities dominated the second

half of the 16<sup>th</sup> and much of the 17<sup>th</sup> century. Certain other commodities, such as pepper, gold and copper, have received some attention as well, while the flow of such goods on which we only find random information in written European accounts, was usually ignored, or treated at the side.

Chinese and Japanese sources support the view that silk, silver, copper and other metals played a vital role in certain periods, but they do not seem to assign the same kind of weight to these commodities as European texts. This is particularly true of the 15<sup>th</sup> century, when cross-Pacific trade had not yet come into existence and when Japanese silver flows were still a 'minor affair'. During the 15<sup>th</sup> century in particular the circulation of pepper, tin, sapanwood, sulphur and horses assumed a key position in maritime exchange. This may especially be said with respect to Chinese tribute imports and government trade directed via the Ryukyu Islands.

Some 16<sup>th</sup> and 17<sup>th</sup> century works written in classical Chinese provide similar impressions.

The commodity lists in *Dongxiyang kao* 东西洋考 (prefaces 1617/18) are a well-known case in point.<sup>1</sup> They show that Fujianese



The populace of Naha greeting the Ryukyuan ships returning from China. Unknown artist and date (Okinawa Prefectural Museum).

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"Official on horseback". Ink and paint by Zhao Mengfu 赵孟俯 (Yuan Dynasty).

merchants traded in various raw materials and manufactured objects. Trade between Korea and Ryukyu, as recorded in the famous *shilok* 实录 collection and the *Lidai bao'an* 历代宝案, furnishes additional data. Korea received a multitude of products originating from Southeast Asia, Japan and other areas. Ryukyu ships, manned with local merchants but certainly also with Fujianese sailors, served as major carriers in this trade. There are also various archaeological and other records pertaining to exchange across the Korea Strait.<sup>2</sup> Finally, and more generally, textual fragments related to the role of Fujianese merchants in the ports of Kyushu suggest that many other commodities – beyond silk and silver – were regularly shipped back and forth between China and southern Japan, as well as between Japan and Southeast Asia.

In sum, even a very superficial analysis of commodity flows through the East and South China Seas in the period considered here will lead to a very simple result: in regard to such flows, the turn from the 15<sup>th</sup> to the 16<sup>th</sup> century did not matter very much; there was no all-encompassing 'revolutionary' change in the composition of maritime trade baskets, at least not prior to the growth of Japanese silver exports and the opening

of trans-Pacific connections via Manila. Furthermore, when the shipment of silver gradually became more important, this did not automatically lead to a sharp decline in the flow of 'traditional' commodities, nor did that trade fall very much behind the newly emerging silk-and-silver sector. On the contrary, it is possible that the combined impact of political, institutional and other forces entailed a growth in the exchanges of traditional items, possibly complementary to the increasing demand for silver in China, and for Chinese silk in Japan. Put differently, there was a strong element of continuity – in commodity composition – that bound together two segments in time: the late medieval and the early modern eras.

## II

Here we can turn to different considerations. In recent years Fernand Braudel's concept of the European Mediterranean was often applied to different sections of the Asian seas. Denys Lombard in particular has addressed this point in international conferences, and he was quite convinced that a comprehensive monograph ought to be written on the subject. However, a major



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Western book systematically transferring the conceptual dimensions of the Mediterranean model to the Asian world has not been produced, with the exception of a monograph by Gipouloux, which has a focus on more recent times. Instead we find a large number of smaller studies and several collective volumes which explore individual points or vaguely allude to the possibility of (or difficulties in) comparing the European scenario to the Asian seas. The present article falls into this same

category. It wishes to comment on some features that can be attributed to two 'sub-segments' of the Asian maritime world, namely the East and South China Seas.<sup>3</sup>

One of the assumptions generally associated with the Mediterranean model pertains to the concept of exchange within a closed or nearly closed maritime space. 'Exchange', in Braudel's understanding, refers not only to the circulation of commodities and trade more generally, but also to the flow of cultural elements

"Ladies on horseback". Detail from a silk scroll by Li Gonglin 李公麟 (Northern Song Dynasty).



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in a very broad sense. That includes ideas, religions, technical knowledge, the arts, lifestyles, and so forth. If the circulation of such elements across the sea, from coast to coast, leads to a certain degree of cultural homogeneity within a large maritime space, then the area in question may be treated as a single 'entity', with its own distinct characteristics, many of which can be derived, from cross-maritime links.

With respect to a specific port or coastal region, the above translates into the following, rather general equation: If the circulation of 'things', via the sea, was more important for a coastal location than the circulation of 'things' between that same site and its respective hinterland, then the port or littoral in question was more closely bound to a given maritime space than to its inland neighbourhood, and thus formed part of the maritime zone. Such a concept presupposes the existence of what Braudel has called *longue durée* factors, or, more simply put, it usually only works if one assumes that the 'maritime' dimensions, which exerted a decisive influence on a coastal port or area, culturally and in other ways, lasted over long periods in time. In practice, it is of course impossible to measure exactly the duration of cultural (and other) elements and their impact on a specific location, but in theory one may define different sets of variables, each with very distinct features. Natural phenomena such as currents and wind patterns, it may be assumed, usually occupied long segments in time. By contrast, the rise fall and of coastal empires, ports and networks were often short 'events'. The circulation of goods and ideas seems to range between these two extremes; in some cases they lasted for several centuries, or even longer; in others they disappeared rather quickly. Moreover, now and then one can detect cyclical movements, ups and downs, or perhaps some kind of constant (or 'linear') track—from x to y—in the gradual emergence of an individual 'factor'.

What the minimum duration for an observable phenomenon should be in order to qualify as a 'maritime constituent', or essential characteristic of a maritime area, naturally, will always remain a matter of debate. There are no mathematical definitions; the image of a hierarchically

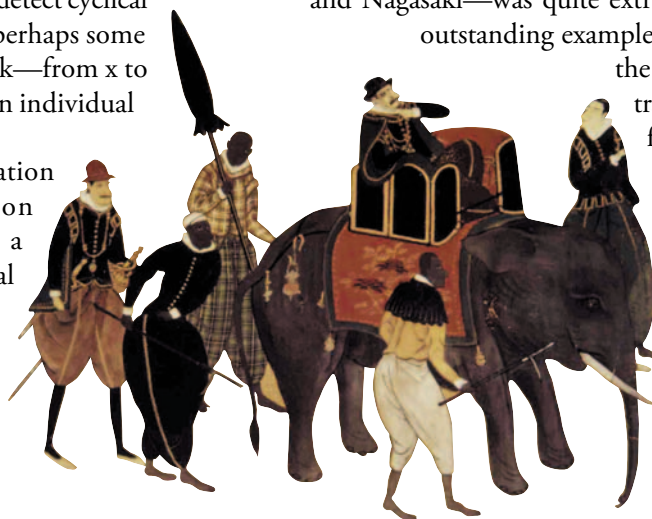
structured set of *longue durée* elements, perceived through the looking-glass of maritime history, will always be biased and incomplete. Notwithstanding—and very paradoxically—at times we seem to feel that such images do mirror the essence of 'reality', whatever that reality may have been.

## III

Probably, many historians would support the view that the Mediterranean model cannot be transferred to the Asian context on a one-to-one basis. More generally, different spaces share certain things in common (these elements could be called 'maritime universals'), while they also have unique characteristics of their own. This applies to the European Mediterranean and the various Asian seas. Therefore, the above should only be understood as a rough framework that provides some ideas on the issues of space, time and 'exchange'—or, how to define a maritime zone as such, how to deal with coastal sites, and how to relate these concepts to the circulation of 'things' over longer periods. With these ideas in our mind, we can now return to the flow of commodities and maritime trade across the East and South China Seas.

While Chinese exports of silk already began at an early point in time—Chinese historical works dating from the Tang, Song, Yuan and early Ming periods, it is well-known, frequently refer to such exports—the shipment of Japanese and American silver was, by comparison, a rather recent and short-lived phenomenon. Notwithstanding, it may be argued that the momentary impact of the silk-for-silver trade on selected ports—especially Macao, Manila and Nagasaki—was quite extraordinary. Macao is an

outstanding example in that regard, because the golden years of its first trade cycle, i.e., the period from its foundation in the 1550s through to the 1630s, depended, to a large measure, on profits drawn from the buying and selling of these two products.



Detail of a Japanese namban screen.



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Elephant. From Wang Qi 王圻, *Sancai tuihui* 三才圖會, 6 vols. (Taipei: Chengwen Chubanshe, 1970).

However, we may adopt a different perspective as well, if we focus on the flow of 'traditional' and seemingly unimportant things, which may have had a much deeper cultural and long-lasting impact on certain areas—in the Braudelian sense—than is commonly thought. Certain plant and animal products can be cited as examples. The shipment of calambac and related woods, for example, already started at an early point in time—and continued well into the Ming period. Such materials were highly valued and transported in limited quantities. They were needed in China, Korea and Japan, especially in medicine. Not infrequently, huge profits could be made on selling them, partly because demand was high, and partly because the costs of transportation were low, owing to the fact that these items would not occupy very much storage space on a sailing vessel.

The production and circulation of silver, it is true, had an impact on the mining industry in Japan (and elsewhere) and the financial sector in China, but besides filling the coffers of the well-to-do, and providing merchant networks and local government institutions with additional liquidity and increased buying power, the impact of silver coins and ingots on everyday life inside China and around the South China Sea should not be overestimated. In essence, the growth of silver supplies accelerated the flow of capital, thereby providing the background for increased investments, but silver was rarely used in Chinese, Korean and other Asian homes; in the form of dishes and art objects, it was mainly required by colonial households and the Catholic Church. In that sense, the *direct* cultural impact of silver on the majority of all coastal settlements in the areas considered was probably quite limited.



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## IV

Living animals and animal products, at which this short article will look in more detail, often played a very different role from silver and other metals. Indeed, living creatures always exerted a certain fascination on the minds of Chinese, Japanese and Korean writers. They can be found in hundreds of book illustrations and paintings, and they came to be associated with poetry, stories and even religions. To northern Chinese men of letters, southern animals in particular were exotic creatures; they served as symbols, they provided raw materials for myriad products, or they were simply encountered in the streets of port towns as pets and 'objects' of admiration. As was said, their impact on local culture cannot really be measured, but I would argue that they were certainly much more 'present' in a coastal area, or in the minds of people, than silver and other such things.

Japanese biombo screens in particular, some of which illustrate the presence of Portuguese ships and merchants in Nagasaki, may serve as an example to illustrate this point. These screens show a number of animals, such as pigs, dogs, birds and even elephants, but one rarely finds objects of silver on them. Evidently, the artists who made such screens had a strong interest in 'everyday' life or were simply curious to present an 'exotic' scene. In the course of time such scenes became quite common in Japan. The interest of the Japanese public in foreign 'things', it is clear, had little to do with silver; it was, after all, a *long durée* phenomenon that had already surfaced in earlier centuries.

In China, too, animals were brought to paper by the artists, whether these were colourful birds, beautiful insects, horses and fish, the imagined phoenix, or such 'rara' as imported giraffes, which were shipped to China in the days of Zheng He 郑和. A quick review of the literature on that period reveals that, indeed, animals and animal products must have had a substantial share in the composition of Ming tribute imports from maritime Asian countries. Elsewhere I have drawn attention to the fact that horses are the most frequently mentioned tribute 'item' in early and even mid-Ming contexts. These animals were not only acquired from the Mongols, Inner Asia and Korea, via the land route, but also from Ryukyu and a number of maritime countries.<sup>4</sup>

Horse shipments, as part of the maritime world, the first 'animal case' to be treated here, can be traced

to even earlier times, the Song and Yuan periods in particular. Today we know, for example, that the 'flow' of horses from Yunnan to Champa and Annam, and from Guangxi and Guizhou to Central China, was an important feature, which also had an impact on the maritime economy of certain areas around the Gulf of Tonkin. Hainan is one scenario within that context. It sent horses to Guangdong and was also in touch with Champa, which would occasionally seek help from

Giraffe, taken by Zheng He to China. Painting attributed to Shen Du 沈度 (Ming Dynasty).





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the Hainanese when horse supplies via Annam were interrupted for political or other reasons.<sup>5</sup> In this way, certain segments of what one may call the 'Indochina horse trading system'—which appears to have lasted for several consecutive centuries—came to form a *longue durée* constituent of trade and exchange along the western edges of the South China Sea, or the so-called *xi hang lu* 西航路 (Western trade artery), which connected Fujian and Guangdong via the Champa coast with the Gulf of Siam and the eastern shores of the Malay peninsula, and thereby also extended to western Kalimantan, Sumatra and northern Java.

Further north, between Korea and Japan, horses came to play an important role as well. When the Mongols tried to invade Japan, Yuan troops disembarked on various islands scattered in the Korea

Strait. It is believed that the horses which Kublai Khan's soldiers left on these remote locations later spread to some adjacent areas. Perhaps one can also establish a link here to the Ryukyu archipelago, which, regularly sent horses to China from the late 14<sup>th</sup> century onwards. This trade, it seems, provided Fujian's government posts with animals for regional communication and transport.

Although that trade ebbed off in the 16<sup>th</sup> century, the early Portuguese, as newcomers, were still interested in horses because for them a country that could mobilise a sizeable cavalry was a strong nation by the standards of the time. We thus find references to the presence of horses in early Portuguese descriptions of Hainan, Guangzhou and various Southeast Asian sites. In the 17<sup>th</sup> century horses continued to 'move' across the seas,

Kingfisher. From Wang Qi, *Sancai tubui*.



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in small numbers, and mostly as gifts. This also involved Japan, China, the Philippines, and so on. Generally, the raising and keeping of horses was considered an art that appears to have travelled across the seas as well. Horses, therefore, had a multiple impact on local societies.

References to the shipment of elephants are less frequently encountered in written works on the East and South China Seas. Song sources and the *Ming shilu* do mention such transports, and the trade in ivory, but in the course of time these giant animals gradually disappeared from the maritime scene—with a few exceptions only, when they were sent as (tribute) gifts. Probably this change of affairs should be related to cost considerations, a decline in animal resources, environmental factors, or it simply had to do with the fact that elephants no longer served in the military.<sup>6</sup> Be this as it may, one wonders how these ‘giant’ animals were stowed on a wooden vessel in late medieval times.

The same question could be raised with respect to the transportation of giraffes. Zheng He, we know, certainly had the technology to accomplish this delicate task, but the shipment of such creatures from Africa or Bengal to Nanjing was costly and, seen from a purely commercial point of view, certainly did not pay at all. No economic purpose can be associated with these animals, or with zebras, lions and other large beasts; they were brought to China for highly symbolic reasons, or simply because the court had a certain interest in acquiring exotic ‘things’, to show its ‘grandeur’, not completely dissimilar from the courts of earlier empires, such as the Han, who kept large ‘hunting grounds’ full of rare creatures. Put differently, the acquisition of living ‘mirabilia’ could only be afforded by the state, which had enough funds to finance such endeavours.<sup>7</sup>

## V

Other than giraffes, zebras and the like, the Ming court would also collect rare and precious birds from all over. We thus get references to the importation of ostriches, cassowaries, parrots, cockatoos, peacocks and so forth. Such animals were also brought by Zheng He. But again, the bird trade goes back to much earlier times. The ostrich, for example, was already known to



Hairpin, decorated with kingfisher feathers.  
From Zhou Xun 周汛 and Gao Chunming 高春明,  
*Zhongguo Lidai Funü Zhuangshi* 中国历代妇女妆饰  
(Hong Kong: Joint Publishing Co., 1988).

China in antiquity. Its eggs were held in high esteem, on account of their size, and because—terminologically—they were related to the dragon world, as ‘dragon eggs’.<sup>8</sup>

Other birds, such as kingfishers (usually *feicui* 翡翠) were admired for their beautiful feathers, which were needed to decorate objects of art, such as golden hairpins. Moreover, in the course of time, all kinds of expressions with the linguistic element ‘kingfisher’ (‘blue’) had come into existence, and kingfishers were often associated with female elegance. Under the early Ming, their feathers were imported in large quantities, especially from Indochina. Between 1416 and 1424 alone, the *Ming shilu* 明实录 records eight missions from Jiaozhi 交趾, i.e., northern Vietnam, which brought a total of more than 20,000 ‘pieces’ (probably dead animals). Other sources link the production and/or shipment of such animals/feathers (probably mostly *Alcedo atthis*) to Champa, Cambodia, Siam, Java, and even Bengal. Since regular deliveries to China may have entailed temporary reductions in local resources, coloured feathers taken from other birds were probably admixed to ordinary *feicui* feathers as substitutes, although this is not reported in the documents.<sup>9</sup>

References to parrots and other birds capable of imitating human speech (*yingwu* 鹦鹉, etc.) are even more frequently found in texts, and occasionally on paintings. Such birds appear in hundreds of Chinese poems and stories. This would be a theme for several specialised monographs. Under the Tang, for example, ‘talking’ birds were associated with Buddhism and kept as pets in the imperial court. Evidently such birds were much beloved in coastal China as well because we frequently find them in local chronicles pertaining to Fujian, Guangdong and Hainan. In the Qing period they are even encountered in Macao, as we know from the *Guangdong xinyu* 广东新语, *Aomen jilüe* 澳门纪略 and other such works.

Most exotic birds imported to China came from Southeast Asia. This also applies to the so-called ‘upside-hanging-down’ birds (*daoguaniao* 倒挂鸟), but there were locally ‘produced’ *daogua* birds as well; therefore, their zoological identification poses certain problems.



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Parrot. From Wang Qi, *Sancai tuhui*.

The latter were brought into connection with various kinds of *Nectariniidae* (sunbirds); imported *daoguaniao*, it was thought, should refer to one or two species under the *Paradisaeidae* (birds of paradise). According to early Iberian accounts, native traders in the areas now forming part of eastern Indonesia offered the feathers of paradise birds; these colourful feathers were then shipped to the ports of Java and from there to other distant regions. But there are reasons to assume that under the early Ming the term in question, when used for imported birds, probably stood for *Loriculus vernalis*—the vernal-hanging parrot—or some related candidate (and not for the birds of paradise). Later sources contain interesting descriptions of these creatures. One such example may be encountered in the *Aomen jilüe*: '[Its] body has a green shade, the forehead is deep green, and there is a vermilion dot on the breast. It has a yellow crest. When dancing,

the comb opens up. Occasionally it collects smoke beneath the wings; when it releases [the smoke], the whole room is enshrouded by it. Furthermore, it may suddenly start to rotate, with its head and feet forming a circle, which it greatly enjoys.' These lines, and a poem not quoted here, can be traced back to earlier material. By and large the description is also compatible with two paintings found in a Qing album, called *Gugong niao pu* 故宫鸟谱. All this seems to suggest that indeed *Loriculus* was meant, or a subspecies under that category, which was regularly shipped to China in the days of Zheng He, under the late Ming and even in early Manchu times.<sup>10</sup>

References to hornbills—usually called *heding* 鶴頂 in Yuan and Ming works—are a different matter. Again, they already occur in very early sources under various names. Possibly, the natural excrescence above the beak served as a substitute for tortoise-shell or

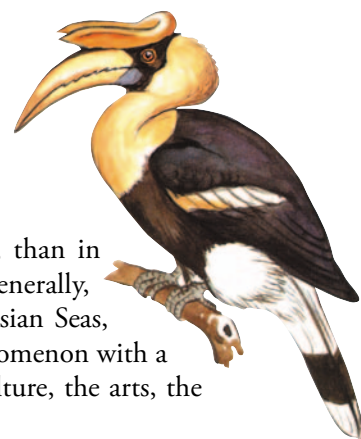
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similar raw materials. In various Southeast Asian cultures, such as inside Kalimantan, hornbills are still venerated today or seen as symbols of power and strength. In China, they are occasionally mentioned in the context of traditional medicine, one source being the *Bencao gangmu* 本草綱目 (late Ming), which summarises earlier writing.<sup>11</sup>

More birds regularly imported to China in medieval and early modern times could easily be listed, and the trade in them analysed, but I shall not discuss these matters here. Be this as it may, the above should not suggest that most Ming ships, when returning to China in the wake of Zheng He's armadas, or as private carriers in later periods, were full of winged beauties. Rather, a load of parrots and cockatoos, kept in cages, was certainly only an additional 'item'—an extra gift presented to the imperial court, as tribute, or offered for sale in a local market. What matters is that such animals were traded over long periods, obviously because they were much sought after as pets or otherwise. Indeed, birds were probably more desired in the Far East, and

Hornbill, modern illustration.

From *Zhongguo Yesheng Dongwu Baohu Xiehui* 中国野生动物保护协会, Qian Yanwen 钱燕文 (ed.), *Zhongguo Niao lei Tujian* 中国鸟类图鉴 (Atlas of Birds of China) (Zhengzhou: Henan Kexue Chubanshe, 1995).



more fashionable at that time, than in contemporary Europe. More generally, the trade in birds, across the Asian Seas, was a kind of *longue durée* phenomenon with a long-lasting impact on local culture, the arts, the world of symbols, and so on.

## VI

While the purely *economic* value of most imported birds was minimal, or restricted to the use of certain bird products in traditional medicine and the local cuisine (in South China, for example, *yingwu* were eaten), horses could be used for transportation and by the armed forces. Other animals and/or animal products also had a certain 'material' value. One famous case is

Bird of paradise. From Nan Huai ren 南怀仁 (Ferdinand Verbiest), *Kunyu tushuo* 坤輿圖說. Zhihai (Baibu congshu. 54.6).





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Cockatoo. From Qin Xiaoyi 秦孝仪 (Chin Hsiao-i) et al. (eds.), *Gugong Niao Pu* 故宫鸟谱 (The Manual of Birds), 4 vols. (Taipei: Guoli Gugong Bowuguan, 1997).

that of deer. Both the skins and meat of these animals were shipped through the South and East China Seas in great quantities. Japan was mostly interested in buying skins, which came from Taiwan and, during certain periods, also from Thailand. On Taiwan, Chinese settlers and Dutch colonial administrators organised a flourishing trade in deer skins. This commodity was, next to silk, one of the most important Dutch imports to Japan through much of the 17<sup>th</sup> century. The meat was locally consumed on Taiwan, but certain quantities were also sold, across the Taiwan Strait, to Fujian. Besides meat, Fujianese ships carried deer horn, which was in demand by pharmacists in China, to such ports as Zhangzhou and Xiamen. The trade in Taiwanese deer products reached its peak when the Dutch were in control of Fort Zeelandia; before that and after the conquest of Zeelandia by Zheng Chenggong 郑成功, this trade was not yet as important.<sup>12</sup>

Skins and horn also appear in trade between Korea and Ryukyu. During the 15<sup>th</sup> century, Ryukyu ships took shark skins, other fish skins and 'soft' skins (*yupi* 喻皮), usually of an unspecified nature, buffalo horn, ox horn and rhinoceros horn to Chôson, where these materials

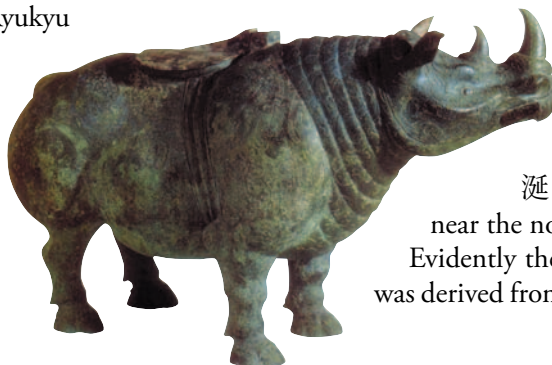
were mainly used in local medicine. Tsushima Island, it seems, was also involved in such shipments. The trade in skins and horns extended to many northern regions as well, far beyond the Korean peninsula, and would certainly deserve several major studies.

Another commodity requiring more scholarly attention is musk. This was an extremely expensive material collected in the mountainous regions of Yunnan and Tibet. From there, musk was sold—via northern Myanmar—to Pegu and other ports facing the Bay of Bengal and the Andaman Sea, and to the ports of southern China, especially Guangzhou, whence it was sent to Japan. After the arrival of the Europeans, this highly prized substance, used in medicine but also in the production of perfumes and ointments, appears in colonial sources as well, some of which are related to Macao and Nagasaki. It continues to be mentioned in the 17<sup>th</sup> century and, to this very day, has remained an extremely rare and expensive commodity.<sup>13</sup>

## VII

Musk was a luxury item and the trade therein a typical *longue durée* phenomenon. The same applies to the circulation of certain products collected from marine animals. Ambergris is perhaps the most peculiar case in that regard because its real nature remained a mystery for centuries—which, naturally, has given birth to many strange stories of its origin. Be this as it may, ambergris is a solid and fatty substance which comes from the intestines of the sperm-whale. It was found floating on the sea or collected on the beaches of tropical countries and then sold at high prices. Normally ambergris occurs in small lumps, mostly of a greyish colour, less frequently with white or yellow elements, or black parts. Known for its pleasant odour, small amounts were widely used in the production of fragrant essences and in traditional Chinese medicine, where ambergris was usually called *longxian* 龙涎, i.e., 'dragon spittle'.

Sources related to Zheng He's voyages refer to ambergris in the context of a small island called 'Longxian xu' 涎屿—i.e., Pulau Rondo, near the northwestern tip of Sumatra. Evidently the Chinese name for Rondo was derived from the conventional term for



Bronze vessel for wine in shape of a rhinoceros (Warring States Period).

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that substance. Other 'producing' areas then included Sri Lanka, Hormuz, La'sa (most likely on the Arabian peninsula), Dhofar, the Maldives and Laccadive Islands, and various sites along the modern Somali coast.

In Ming China ambergris was one of the most expensive products—on account of its rarity and extraordinary properties. One remarkable story links this vitalising 'drug' to the imperial bed chambers and the foundation of Macao in the mid-17<sup>th</sup> century: The Jiajing emperor, it was argued in court circles, should have a talented son as heir; for that purpose he had to be in good health—and thus needed a regular dose of ambergris. But ambergris was very difficult to find. A long search was commissioned, but without result. Eventually this led to negotiations with the Portuguese, who were able to offer small amounts, thereby relieving the Chinese side from its worries. The imperial court was so pleased, indeed, that Portugal received the peninsula of Macao in reward for its extraordinary services; this is how Portugal's easternmost city was born in the middle of the 16<sup>th</sup> century.<sup>14</sup>

While ambergris appears on Iberian and Dutch shipping lists of the 16<sup>th</sup> and 17<sup>th</sup> centuries, the role of tortoise-shell in that period is less well understood. Elsewhere I have argued that this substance, mostly collected from the hawksbill turtle, was an important trade item under the Song dynasty and certainly also under the Mongols, while one finds fewer references to Chinese imports in the Ming period. However, tortoise-shell continues to be mentioned in early modern accounts of the Malay world, especially in colonial works related to Sulawesi as well as in various Chinese texts on Hainan and other stretches of coastal China, and there are also occasional references to shipments through the East China Sea. Therefore, once again, tortoise-shell, like ambergris and other substances, has a long history of its own: it was used in medicine, to produce small objects such as chopsticks, and to decorate furniture, boxes, and the like. To what extent it served as a substitute for other materials of a similar nature (like ox horn), or was itself substituted by these, remains an open issue. Finally, the meat and eggs

of many sea turtles were considered delicacies in Chinese cuisine, and, above all, turtles and tortoises have entered Chinese mythology and lore and thus taken a common place in popular thought and religious beliefs.<sup>15</sup>

Already in Han times we can encounter many references to red coral. This precious substance came from the Mediterranean world and reached the Far East, via Iran, by both the land and sea routes. It was traded in the form of broken pieces, beads and 'trees', and was used to make various objects, especially bracelets, amulets and figurines. Later, coral became very popular



*Daoguaniao*, or *Loriculus vernalis*.  
From Qin Xiaoyi (Chin Hsiao-i) et al.  
(eds.), *Gugong Niao Pu*.



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in Buddhism (as one of the so-called seven or eight 'treasures', next to diamonds, lapis lazuli, gold, etc.). In the Far East, it was also needed for the production of stamp paste (for seals), and again in medicine. Coral has been discovered in many burial sites and regularly appears in texts related to China's maritime trade. Under the Ming and Qing in particular, the terminology (coral is normally called *shanhu* 珊瑚 in Chinese) begins to diversify—i.e., other than references to red coral, one now also finds such expressions as 'black', 'white' and 'green or blue' *shanhu*. Works related to the period of Zheng He's voyages, for example, mention black coral in the context of the Indian Ocean. Portuguese works also list coral as a trade item, especially the red variety. This includes some scattered notes on shipments via India and Macao, but it is not clear to what extent the markets around the East China Sea became involved in the coral business during that period.<sup>16</sup>

*While Chinese exports of silk  
already began at an early  
point in time...the shipment  
of Japanese and American silver  
was, by comparison,  
a rather recent and short-lived  
phenomenon.*

Traditional Chinese works allude to the existence of 'coral islands', however, these references remain vague, and the general impression prevails that the true nature of coral was rarely understood, i.e., in most cases coral was sold as a kind of precious or semi-precious stone. Similar problems can be detected in regard to other marine products. Giant clams (usually *chequ* 砗磲, but also other orthographs) are a case in point. This 'material' appears in the context of both maritime trade and land-based exchange and was, like coral, sometimes taken for an expensive stone. It is only in later periods that the semantic dimensions begin to emerge more clearly. From the Song and Ming onwards the expression *chequ* was mostly applied to various species (shells) under the *Tridacna* and *Hippopus* groups, and one finds a number of references to *chequ* shipments across the South China

Sea. Possibly much of the *chequ* then offered for sale came from Hainan, the Xisha Island, and the coasts of Vietnam, but giant clams are also mentioned as products of the Malay world. Moreover, archaeologists have discovered that, ages ago, such shells must have played a central role in the pre-history of Ryukyu.

Several *Tridacna* shells are white and very hard, and therefore apt to be worked into small objects of art, such as figurines, amulets and boxes. In some cases, *chequ* cups achieved high prices, and the polished material, on account of its beauty and shine, was compared to jade. Today, *Tridacna* plates and cups are still offered as expensive collector's items by special agents or in auctions. Besides using the shell to manufacture valuable objects, the meat of certain giant clams is considered a delicacy in the Far East, and various *chequ* products occur in traditional Chinese texts on medicine. In other cultures the large and unbroken shells served as containers or vessels, or were simply used as decorative items. In some parts of the ancient Orient and Greece, giant clams, and the imitation of their shells, were particularly common.<sup>17</sup>

Early Chinese texts contain many more references to other sea shells and clams. Certain terms, for example *bei* 贝, are related to the circulation of cowry shells and can be associated with monetary history. Archaeology provides additional evidence. This links, for example, to the areas of modern Myanmar and Yunnan, where cowries were still in use under the mid-Ming.<sup>18</sup> However, in the period and regions considered here, cowry money was of no importance. All major ports around the East and South China Sea were then relying on metallic currencies. Therefore, we may ignore the 'cowry story' in the context of the present paper.

This should certainly not apply to many other animals and animal products whose circulation in late medieval and early modern Asia is well-documented but not yet fully understood.<sup>19</sup> Shark fins and certain products derived from the whaling 'industry', various kinds of conches, bees wax, doves and other birds, special feathers, dried shrimps and fish, different types of pelts and skins from tigers, leopards, snakes, apes, etc., bezoar stones and other substances can be encountered in many locations as trade items, in medicine, as raw materials used for decorative purposes, in manufacturing, and so on. As has been mentioned, many of these items occur in traditional Chinese, Japanese and Korean sources, and later in



trade in skins tied together at least five major regions: Siam, Fujian, Taiwan, Japan and Korea. Its internal mechanics—such as possible substitution effects (deer skin and other skins and pelts)—would still need a more thorough investigation, although it is clear from the sources that the Taiwan part of this fascinating story occupied a central role in history, especially in the middle of the 17<sup>th</sup> century.

Clearly, the duration of each trade cycle differed in length, but in most cases we can certainly speak of *longue durée* phenomena, in the Braudelian sense, and in most cases, the artificial boundary between 'late medieval' and 'early modern' makes little sense, because trade cycles rarely ended at around 1500. On the contrary, there are reasons for the assumption that the circulation of certain (though not all) traditional products accelerated after the arrival of the Europeans. Furthermore, some animals and animal products were expensive trade items associated with luxurious urban life styles (birds, feathers, certain medicinal



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substances), while other products had a larger market. The extraordinary variety of imports to Zhangzhou, as indicated in *Dongxiyang kao*, and the many descriptions found in such works as Huang Zuo's 黄佐 influential *Guangdong tongzhi* 广东通志 (1561), not only show a continued interest in exotic matters, but also suggest that many Chinese ports and towns must have enjoyed a certain affluence, which was a *sine qua non* condition for the nearly uninterrupted acquisition of many expensive products. Presumably the same may be said in regard to certain ports on Kyushu and along the shores of Korea, the Philippines and other areas.

Clearly, demand for specific animal products fluctuated from one period to the next, but in all likelihood these fluctuations were somewhat different in each case. Certain basic ingredients for the preparation of medicinal substances were always required in China and Japan—presumably, demand for such items remained quite stable—while materials mostly used for manufacturing objects of art, were not as essential in daily life. Put differently, the elasticities of demand and supply varied, to some degree at least, with the nature of a product and the utility associated therewith. Cost considerations related to transportation and market risks had a definite impact on some of these fluctuations. The larger an animal, the higher the cost of stowing it on a sea-going vessel. As opposed to giraffes and horses, small and high-priced creatures posed no problems whatsoever.

Certain small expensive things could be sold virtually everywhere, at any point in time, so that, if

only a small share of them was saved in the event of shipwreck, the material losses were still manageable—or at least not as devastating as, say, in such cases where a ship fully laden with bulky silks and heavy ingots, but little else, disappeared in the middle of the sea. Presumably, sailors and merchants who managed to save a few pounds of musk or ambergris tied around their neck in a water-tight mini-container, would be able to survive, materially, for a few months at least, upon reaching the nearest port.

As was said, the exchange of animals and animal products had an impact on coastal cultures. Shipping horses required advanced transportation techniques (which, unfortunately, are not described in the sources), veterinary knowledge, and other logistic preparations. A comparison of Chinese, Japanese and other works related to traditional medicine in the Far East reveals, for example, that certain substances were used against the same (or similar) diseases in both China and Japan. We also know that, occasionally, medical doctors would travel across the East China Sea. In other words, the circulation of animals and animal products can be associated with the circulation of know-how or, more generally, techniques and scientific knowledge of various kinds—again in the Braudelian sense. These and other elements, there can be no doubt, clearly suggest that the coastal areas around the East and South Chinas shared many things in common—and may thus be compared to the Mediterranean world, or considered as variations of that model, at least in the period considered here. **RC**

## NOTES

- 1 See, for example, Stephen Tseng-hsin Chang, 'Commodities Imported to the Chang-chou Region of Fukien during the Late Ming Period: A Preliminary Analysis of the Tax Lists found in *Tung-hsi-yang kao*', in R. Ptak and Dietmar Rothermund (eds.), *Emporia, Commodities and Entrepreneurs in Asian Maritime Trade, c. 1400-1750*, Ser. Beiträge zur Südasiensforschung, Südasiens-Institut, Universität Heidelberg 141 (Stuttgart: Franz Steiner Verlag, 1991), pp. 159-94.
- 2 Recently, for example, S. M. Hong-Schunka, 'An Aspect of East Asian Maritime Trade: The Exchange of Commodities between Korea and Ryūkyū (1389-1638)', and Barbara Seyock, 'Pirates and Traders on Tsushima Island during the Late 14<sup>th</sup> to Early 16<sup>th</sup> Century as Seen from Historical and Archaeological Perspectives', both in Angela Schottenhammer (ed.), *Trade and Transfer Across the East Asian 'Mediterranean'*, Ser. East Asian Maritime History 1 (Wiesbaden: Harrassowitz Verlag, 2005), pp. 91-161.

- 3 For some suggestions on the Mediterranean model in the Asian context, see R. Ptak, *Die maritime Seidenstraße. Küstenräume, Seefahrt und Handel in vorkolonialer Zeit*, Ser. Historische Bibliothek der Gerda-Henkel-Stiftung 2 (München: C. H. Beck 2007), introductory part. François Gipouloux, *La Méditerranée asiatique. Villes portuaires et réseaux marchands en Chine et en Asie du Sud-Est, XVI<sup>e</sup>-XXI<sup>e</sup> siècle* (Paris: CNRS, 2009) follows a different approach. For recent micro-studies, with theoretical implications, also see some of the articles in Angela Schottenhammer (ed.), *The East Asian 'Mediterranean': Maritime Crossroads of Culture, Commerce and Human Migration*, Ser. East Asian Maritime History 6 (Wiesbaden: Harrassowitz Verlag, 2008). Haneda Masashi (ed.), *Asian Port Cities, 1600-1800. Local and Foreign Cultural Interactions* (Singapore: NUS Press, in association with Kyoto University Press, 2009), in the introductory section of his book, enlarges some of the conceptual

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- issues. Earlier work on Asia and Europe includes: Denys Lombard, 'Une autre "Méditerranée" dans le Sud-est asiatique', *Hérodote* 28 (1998), pp. 184-93; Peregrine Horden and Nicholas Purcell, *The Corrupting Sea: A Study of Mediterranean History* (Oxford: Oxford University Pr. 2000); R. Ptak, 'Quanzhou: At the Northern Edge of a Southeast Asian "Mediterranean"?', in Angela Schottenhammer (ed.), *The Emporium of the World: Maritime Quanzhou, 1000-1400*, Ser. Sinica Leidensia 49 (Leiden: E. J. Brill 2001), pp. 395-427; Roy Bin Wong, 'Entre monde et nation: les régions braudeliennes en Asie', *Annales* 66.1 (2001), pp. 9-16; Heather Sutherland, 'Southeast Asian History and the Mediterranean Analogy', *Journal of Southeast Asian History* 34.1 (2003), pp. 1-17.
- 4 R. Ptak, 'Pferde auf See: ein vergessener Aspekt des maritimen chinesischen Handels im frühen 15. Jahrhundert', *Journal of the Economic and Social History of the Orient* 34 (1991), pp. 199-233, and R. Ptak, 'Zheng He i la importació de productes i animals exotics cap a Xina', in Dolors Folch (ed.), *Els grans viatges de Zheng He. Les expedicions marítimes de la Xina del segle XV* (Barcelona: Angle Editorial and Museu Marítim de Barcelona, 2008), especially pp. 109-11.
  - 5 On horses in the Indochina-Guangxi-Hainan region, recently: Geoff Wade, 'The Horse in Southeast Asia prior to 1500 CE: Some Vignettes', and R. Ptak, 'Hainan and the Trade in Horses (Song to Early Ming)', in Bert G. Fagner, Ralph Kauz, R. Ptak and Angela Schottenhammer (eds.), *Pferde in Asien: Geschichte, Handel und Kultur. Horses in Asia: History, Trade and Culture*, Ser. Österreichische Akademie der Wissenschaften, Philosophisch-historische Klasse, Denkschriften 378 (Wien: Verlag der Österreichischen Akademie der Wissenschaften, 2009), pp. 161-77, 219-28. Furthermore: Li Tana, 'A View from the Sea: Perspectives on the Northern and Central Vietnamese Coasts', *Journal of Southeast Asian Studies* 37 (2006), pp. 83-102, and 'The Rise and Fall of the Jiaozhi Ocean Region', in Angela Schottenhammer and R. Ptak (eds.), *The Perception of Maritime Space in Traditional Chinese Sources*, Ser. East Asian Maritime History 2 (Wiesbaden: Harrassowitz Verlag, 2006), pp. 125-39.
  - 6 Some ideas may be derived from Mark Elvin's *The Retreat of the Elephants: An Environmental History of China* (New Haven: Yale University Press, 2004).
  - 7 Chinese ethnographic accounts mention dozens of animals. For recent studies, see, for example, Zhang Zhijie 张之杰, *Yan qiao ji. Kexue yu meishu de jiaohui* 盐桥集. 科学与艺术的教会 (Taipei: Zhang Zhijie chubanshe, 2006), pp. 251-60 (and on giraffes especially pp. 244-50, 261-9), or Zhang Jian 张箭, 'Xia Xiyang suo jian suo yinjin zhi yishou kao' 下西洋所见所引进之异兽考, *Shehui kexue yanjiu* 社会科学研究 (1/2005), pp. 152-8 (also on <http://www.cnki.net>). Earlier work also includes research on the *Yiyu tuzhi* 异域图志, an anonymous text, possibly from the early Ming period. See, for example, A. C. Moule, 'An Introduction to the I Yü T'u Chih or 'Pictures and Descriptions of Strange Nations', in the Wade Collection at Cambridge', *T'oung Pao* 27 (1930), pp. 179-88, and 'Some Foreign Birds and Beasts in Chinese Books', *Journal of the Royal Asiatic Society* (1925), pp. 247-61.
  - 8 Recently on the ostrich, for example, Wang Ting 王頊: 'Tiaozhi daque - Zhongguo zhong jin gu jicai zhong de daxing zouqin' 条支大雀—中国中近古记载中的大型走禽, [www.eurasianhistory.com/data/articles/a02/1555.html](http://www.eurasianhistory.com/data/articles/a02/1555.html) (December 2007).
  - 9 For kingfishers, see, for example, R. Ptak, *Exotische Vögel: Chinesische Beschreibungen und Importe*, Ser. East Asian Maritime History 3 (Wiesbaden: Harrassowitz Verlag, 2006), pp. 59-90.
  - 10 For parrots and similar birds, *ibid.*, pp. 11-33. Also R. Ptak, 'Notizen zum qinjiliao oder Beo (*Gracula religiosa*) in alten chinesischen Texten (Tang- bis mittlere Ming-Zeit)', *Monumenta Serica* 54 (2007), pp. 447-69, and 'Weiße Papageien (*bai yingwu*) in frühen chinesischen Quellen bis zur Tang-Zeit', in the same (ed.), *Tiere im alten China. Studien zur Kulturgeschichte*, Ser. Maritime Asia 20 (Wiesbaden: Harrassowitz Verlag, 2009), pp. 31-48.
  - 11 On the *daoguaniao* and birds of paradise, for example, R. Ptak, 'The Avifauna of Macau. A Note on the *Aomen jiliu*', *Monumenta Serica* 57 (2009), pp. 201-11; *Exotische Vögel*, pp. 91-103; Wang Ting: *Xiyu Nanhai shidi yanjiu* 西域南海史地研究, Ser. Wen shi zhe yanjiu congshu (Shanghai: Shanghai guji chubanshe, 2005), pp. 111-28; Matthias Röder, 'Vom kopfüber Hängenden oder *daoguaniao*', in R. Ptak, *Tiere im alten China*, pp. 17-30.
  - 12 On hornbills, see R. Ptak, *Exotische Vögel*, pp. 35-58. Also Yang Hezhi 杨赫之, 'Heding kao' 鹤顶考, *Zhonghua kejishi tonghaohui huikan* 中华科技史同好会会刊 6 (12/2002), pp. 9-15.
  - 13 On deer products, see, for example, Nakamura Takashi 中村孝志, 'Shiqi shiji Taiwan lupi zhi chuchan ji qi dui Ri maoyi 十七世纪台湾鹿皮之出产及其对日贸易', *Taiwan yanjiu congkan* 台湾研究丛刊 71 (1959), pp. 24-42; Thomas O. Höllman, 'Formosa and the Trade in Venison and Deer Skins', in R. Ptak and D. Rothermund (eds.), *Emporia*, pp. 263-90; Pol Heyns (Han Jiabao), 'Deer Hunting in Dutch Formosa', in Ku Wei-ying (ed.), *Missionary Approaches and Linguistics in Mainland China and Taiwan*, Ser. Louvain Chinese Studies 10 (Leuven: F. Verbiest Foundation and Leuven University Press, 2001), pp. 59-100.
  - 14 See, for example, Peter Borschberg, 'Der asiatische Moschushandel vom frühen 15. bis zum 17. Jahrhundert', in Jorge M. dos Santos Alves, Claude Guillot and R. Ptak (eds.), *Mirabilia Asiatica. Produtos Raros no Comércio Marítimo. Produits Rares dans le Commerce Maritime. Seltene Waren im Seehandel*, Ser. South China and Maritime Asia 11 (Wiesbaden: Harrassowitz Verlag; Lisbon: Fundação Oriente, 2003) pp. 65-83.
  - 15 For ambergris, see, for example, Peter Borschberg, 'Der asiatische Ambra-Handel während der frühen Neuzeit (15. bis 18. Jahrhundert)', in Alves et al., *Mirabilia Asiatica...*, vol. 2 (same series and publisher as vol. 1, 2005) pp. 167-201. For Macao and ambergris, see the many studies by Jin Guoping 金国平 and Wu Zhiliang 吴志良, for example 'O significativo de 'xiang' (âmbar cinzento) 'yan' (ópio) na história de Macau', in their *Revisitar os Primórdios de Macau. Para Uma Nova Abordagem da História*, Ser. Coleção Memória do Oriente (Macao: Instituto Português do Oriente, Fundação Oriente, 2007), especially pp. 457 et seq.
  - 16 See, for example, R. Ptak, 'China and the Trade in Tortoise-shell (Sung to Ming Periods)', in R. Ptak and D. Rothermund (eds.), *Emporia*, pp. 195-229.
  - 17 For corals, see, for example, R. Ptak, 'Notes on the Word 'Shanhu' and Chinese Coral Imports from Maritime Asia, c. 1250-1600', *Archipel* 39 (1990), pp. 65-80; Peter Francis, *Asia's Maritime Bead Trade 300 B.C. to the Present* (Honolulu: University of Hawai'i Press, 2002), especially pp. 154-7.
  - 18 R. Ptak, 'Notizen zu Riesenmuscheln im alten China', to appear in a collective volume, 2010.
  - 19 On cowries, see, for example, Hans Ulrich Vogel, 'Cowry Trade and Its Role in the Economy of Yünnan, the Ninth to the Middle of the Seventeenth Century', in R. Ptak and D. Rothermund (eds.), *Emporia*, pp. 231-62; also, revised and in two parts, in *Journal of the Economic and Social History of the Orient* 36 (1993), pp. 211-52, 309-53; Yang Shouchuan 杨寿川 (ed.), *Beibi yanjiu* 贝币研究 (Kunming: Yunnan daxue chubanshe, 1997).
  - 20 In some cases, such as pearls, there are several learned books, but one may still encounter important Oriental sources, which have rarely been used by European specialists. One example is R. A. Donkin's voluminous monograph *Beyond Price. Pearls and Pearl Fishing: Origins to the Age of Discoveries*, Ser. Memoirs of the American Philosophical Society Held at Philadelphia for Promoting Useful Knowledge, vol. 224 (Philadelphia: American Philosophical Society, 1998), which cites many European accounts, but overlooks relevant Chinese works.