

The Ship for the Imperial Envoy: A Footnote in Chinese History

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Liu-ch'iu entered into a tributary relationship with China in 1372, a relationship which continued--despite actual control over the tiny island kingdom exercised by the daimyoate of Satsuma after 1609--until almost the end of the 19th century.¹ One feature of this relationship was the investiture of Okinawan kings by the Chinese emperor. Such investiture was performed by specially appointed Celestial Envoys (*t'ien shih* 天使). The kings of Liu-ch'iu considered the investiture ritual by such envoys as essential, despite the very considerable trouble and expense involved, as is evidenced by the fact that they would not accept investiture by proxy.² The Chinese envoys, for their part, while of course sensible of the honor of being appointed to stand in for the emperor, were also confronted with what was in those days a hazardous voyage, in addition to numerous vexations in preparing for their mission.

Altogether, there were twenty-three such missions: fifteen during the Ming, from 1404 to 1633, and eight during the Ch'ing, from 1663 to 1866.³ The Ch'ing missions have been pictured for us in a remarkably complete and lucid paper by Ch'en Ta-tuan (1963). The journals of several Ch'ing envoys have been summarized⁴ and excerpts translated.⁵ So far as I am aware, no Western-language summary or translation of reports by Ming envoys has been done.

In the present paper we utilize the three earliest extant reports, dating from 1534, 1579, and 1606 respectively. Our interest here is neither the information given therein on Liu-ch'iu itself, nor the details of the investiture procedures. We have, rather, been intrigued by the possibility of learning something about the construction of the junks which conveyed the envoys, as well as getting a sense of the realities of

¹ For a good summary, see Kerr (1958: 62 ff; 130 ff).

² As suggested by the Chinese government in 1682, for example. See Ch'en Ta-tuan (1968: 161).

³ See Sakamaki (1963: 78)

⁴ By E. C. Bridgman (1838: 113-118) and Antoine Gaubil (1752).

⁵ By S. Wells Williams (1869/70).

the adventuresome journey itself.⁶ We were hopeful of accomplishing the former objective when we noted that each of these early reports contains a section dealing with construction of the boat. As for the voyages themselves, each of the reports likewise contains a detailed account; however, we have thought it more sensible to leave that subject for another treatment.

The first thing that strikes one about construction of the ships is the simple fact that these vessels had to be specially built for their purpose. One would, upon first thought, assume that there would be naval vessels available to carry the emperor's ambassadors. It is only on second thought that one remembers that historical circumstances made this impossible. These have been well summarized by Joseph Needham:

The navy simply fell to pieces. By +1474 only 140 warships of the main fleet of 400 were left. By +1503 the Têngchow squadron had dropped from 100 vessels to 10. Desertions occurred wholesale and the corps of shipwrights disintegrated . . . By +1500 regulations were in force which made it a capital offence to build a sea-going junk with more than two masts . . . [An edict] of +1551 declared that whoever went to sea in multi-masted ships, even to trade, was committing a crime analogous to espionage by communicating with foreigners . . . (Needham 1971: 526 ff)

In the light of this official policy it is easy to understand not only why there were no ships available to convey the imperial envoys to Liu-ch'iu, but also why the search for experienced mariners was met with some panic amongst the sailors of the coastal towns. The necessary personnel were procured only after assurances that impressment into government service would be rewarded rather than punished. We note that, despite the long-standing prohibitions on sea-faring, there were in fact men who had continued to venture abroad: In the report of 1534 the deputy chief of the mission asks a prospective navigator if he has ever been to Liu-ch'iu. The seaman replies in the negative, but also says, "Even though your servant has never been to that place, yet he has been to no fewer than several tens of overseas lands, and he is quite fully versed in navigation . . ."⁷

⁶ The translation of Williams (1871) is the only piece we have seen that contains something on both of these subjects.

⁷ Kao Ch'eng, in Ch'en K'an (1534), p. 91.

Another surprise for the naive reader is the degree of independence of the local officials (at least in Fukien) and their lack of cooperation with the imperial envoys on occasion. Especially in the account of the mission completed in 1606 we are treated to an astonishing picture of the ambassadors being cheated, deceived, and totally frustrated in their efforts to get materials to construct the ship, and then to build it. Only after the emperor was memorialized, and the Ministry of Rites was then directed to impeach obstructive officials, did things proceed somewhat apace.

This reminds us further of the fact that things moved at what seems to us an incredibly slow rate in those days. Not only was it sometimes many years after the death of an Okinawan king before his successor would be ready to send the request for investiture to Peking, but then the whole process of responding and completing the affair was incredibly protracted. For example, the first of the missions was initiated by the arrival of an Okinawan embassy bearing the announcement of their king's death, which had taken place two years before (in 1526). After receiving the request for investiture of the new ruler, the Li Pu investigated to confirm the state of affairs. The report of this investigation was not in hand until 1531. The following year the Li Pu memorialized the emperor, recommending dispatch of two envoys to perform the investiture ceremony.

As a result of this memorial, the emperor appointed Ch'ên K'an 陳侃 and Kao Ch'êng 高澄 chief and deputy chief of mission, in the 5th month. Exactly one year later these gentlemen arrived in Foochow to start construction of their ship. It was exactly a year further that they were ready to set sail. The voyage took three weeks. After their business was finished, they waited for the change of monsoon for the return voyage, which brought them back to Foochow five months from the time they had set out. In other words, about six years elapsed between the arrival of the request for investiture and the return of the envoys from their mission.

The same is true of the second mission (1573-79); while the third mission involved about seven years, including three years and nine months between the appointment of the envoys and their return to China.

So far as our hope to acquire significantly new information about Chinese sea-going junks of Ming times is concerned, we have to confess to some disappointment. The writers of our three reports were, of course, literati with no personal expertise in such matters; but

they did have to become responsible for the construction of their ships from scratch, even to the acquiring or manufacturing of materials. One could hope, therefore, that they would have taken extensive technical notes to share with us, but the few notes of this kind that we do find unfortunately lack, in most cases, the necessary explanations. What is one to make, to give an example, of this passage from the account of the chief envoy, Hsia Tzu-yang 夏子陽, in 1606:

The following are all attached to and rise from the ship's bottom timber: the two (?) *ts'an-chiao-chen* 交參, the *lung-(?)p'ang* 龍旁, the *lung-ku* 龍骨, and the *t'ung-liang ts'an-ts'o-ch'ien-shu* 通樑參錯鈐束...

It would not have been too much trouble for Hsia to tell us *what* each of these items actually is, or at least what its function is. Such technical terms are indeed the very things we must understand in order to understand the traditional technology.⁸ In the appendix to this little essay the reader will find listed some technical terms in our sources, many of which are unclear to the writer.

The mission of 1534 seems to have been in the position of starting *de novo*, despite the fact that there had been earlier missions since 1404. This is because, according to a memorial of the chief envoy, all the old files in the Li Pu had been destroyed by fire. He sums up the situation as follows:

Concerning what should be done with regard to constructing the ship and crossing the sea, this was all learned by consulting with old commoner artisans. Concerning the sea routes, and the ceremonies to be used in conducting relations [with the Okinawan officials], there was no one from whom to inquire . . .

It was to provide guidance for later missions that the envoys of 1534 wrote their detailed accounts, and these accounts were in fact extensively utilized by their successors, both as models and in substance. With regard to the matter of the ship itself, it is especially the Record of

⁸ Among these mysterious items the *lung-ku* is the only one that has been mentioned in modern studies, as far as I know. It means either a keel, in the sense of the main longitudinal timber at the base of the ship's hull, or else a raisable center-board. (For the former, see Thompson [1968: 186]; for the latter see Needham [1971: 429]. And yet the way Hsia speaks of it here, it seems doubtful that the term means either of those things in this case.

Managing the Boat (*ts'ao chou chi* 操舟記) by deputy envoy Kao Ch'eng that is cited by the later reports. We shall follow their example, and excerpt some passages from Kao's Record:

On the 1st of the 4th month [of 1534] the construction of our ocean-going junk was completed, and we observed fasting for a day. The local officials [so-and-so] gave us a parting feast . . . They asked how many men would be in our service. I said, "I understand that former envoys each had a ship (i.e., one for the chief and one for the deputy chief of mission) and that each ship had 300 men, which works out to a cost of over 3,000 ounces; while the cost of the levy [of troops for the escort] was also more than 3,000 ounces. This time we want a single ship, not only to save money, but also for mutual aid--what do you think of that?"

The officials thought it was fine, but said, "You two gentlemen are devoting your precious bodies to carrying out the weighty decree from above. In all things you must be extremely careful so that there will be no mishap! You should find one among your people who has been to Liu-ch'iu and knows the sea route, and put him in charge of the ship." I assented to this, and the following day went to the ship and checked on everyone without finding a suitable person. At first I thought there must be some among these people who had had dealings with the barbarians but, being afraid of the legal prohibitions against doing so, would not speak up. Who could have known that they were simply draftees who happened to be up for service, and knew nothing of handling a ship!

I again consulted with the gentlemen (i.e. the local officials) and they all laughed, saying, "We've known this all along, but had not yet informed you gentlemen of the fact. You should immediately send someone to Chang-chou⁹ to search for two or three men who know the sea routes, and then it will be all right." Accordingly, we sent an official summons to the prefectural capital . . . When three helmsmen were found, all of them were petrified with fear. The official messenger told them, "The Celestial envoys to Liu-ch'iu to invest their king draft you into service as pilots. When we arrive you will be rewarded, not punished, so you needn't be afraid." And so they came to see me.

Asking their names, I was informed that they were Hsieh Tun-ch'i 謝敦齊, Chang Pao 張保, and Li Ch'üan 李全. I asked if they had ever been to Liu-ch'iu, and they said no. I said, "Then you can't help us either." Tun-ch'i replied, "Even though your servant has never been to that place, yet he has been to no fewer than several tens of overseas lands, and he is quite fully versed in navigation. If the ship

⁹ Under the Republic of China this place was called Lung-ch'i hsien in Fukien province.

is in my hands, with the compass course before my eyes, it is quite unlike the case of someone who is completely ignorant even of the river's mouth. But I don't know if the ship you have had built is sound. Let's go and have a look at it."

When we got there, they looked over the ship, and he smiled and said sadly, "The mission is near to disaster!" When asked what he meant, he replied, "This vessel has three defects. Now, in an ocean-going junk we do not value a thick bottom, but we must use a double-bottom, each layer of which is of planks 4.5 inches (3 *ts'un* 5 *fên*) [thick], firmly held by iron nails, and caulked with hemp and lime.¹⁰ If by misfortune she strikes on a shoal, it may be that while one layer is destroyed the other will remain intact. Now these planks, although almost ten inches (7 *ts'un*) thick, [are fastened by] nails only a little more than fourteen inches (1 *ch'ih*) long, and I fear they will not be able to hold together. When they are repeatedly battered by great waves, the nails will enlarge [their holes] and the planks will split. Then even the carpenters will be unable to save them. This is one defect.

"I understand that previous envoys had two vessels and hence, because there were only a few people in each compartment, they escaped the outbreak of epidemics. Now, with everyone together in a single ship having only twenty-four compartments, and subtracting [further] those [compartments] occupied by food, drink, and equipment of the officers, I calculate there will be thirty people to a compartment. I'm afraid that the closeness of the atmosphere will make people feel depressed, and then there will be many epidemics which even the doctors will not be able to cure. This is the second defect.

"The ocean waves are huge and powerful, and even though the stem of the rudder be made of strong wood, it will get broken, and then it will have to be changed. Now the slot for the rudder on this junk is too narrow, so that changing it will certainly be difficult. In an emergency, who will be able to go down into the water with a chisel to change it? If the rudder cannot be changed, then the vessel cannot sail, and neither gods nor men can control her. This is the third defect."

Those who heard this were frightened. Ssu-chai 思齋 [i.e. Ch'ên K'an?] cursed angrily for a long time and said, "Who is the toadying villain that has placed our lives in jeopardy?" At this, the provincial treasurer, the provincial judge, the prefect, the county magistrate, and the manager of the shipyard were all very uneasy . . .

Tun-ch'i then knelt and spoke, saying, "Your slave is just a stupid subject. Now that I have come here, do I dare not exert my mind to the

¹⁰ On this, see Needham's translation from *T'ien-kung K'ai-wu* (Needham 1971: 413, note f).

utmost? I hope you gentlemen will cease from being angry, and wait for me to take care of things." [At this,] everyone's anxiety abated somewhat.

Then [Tun-ch'i] took 5,000 catties each of rattan and bamboo and made them into great hoops with which he had the ship strapped around in seven places between bow and stern. The seams (or cracks) in the bottom timbers were reinforced with more nails. The rudder-shaft was enlarged by more than an inch and a half on either side. He also had a low awning set up on deck to enable those in the compartments to sit topside by turns and take the air. The artisans were supplied with necessary equipment of the best quality . . .

These improvements by Hsieh Tun-ch'i did in fact save the mission from disaster at sea, and they were carefully noted and followed by the later Ming missions.

We shall conclude by summarizing information contained in the three Ming records regarding measurements and equipment of the official ships:

The junks of 1534 and 1579 were five-masters, while that of 1606 was a three-master. All of these junks were closely similar in length, about 159 feet, but the vessels of 1579 and 1606 were appreciably broader in beam, about 32 and 33 feet respectively, as compared to the 28 feet of the 1534 model. All three ships were about 14 feet deep. The first was divided into 24 compartments, while the latter two had 28. As we have just seen, hull strength was increased by Hsieh Tun-ch'i's hoops of bamboo and rattan in 1534; the later envoys followed this excellent example, but improved on it by using bands of iron.

Just as in comparable junks of the present day, certain woods were required or highly desirable for various parts of the ship. The masts were of so-called Foochow fir (*shan-mu* 杉木 or *Cunningham sinensis*) used for straightness and lightness. The rudder should be of iron-strength wood (*t'ieh-li-mu* 鐵力木) to resist the battering of the waves. The bottom timbers were pine (*sung-mu* 松木) used for its heavy solidity. The bulkheads were panelled in a camphorwood for additional strength. Each ship carried several rudders (three each in 1579 and 1606, and four in 1534), one in use and the others for replacements. They had four big anchors of iron, each weighing over 3.25 tons. Their eight great coir hawsers were each about 14 inches around and over 1,000 feet long.

In case the wind should fail, the junk could hopefully be propelled by the thirty-six oars carried for such emergencies. For getting to shore and shuttling baggage to and from the ship two small boats were carried, either on deck or slung alongside. Water was stored in two large tanks, each holding from about 67,000 to 80,000 pounds; in addition there were ten small containers the size of earthenware jars.

The compass was housed in what Hsia Tzu-yang's 1606 report calls a "secret room"¹¹ just forward of the rudder house. On the poop there rose the two-storied structure called the "yellow house" (*huang-wu* 黃屋); in one story was placed the Imperial decree of investiture of the Okinawan king, while in the other was the chapel in which incense was kept burning before the image of the Goddess of the Sea (i.e. T'ien Fei 天妃, Imperial Concubine of Heaven, commonly called Matsu 媽祖).

These ships carried about one hundred troops as escort, as noted above. Taking the 1579 expedition, for example, the defensive armament included ten cannon, sixty fowling pieces, four mortars, thirty pistols, one hundred rattan shields, sixty long spears, eight hundred iron-tipped spears, forty suits of armor and forty helmets, and one hundred-fifty daggers. In addition, there were laid in adequate supplies of bows and arrows, gunpowder, and shot. She must have been a brave sight, as the entire vessel was encircled with red cloth as a curtain, and more than thirty large and small flags and pennants flew from her masts and spars. "In this way," envoy Ch'ên K'an assures us, "[our] strong country awes and chills the ardor of foreign [aggressors]."¹²

Manning these junks was a crew of over 140 men (according to Ch'ên K'an). Adding to these and the military escort something over a hundred specialists, such as interpreters, protocol experts, physicians, clerks, and all sorts of artisans, as well as the envoys themselves and their servants plus several Okinawan officials and their servants, eventually totaling perhaps 355 persons aboard, it is no wonder that Hsieh Tun-ch'i was worried about overcrowding.

As we read these reports, including the accounts of the actual voyages, we shall not fail to become convinced that yet another stereotype of the Chinese, so long popular in the West, must be abandoned--

¹¹ For the "secrecy" involving charts of the sea routes, see Thompson (1968: 191, note 34).

¹² In 1534 this apparently refers to Japanese *wako*, the Portuguese as yet being just over the horizon.

the one that disparages them as landlubbers. The story of Chinese ships and the men who have gone down to the sea in them is quite as important and engrossing as the maritime history of Europe.

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Texts used for this paper (all included in *Shih Liu-ch'iu Lu San Chung*, published in Taipei as Vol. 287 of the Taiwan Collectanea, *T'ai-wan Wen-hsien Ts'ung-k'an* 台灣文獻叢刊):

- 1) Ch'ên K'an, *Shih Liu-ch'iu Lu* 使琉球錄 (1534)
- 2) Hsiao Ch'ung-yeh 蕭崇業, (same title) (1579)
- 3) Hsia Tzu-yang, (same title) (1606)

Appendix One Technical Terms

(?) *ts'an-chiao-chên* 參交樑

lung-pang 龍旁

lung-ku 龍骨 (keel or raisable centerboard; main longitudinal timber at base of ship's hull)

t'ung-liang ts'an-ts'o ch'ien-shu 通樑參錯鈴束

(?) *yin* 隱 (synonymous with *lung-ku*? may mean stabilizers)

lung-p'êng 龍棚

tou-(?)yin-chü 兜隱鞠

mi-chui-chü 米鎚鞠

so-liang-ting 鎖梁釘

(?) *p'o-chu* 支柱 (first graph means bulwarks; combination means stanchions? bollards?)

ting-pan 釘板

hsien 咸 (some kind of ship, but exactly what kind is unclear)

t'ou-chi 頭極

chiao-shuan 交拴

kou-shuan 勾拴

(?) *yüan* 遠 (synonymous with *lung-ku* apparently--"ship's bottom timber")

chê-po-pan 遮波板 (planks fastened outside ports to keep out wind and water, 4½ feet high)

chê-lang-(?)p'o-pan 遮浪板 (ditto?)

huang-wu 黃屋 (cabin on poop to house Matsu's shrine and Imperial edict, on envoy's ship)

mao 錨 (anchor)

(?) *hua-ch'uan* 華船 (ship's boat)

lu 櫓 (oar)

fo-lang-chi/ki 佛郎機 (cannon)

to/t'o-kung 舵工 (navigator and/or quartermaster)

hsien 舷 (ship's sides)

wu/yü 塢 (shipyard)

chan-pêng 戰棚 (battle shelter or "turret" for ship's marines)

[lao-] *shu-ch'iao* [老] 鼠橋 (see Thompson, 1968: 186)

ch'ang-tai hsü-shao 長帶虛梢 (overall length of ship)

t'ou-(?)ts'an 頭參

wei-(?)ts'an 尾參

huo-chang 夥長 (variant of 火長, term for navigator who keeps track of hour-glass and compass course)

shao-[wei] 梢[尾]

nien 念 (to caulk)

chuan-(?) 轉 舢舨 (second graph should be *hsien* 舢舨?)

chêng-tun 正頓 (? the second graph is explained as *chuan* 船 = ship)

tun-pêng 頓棚

wei-tso 桅座 (mast housing or tabernacle)

lu-erh 鹿耳

a-pan 阿班 (variant of 亞班, term for chief boatswain)

ch'uan-shên 船身 (evidently the ship's body as a whole; hull?)

ts'ang 艙 (compartment)

chi-mu 極木

ch'uan-pan 串板

chêng-(?)yin 正隱

mien-li 眠籬 (to manage the sails?)

shui-dai 水帶

hsiao-tao 小舟刀 (some kind of small boat)

shui-hên 水痕

shui-shê 水蛇 (the wales; see Thompson 1968:186)

k'an-chên 看針 (pilot, navigator)

(?) indicates graph not found in dictionaries.