S1

Knowledge of China’s sea-space by practitioners

S1/1

Stephen DAVIES
(University of Hong Kong)

Routes, rutters, navigational techniques and the development of navigational aids in traditional Chinese seagoing: the case of the compass

This paper will consider magnetic compasses as navigational aids in traditional Chinese seagoing in the light of the history and development of the science and technology of the magnetic compass. It will contend that in principle the magnetic compasses carried aboard traditional Chinese vessels (and equivalently equipped vessels elsewhere) before the late 17th century cannot have been reliable aids to navigation and that no prudent mariner would have used them as such. The most widely accepted pre-17th century traditional seagoing compass water-bowl design will be evaluated in the light of the known, iron fastened, multi-cellular box girder structure of contemporary Chinese seagoing ships and the waters in which they operated. A similar evaluation will be made of the post-17th century, dry pivot design. Both will be compared to the development of the magnetic compass, and of theories of geomagnetism and compass design between the 12th and 19th centuries in the west. Some conjectures will be ventured in the light of the foregoing analysis as to the meaning and practical application of the ‘needle paths’ associated traditional Chinese route maps and rutters.

S1/2

Paola CALANCA
(Ecole Française d’Extrême-Orient)

Time/distance measures on China seas

In this paper, the author will focus on the terminology related to the notion of maritime distance in Chinese sources in order to appreciate its geographical and professional uses, and in doing so to enhance our understanding of the navigational space within which Chinese mariners moved. This will be done by examining the use of some specific terms – geng 更 (distance covered during a watch), ri 日 (distance covered during a day), and chao 潮 (distance covered between two tides). She will also analyze how Chinese mariners used these measures, and probably also what seamen observed in order to determine them, particularly in the case of chao.

Finally, she will compare sea pilots’ guides and rutter instructions for the same route, and their use of these terms (geng, ri and chao) to verify if they provide the same distance. This should be done by examining, as far as possible, this terminology in the same nautical context. This research will rely both on literary sources, thanks in particular to the discovery of many “sea pilot guides” (genglubu 更路簿 or shuilubu 水路簿) in Guangdong and Fujian, and on field research conducted with fishermen in the Taiwan Strait.
S1/3

Léonard BLUSSÉ
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Seventeenth century Dutch navigational aids for the China coast

When during the seventeenth century Dutch sailors began to explore the tricky waters of the South China sea with its many rocks, shoals and reefs, they first used Portuguese *roteiros*, which provided sailing directions and indicated distances between the most important landmarks along the traditional shipping routes. Most likely they also acquired sketched coastal profiles and maps, so useful for sailors who did not know the coast along which they were sailing. In this paper I shall describe and analyze the extraordinarily detailed *Nieuwe Stujswijze beschrijving van de Indische Noord* (Piecemeal description of the routes to the Indian North), a compendium of maps, coastal profiles and sailing directions made from 40 ship journals which once belonged to a certain Claas Bichon, a navigator in the service of the Dutch East India Company (VOC). A closer look reveals that much local knowledge from Chinese pilots was included in this navigational aid. The album was compiled for the expeditionary fleets of Admiral Bort in the early 1660s when, during the expeditions against the Ming loyalist Zheng Chenggong, alias Coxinga, many reconnaissances of the Chinese coast had to be carried out. In addition to land sightings, sailing directions and coastal profiles, this portfolio contains 8 very well executed navigation charts which deserve further scrutiny.

S1/4

CHEN Kuo-tung
(Institute of History and Philology, Academia Sinica)

Sailing along the Coast of Taiwan: About Geographical Knowledge and Landmark-sighting of the Junk Passage in the 17th-19th Centuries

The Island of Taiwan came into notice not longer than 500 years ago. At that time, both China and Europe - where its discoverers came from - has owned highly developed navigation skills. Europeans noted down some of their observation while sailing along the Taiwan coast, but the Chinese themselves, who plied frequently between Taiwan and the Chinese Mainland, left more records. However, these records are not kept by the navigators. Instead, the Island of Taiwan came into notice not more than 500 years ago. At that time, both China and Europe - where its discoverers came from - had highly developed navigation skills. Europeans noted down some of their observations while sailing along the Taiwan coast, but Chinese navigators, who plied frequently between Taiwan and the Chinese Mainland, left more records. However, these records were not kept by the navigators themselves. Instead, this kind of information was observed, collected, and written down by Chinese literati-officials. This paper intends to use these records in order to reconstruct and extend our knowledge about the junkmen's geographical reckoning and their ways of identifying specific locations while sailing.
CHENG Weichung  
(RCHSS, Academia Sinica)  

Sailing from the China Coast to the Pescadores and Taiwan: A Case Study on Sino-Dutch Nautical Knowledge Transfer (1622-1636)

The Dutch East India Company (VOC) controlled the southwestern coast of Taiwan for thirty-eight years as an entrepôt within its trans-Asian trading network. This began when, in 1622, the VOC’s attempt to capture Portuguese Macau misfired.

Consequently the Dutch discarded the plan to use Macau as a gateway to China trade, and instead anchored in the Pescadores to launch a parley to the Chinese authorities for free trade. After two years of negotiation and conflict, the VOC were forced to leave. They therefore moved to Taiwan, which is one day’s journey away from the Pescadores, and thereafter initiated a colonial enterprise. As a latecomer in East Asian waters, the VOC frequently stole Portuguese nautical documents when engaging in piracy on the high seas. However, since Taiwan’s waters were located on the margins of Portuguese shipping routes, these Portuguese documents did not contain sufficient nautical knowledge about this area. The VOC mariners thus had to collect information on their own with assistance from Chinese mariners.

The early sailing instructions for the China coast, the Pescadores and Taiwan (especially present-day Anping [安平]), recorded in the VOC archives, and the sea-charts produced during the same period therefore carry information that reveals the traditional navigational style of Chinese mariners sailing between those various shores. In this article the author traces the contacts between the Chinese and Dutch mariners from 1622 to 1636 and encodes the nautical information preserved in the sailing instructions and sea-charts that survive in the Dutch archives. In relating them to earlier Chinese sea-routes and later geographical narratives, the author attempts to re-construct the process by which navigational knowledge was transferred from Chinese to Dutch mariners.

Pierre-Yves MANGUIN  
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Sea pilots for the China Sea: towards a multilingual catalogue

Sea pilots – as is true of most nautical literature of a technical nature written in Asian as well as European languages – have so far been left largely untapped as a source by historians of Asia. Considering only the 15th-17th century period, we now have good editions and extensive translations in both French (Ferrand) and English (Tibbetts) of such texts written in Arabic, and some useful, if too hasty, editions in English of comparable Chinese sea-pilots (Mills). The Portuguese roteiro literature is by far the least well known, much of it remaining in manuscript form, but a few of these texts have been published or commented upon by specialists of Asian history (Boxer, Manguin, Moura). Very few of these texts have actually been used as full-fledged historical sources, providing information not only to the student of navigational techniques, but also to those maritime historians seeking information on trade networks, historical geography, etc. This paper attempts to present a preliminary catalogue of the texts available for the China Sea, and, on the basis of a few case studies, points to differences and convergences between texts stemming from various cultures.