Pepper to sea cucumbers: Chinese gustatory revolution in global history, 900-1840

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Two

Peppering the World

In the early 1290s, a celebrated painter, calligrapher, and scholar-official, Zhao Mengfu (1254-1322), was serving a post in a North China city, Ji'nan.[1] His recently acquainted local friend, Liu Minzhong (1243-1318), suddenly suffered from a syndrome of vomiting and diarrhoea, supposedly caused by "deep-seated cold" (*chenhan* 沉寒) and urgently demanded pepper as a remedy.[2] Zhao generously shared his pepper and cured Liu. To express gratitude, Liu composed a poem, telling a personal experience of ingesting pepper:

> Already is about to harmonise my drug, and now it also adds flavour to my dishes.
>
> Within a few days, I really have felt my spirit and appearance are resumed.
>
> New yang fire is kindled, and old retained ice instantly disappears.
>
> Shortly I can boast a good appetite, just as easy as how snow melts when hot water is poured.
>
> 既將諧吾藥，又以逼我餱。
>
> 邇來未幾日，頗覺神觀复。
>
> 新陽火始然，宿滯冰旋沒。
>
> 行當誇健飯，庶比雪就沃。[3]

This poem appeared more than a decade after the Mongols captured the Southern Song dynasty (1279). The Great Khan, Khubilai (r. 1260-1294), had now shifted his attention to a maritime frontier by using the trading ports of South China as navy bases. Far away from the sea, this small gift exchange

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[1] Zhao Mengfu served in Ji'nan between 1292 and 1294 (or 1295). The service was likely interrupted in 1293 and resumed in 1294. Zhao, "Zhao Mengfu tongzhi Ji'nan kao."

[2] For the friendship between Zhao and Liu during this period, see McCausland, *Zhao Mengfu*, 354; Yi, "Liu Minzhong ci yanjiu," 126; Liu, *Zhong'an xiansheng*, *juan* 18, 428-429.

[3] Liu, *Zhong'an xiansheng*, *juan* 18, 429. This is an excerpt from a long poem entitled "On Zhao Zi'ang (Zhao Mengfu) gifting pepper to me" (趙子昂惠胡椒).

between two Chinese literati is seemingly irrelevant to the ongoing maritime expansion of the Mongol Empire. However, if we closely examine the background of Zhao and Liu, we may find this case points to some important issues concerning the circulation of spices from maritime Asia to inland China around the Mongol Conquest.

To begin with, Zhao Mengfu was not only a cultural celebrity of his age but also a descendant of the former Song royal family and had affinal and economic ties to some wealthy merchants in the Lower Yangzi region. These merchants actively participated in the maritime expansion of the Great Khan and received investment and patronage from Zhao.[4] In contrast, Liu Minzhong was born in North China, which was first conquered by the Jurchen Jin dynasty around the 1130s, and then incorporated by the Mongol Empire around the 1230s.[5] We are unsure how that area was supplied with pepper during this long divided period, but after the Mongols reintegrated North and South China into a united empire, Liu was aware that "pepper grows to the south of the sea" (胡椒生海南), indicating the maritime route had already prevailed.[6] This rather travail exchange, therefore, signifies a northward circulation of pepper by an official, who had access to the maritime trade with the tropical world of Asia, to a potential consumer in inland China, who craved for this digestive and exotic spice.

The existence of this kind of circulations encourages us to think about a question: How did Chinese trade and consumption of spices fare through the Mongol Conquest? This question points to an important debate concerning Asian maritime trade through the Mongol Conquest. In Southeast Asian historiography, researchers tend to focus on the negative impact of the Mongol Conquest upon maritime trade, for the appalling havoc it wreaked, for the supposed erratic maritime policy it instated,

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[4] Chen, "Zhao Mengfu yu zhexi hanghai jiazu de jiaoyou."
[5] For the local society of North China through the Mongol Conquest, see Wang, *In the Wake of the Mongols*. For a biographical study of Liu Minzhong, see Liu, "Yuandai mingchen Liu Minzhong."
[6] Liu, *Zhong'an xiansheng, juan* 18, 429.

and for the putative diversion of trade by overland routes it induced.[7] As a premise of Anthony Reid's *Southeast Asia in the Age of Commerce*, there was "a distinct lull in the seaborne trade for almost a century before 1370".[8] Only after the collapse of the Mongol rule in China and the early Ming Empire dispatched its Indian Ocean fleets (1405-1433), a new wave of strong demand for spices in China would be unleashed and induce an age of commerce (1400-1650) in Southeast Asia.[9]

However, some contradictory evidence has come to light amid an oceanic turn in the studies of the Mongol Conquest. Since the 1990s, historians working with Chinese and Persian sources have increasingly realised that, instead of with a negative maritime policy, the Mongol Yuan dynasty was "the peak of China's long-distance maritime connections with Western Asia".[10] Gao Rongsheng, after a thorough survey of Mongol maritime institutions, points out, in an important monograph published in 1998, the following: 1. The Mongols had never practised a long-term maritime trade prohibition and all recorded sea prohibitions were out of certain exigencies and temporary, lasting merely for one or a few years; 2. The Mongols streamlined the maritime administration system inherited from the Southern Song and abolished the cumbersome practice of compulsory purchase of a large percentage of cargoes by the state; 3. Instead of extracting extra goods through the compulsory purchase, the Mongol ruling elites made direct investments in maritime trade and equipped ocean-going fleets.[11]

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[7] Wade, "An Early Age of Commerce", 264; Heng, *Sino-Malay Trade and Diplomacy*, 63-71; Lieberman, "Charter State Collapse in Southeast Asia," 937-963. There is a deep-seated negative perception of the Mongol Conquest among Southeast Asian specialists. An early example is G. Coedès' magnus opus, which attributed the decline of the "Indianized states" of Southeast Asia to "the repercussions of the Mongol conquests". Coedès, *The Indianized States of Southeast Asia*, 188-217.

[8] Reid, *Southeast Asia in the Age of Commerce, 1450-1680, Volume Two*, 10.

[9] Ibid, 10-16.

[10] Gao, *Yuandai haiwai maoyi yanjiu*; Sen, "The Formation of Chinese Maritime Networks to Southern Asia"; Yokkaichi, "Chinese and Muslim Diasporas and the Indian Ocean Trade Network"; Qiu, "Background and Aftermath of Fakhr al-Dīn al-Ṭībī's Voyage"; Chaffee, *The Muslim Merchants of Premodern China*, 124-161; Yokkaichi, "The Maritime and Continental Networks of Kīsh Merchants under Mongol Rule"; Park, "The Peak of China's Long-Distance Maritime Connections with Western Asia during the Mongol Period"; Allsen, *The Steppe and the Sea*.

[11] Gao, *Yuandai haiwai maoyi yanjiu*.

These institutional changes benefited merchants based on the China Coast, who enjoyed trading privileges through multiple patronage networks extended from the Great Khan.

Yet, these contradictory observations are not necessarily incompatible. On the one hand, the maritime expansion of the Mongols did not necessarily benefit Southeast Asian trading regimes but could instead circumvent and marginalise them. On the other hand, the decline of Southeast Asian spice hubs did not evidently indicate dwindling demand for spices in China, which could instead be better supplied by an alternative trading system.

To propose a compatible model that comprehensively addresses these issues, this chapter examines two understudied topics concerning spices and the Mongol maritime expansion: 1) A changing pattern of spice consumption in China; 2) A shift of Chinese spice frontiers from Southeast Asia to a trans-Indian Ocean world. We will first examine spices in Chinese cuisine from the thirteenth through the fifteenth centuries, pointing out the importance of pepper. Thereafter, we investigate how Java emerged as a principal spice supplier to China by the late twelfth and early thirteenth centuries, and how the late thirteenth century maritime expansion of the Mongols contributed to the emergence of direct trade with the pepper land of the Malabar Coast in South India, which led to a trans-Indian Ocean spice trading network at the expense of Southeast Asian intermediaries. By the end, we are going to discuss how the abundance of pepper in China, which was induced by the emergence of this trans-Indian Ocean world, would instigate strong concerns from a new medical culture, which was built upon a deep rethinking of the role of spices and aromatics in Chinese medicine and foodways.

1. Peppering Chinese Cuisine

Around the dawn of the Mongol Conquest, a new cooking technique known as Sichuan stir-frying (*chuanchao* 川炒) began to receive attention from literati in South China.[12] Among them, a self-styled recluse, Lin Hong (fl. early 13th c.), admonished in his cookery book, *Pure Offerings from the House in the Mountains*, that a hermit like him would avoid this cooking technique because it could destroy the true taste (*zhenwei* 真味) of food.[13] Lin gave no further detail, but a recipe of Sichuan stir-fried chicken (*chuanchao ji* 川炒雞) is collected by a fourteenth-century everyday-life encyclopaedia, *Complete Collection of Classified Affairs Essential for Households* (*Jujia biyong shilei quanji* 居家必用事類全集). It goes as follows:

> Wash a chicken, chop it into pieces, heat three taels of sesame oil, stir-fry the [chopped] chicken, add sliced spring onion and half tael of salt, and stir-fry until seventy percent cooked. Put a spoonful of sauce, together with pestled pepper, Sichuan pepper, and fennel seeds into a big bowl of water, add the mixture into the pan, and boil until fully cooked. It is good to add a small amount of good wine.
>
> 每隻洗淨，剁作事件。煉香油三兩，炒肉，入蔥絲、鹽半兩，炒七分熟，用醬一匙，同研爛胡椒、川椒、茴香，入水一大碗，下鍋煮熟為度。加好酒些少為妙。[14]

To those who are familiar with modern Chinese cuisine, this is a typical stir-fried dish with a flavour of "numbing and hot spiciness" (*mala* 麻辣). To this date, such a flavour is usually identified with the regional cuisine of Sichuan. Yet, an important difference is that this Sichuan stir-frying recipe used

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[12] There is a concern whether the character *chuan* (川) can be translated as Sichuan (四川). This concern can be addressed as in the capital cities of Northern and Southern Song China, *chuanfang dian* (川飯店) referred to "Sichuan restaurant" and *chuanfang* (川飯) referred to "Sichuan food". Therefore, *chuan* had become identical to Sichuan. For *chuanfang dian* and *chuanfang*, see Meng, *Dongjing menghualu jianzhu*, *juan* 4, 430. Naidewen, *Ducheng jisheng*, 93; Wu, *Mengliang lu*, *juan* 16, 267

[13] Lin, *Shanjia qinggong*, *juan shang*, 17. For Lin Hong's self-styled bland taste, see Chen, "Zhuiqiu yinshi zhi qing."

[14] *Jujia biyong shilei quanji*, *gengji*, 100. Besides that, in the fourteenth century, there was also Sichuan stir-fried pork (*chuanchao zhurou* 川炒豬肉). *Piao tongshi yanjie*, *juan shang*:5a.

pepper, instead of chili pepper, to couple with Sichuan pepper. Chili pepper, which is widely used in modern Sichuan cuisine, did not become part of Chinese foodways until the seventeenth century.[15] Before that, Sichuan cuisine depended upon other hot-spicy condiments to pair numbing-spicy Sichuan pepper. The use of these pre-chili-pepper hot spices is poorly documented. Some scattered evidence suggests pepper from overseas used to assume an important role. The fourteenth century *Complete Collection of Classified Affairs Essential for Households* records a recipe of "fermented soybean juice of Chengdu Prefecture" (*Chengdu fu chizhi* 成都府豉汁), which used Sichuan pepper, pepper, dried ginger, and tangerine peel as seasonings.[16] A fermented soybean juice like this was a basic liquid condiment in Chinese cuisine.[17] It suggests that pepper like Sichuan pepper, dried ginger, and tangerine peel had become essential for the regional taste of Sichuan, of which Chengdu was the central city. A 1637 account shows that merchants from Sichuan regularly travelled to the Southeast China Coast to sell silk and purchase pepper.[18] Without a strong demand for pepper back in Sichuan, such a strenuous journey through over a thousand miles of mountainous terrain was nonsensical. Although, for a lack of local culinary texts, we are unable to precisely identify the place of pepper in Sichuan cuisine before the introduction of chili pepper, as more cases will show in this section and section four of chapter three, a combination of Sichuan pepper and pepper was a common way to season food in Chinese cuisine from the Mongol Yuan to the Ming period.

Lin Hong's account was an early witness to the spread of a (proto-)numbing and hot-spicy Sichuan foodway with a combination of Sichuan pepper and pepper. Lin was not living in Sichuan, but active in the imperial capital of the Southern Song dynasty, Hangzhou, and the Southeast China

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[15] Dott, *The Chile Pepper in China*, 18-28; Cao Yu, *Zhongguo shila shi*, 35-41.
[16] *Jujia biyong shilei quanji*, *jiji*, 60.
[17] Fermented soybean juice is different from soy sauce. It was "an aqueous decoction or percolation of" fermented soybeans and was popular in China before the rise of soy sauce. Huang, *Fermentations and Food Science*, 360.
[18] Song, *Tiangong kaiwu*, *juan* 2, 94.

Coast.[19] The existence of Sichuan cuisine in the capital cities of the Northern and Southern Song dynasties is well documented. In the Northern Song Imperial Capital, Kaifeng, there were Sichuan restaurants (*chuanfang dian* 川飯店) selling various kinds of noodle and meaty dishes.[20] After the sack of Kaifeng by the Jurchen Jin in 1127, some of these restaurants moved along with the imperial court to Hangzhou, spreading Sichuan cuisine to the region around the Lower Yangzi.[21] The Sichuan stir-fried chicken was likely popularised by these restaurants in the early thirteenth centuries and raised Lin Hong's attention.[22] Its popularity may explain the large-scale consumption of pepper in late thirteenth century Hangzhou, as Marco Polo in the late 1280s or early 1290s noted that according to an official, who attended at the Customs of the Great Khan, on any day forty-three loads of pepper was expended in this city, and "every load is of the weight of 223 pounds".[23]

Why did this strongly flavoured foodway become popular from around the early thirteenth century? The condiments it used were not new to China. Pepper, as introduced in the previous chapter, had already been a popular spice for seasoning exotic cuisines, namely, the so-called "foreign-dish meat", in ninth-century China. Sichuan pepper was a widely-used native spice. By the eleventh century, many families in the Sichuan region in Southwest China had been commercially cultivating it for sales to the rest of China.[24] Fennel seeds were a naturalised exotic, first recorded by the *Newly Revised Materia Medica* in 659. A tenth-century pharmaceutical guidance, *Discourse on the Nature of Drugs* (*yaoxing lun* 藥性論), notes that "its flavour is bitter and acrid, but it becomes aromatic when used for seasoning all

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[19] Chung, "Cong shipu kan Songren de yangsheng yu shiliao," 108-111.
[20] Meng, *Dongjing menghualu jianzhu*, *juan* 4, 430.
[21] Naidewen, *Ducheng jisheng*, 93; Wu, *Mengliang lu*, *juan* 16, 267; Gernet, *Daily Life in China on the Eve of the Mongol Invasion*, 134; Schaab-Hanke, "The Capital Behind the Capital," 195.
[22] Lin Hong was active approximately in the early thirteenth century. Chung, "Cong shipu kan Songren de yangsheng yu shiliao," 108-111.
[23] Polo, *The Description of the World*, vol. 1, 340.
[24] *Chongxiu Zhenghe jingshi zhenglei beiyong bencao*, *juan* 14, p. 340.

kinds of food" (味苦辛，和諸食中甚香) and people "in Sichuan mostly eat it" (川中多食之). In the eleventh century, Su Song also noted that fennel seeds were widely planted in China and those imported from overseas were mainly for medicinal use.[25]

What was new in the case of Sichuan stir-frying was the integration of these ingredients into a cooking style known as stir-frying. Back to the sixth century, when pepper, together with long pepper and dried ginger (the three acrids in Ayurveda), first appeared in China as seasonings for exotic cuisines, stir-frying was marginal.[26] A pre-condition for the wide spread of stir-frying as a typical Chinese cooking technique was the availability of large iron pans, known as woks (*huo* 鑊). Although "model woks" have been found at archaeological sites of the Han period (202 BCE-220 CE),[27] large iron pots could not massively replace pottery pots without a major breakthrough of iron production, which, as most researchers are in agreement, took place during the Northern Song period.[28]

The rise of stir-frying around the Northern Song period influenced the use of spices in Chinese cuisine and facilitated the integration of pepper with Chinese foodways. Different from boiling, steaming, and baking, stir-frying could reach a high temperature within a short period and quickly dry food ingredients. It, therefore, needed ready-made condiments, whose flavours could be quickly released without going through slow cooking. A solution was to use pulverised spices with strong flavours like pepper and Sichuan pepper. As the recipe of the Sichuan stir-fried chicken shows, its spices were all pestled (*yanlan* 研爛) before use. In the fourteenth century, this kind of ready-to-use spice mixtures were known as *liaowu* (料物), literally meaning "matter-substance" or "matter-

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[25] Ibid, *juan* 9, 225. For the textual history of this no longer extant work, see Shang, "Dui *Yaoxing lun*."
[26] Huang, *Fermentations and Food Science*, 89-91; Anderson, *Food and Environment in Early Medieval China*, 157.
[27] Anderson, *The Food of China*, 43.
[28] A link between the revolutionary growth of iron production and the spread of stir-frying has yet to be critically investigated. On iron, see Hartwell, "A Revolution in the Chinese Iron and Coal Industries." On iron pots, see Huang, *Fermentations and Food Science*, 230; Wagner, "Blast Furnaces in Song-Yuan China," 62.

materials", which, as Françoise Sabban has pointed out, had become a generic term for spices during the Mongol Yuan period.[29] The essential role of *liaowu* in stir-frying is attested by a dialogue between a Korean who travelled to Beijing in the fourteenth century and his Han-Chinese host. The former told the latter, "I am a Korean and I do not know how to stir-fry meat" (我是高麗人，都不會炒肉). The latter replied:

> Is there any difficulty? Wash the pot, heat it till hot, and add half a small-cup of sesame oil. When the oil is cooked, put in meat and some salt, and use chopsticks to stir. When it is half cooked, blend some sauce, spring onion, and *liaowu*. Cover the pot with a lid, don't let steam evade, and bring fire up. Soon thereafter, it is cooked.
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> 有甚麼難處？刷了鍋着，燒的鍋熱時，着上半盞香油。將油熟了時，下上肉，着些鹽，着筋子攪動。炒的半熟時，調上些醬水、生蔥、料物拌了，鍋子上蓋覆了，休着出氣，燒動火，一霎兒熟了。[30]

Therefore, like the Sichuan stir-fried chicken, the typical stir-frying in fourteenth-century China was to first heat oil, then stir-fry the main ingredients till half cooked, then add condiments, including *liaowu*, and eventually blend everything and make it fully cooked.

There were different types of *liaowu*. Some served as fine spices for topping a delicate dish. An early 1330s edition of a popular everyday life encyclopaedia, *Extensive Records of the Forest of Affairs*, records a recipe of "great *liaowu*" (*da liaowu* 大料物) with following ingredients:

> One tael each of cassia, galangal, long pepper, *cao doukou* (*Alpinia katsumadai*), tangerine peel, *suosha* (*Amomum villosum*), star anise, and fennel seeds,

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[29] Sabban, "Court Cuisine in Fourteenth-Century Imperial China," 177-178.
[30] *Laoqida yanjie*, *juan shang*:19a-20a. There are different editions. I choose the widely circulated 1670 edition, which basically followed a circa 1515 edition. For this text in other editions, see Lee, *Laoqida si zhong banben*, 129.

two taels of Sichuan pepper,

five taels of apricot kernel,

one and a half taels of liquorice,

and half a tael of white sandalwood.

They would be pulverised, steamed, and kneaded into small pills for everyday use.[31] A similar recipe, called "great *liaowu* from the kitchen of the Heaven" (*Tianchu da liaowu* 天廚大料物), is recorded by the *Complete Collection of Classified Affairs Essential for Households*.[32] These two "great" spice mixtures contained no pepper, but many fine spices with rich aroma. They, as the title of the "great *liaowu* from the kitchen of the Heaven" indicates, were most likely used for enriching the flavour and aroma of delicate dishes served in a banquet. A Korean interpreter's account dating from the fourteenth or early fifteenth century shows, in an elaborate banquet in Beijing, all major dishes were sprinkled with fine *liaowu* (*xi liaowu* 細料物). An annotation on this record refers to another edition of the *Extensive Records of the Forest of Affairs* (*Shilin guangji* 事林廣記), showing the ingredients of the fine *liaowu* were exactly same as the great *liaowu*.[33]

Pepper was a main ingredient in other less delicately prepared spice mixtures, which were more likely used for time-saving cooking like stir frying. The *Complete Collection of Classified Affairs Essential for Households* collected a recipe called "easy to blend *liaowu* (*wuliao*)" (*tiaohe shengli wuliao* 調和省力物料), consisting of *maqin* (馬芹, *makdunis* in Arabic, namely, Muslim celery or Iranian parsley), pepper, fennel seeds, dried ginger, cassia, and Sichuan pepper. It was also kneaded into small pills for

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[31] *Xinbian zuantu zenglei qunshu leiyao shilin guangji* (Xiyuan jingshe edition), *bieji*, *juan* 10:8b-9a.
[32] *Jujia biyong shilei quanji*, *gengji*, 139.
[33] *Piao tongshi yanjie*, *juan shang*:7a; Sabban, "Court Cuisine in Fourteenth-Century Imperial China," 178. Many different editions of the *Extensive Records of the Forest of Affairs* were published from the fourteenth through the sixteenth centuries. For their textual history, see Wang, "*Shilin guangji* banben kaolue."

preservation, to be nipped by fingers before use.[34] Another simple mixture of spices, including Sichuan pepper, *maqin*, fennel seeds, pepper, apricot kernel, and raw ginger, was for curing spicy meat known as "once prepared, one hundred uses" (*yiliao baidang* 一了百當). The spicy meat could be stored in a pot and used either as food or a seasoning.[35] The *Extensive Records of the Forest of Affairs* records a recipe under the same title, which, however, used no meat, but stir-fried all these condiments in oil together with dreg, and then stored them in a pot for long term use. It notes that such a spice mixture had "sufficient ingredients and rich taste, being very convenient for cooking" (料足味全，甚便行饗).[36]

Among the ingredients of these read-made and popular spice mixtures, pepper was unique. Besides the marginally used sandalwood, pepper was the only major ingredient exclusively imported from overseas.[37] All other condiments either were native to China, such as *cao doukou*, tangerine peel, star anise, *maqin*, ginger, cassia, and Sichuan pepper, or had already been naturalised in China, such as long pepper, fennel seeds, and *suosha* (*Amomum villosum*).[38] It, also, distinguished pepper from most of the warming exotics discussed in chapter one, such as cloves and nutmeg, which, albeit widely used in medicine, beverage, and incense, did not become an important condiment for cooking.[39]

The success of pepper in Chinese foodways rested upon its unique position as being one of the hottest spices in China before the introduction of chili pepper. An important witness is a dietetic *materia medica*, *Materia Medica for Everyday Use* (*Riyong bencao* 日用本草), compiled by a Chinese physician,

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[34] *Jujia biyong shilei quanji*, *gengji*, 139. Buell and Anderson, *A Soup for the Qan*, 148-149, note 154.
[35] *Jujia biyong shilei quanji*, *gengji*, 101.
[36] *Xinbian zuantu zenglei qunshu leiyao shilin guangji* (Xiyuan jingshe edition), *bieji*, *juan* 8:8b.
[37] Commercial cultivation of pepper only appeared in China first on the Hainan Island in the early twentieth century. From field work in Hainan and the Leizhou Peninsula, I learn that a major challenge to the cultivation of pepper in China is cold waves in winter, which reach as far south as Hainan and can destroy a perennial tropical plant such as pepper.
[38] *Chongxiu Zhenghe jingshi zhenglei beiyong bencao*, *juan* 9, 225, 228-229, 232.
[39] Sabban, "Court Cuisine in Fourteenth-Century Imperial China," 179. Besides that, pepper was also extensive used in the Mongol court cuisine, mainly because of influence from West and Central Asian food culture. Ibid, 180; Husihui, *Yinshan zhengyao*; Buell and Anderson, *A Soup for the Qan*.

Wu Rui, in 1329 and published around 1343.[40] As a concise dietary guidance, it summarised the essential medical properties of commonly used food ingredients, and adapted them for dietary purposes. On the one hand, it popularised pepper's medical functions as being warming, digestive, and able to destroy food poisons.[41] On the other, it also creatively placed pepper in a new category, "five flavours" (五味), and specifically under the "acrid flavour" (*xinwei* 辛味) sub-category. That sub-category consisted of nine most commonly used spices including dried ginger, raw ginger, pepper, Sichuan pepper, *dangzi* (*Zanthoxylum ailanthoides* 檔子), long pepper, *shiluo* (dill or cumin 蒔蘿),[42] *wu zhuyu* (*Evodia rutaecarpa* 吳茱萸), and *jingjie* (*Schizonepeta multifida* 荊芥). Among them, most was merely defined as *xin* (辛), meaning acrid or pungent. Only *dangzi* and pepper were *xinla* (辛辣), meaning a gustatory feeling of being extremely acrid or pungent, which I refer to here as "hot-spicy". Pepper was furthermore emphatically noted as "with a very acrid and hot-spicy flavour when used [for cooking]" (用之味甚辛辣).[43]

The idea of pepper embodying the strong flavour of hot spiciness can be identified with a number of food recipes. The early 1330s edition of *Extensive Records of the Forest of Affairs* noted two recipes with a flavour of hot spiciness. One was "vinegar of five hot spices" (*wula cu* 五辣醋), containing five ingredients, namely: spring onion, Sichuan pepper, pepper, raw ginger, and dried ginger.[44] Another recipe was "pestled pepper" (*lei hujiao* 擂胡椒). It pulverised pepper together with salt and spring onion. The final product, according to the recipe, was "extremely hot-spicy" (*jila* 極

[40] The original Yuan edition is no longer existent. A 1525 reprint is preserved in Japan. Wu, *Riyong bencao*.
[41] Ibid, *juan* 8, p. 444.
[42] It is debated whether *shiluo* was dill or cumin. Laufer, *Sino-Iranica*, 383-384; Schafer, *The Golden Peaches of Samarkand*, 148.
[43] Wu, *Riyong bencao*, *juan* 8, 443-444.
[44] *Xinbian zuantu zenglei qunshu leiyao shilin guangji* (Xiyuan jingshe edition), *bieji*, *juan* 10:7b.

辣).[45] A 1504 recipe collection, which we will return to in chapter three, changed the title of "Sichuan stir-fried chicken" into "hot-spicy stir-fried chicken", in which fennel seeds disappeared and the numbing and hot spiciness of Sichuan pepper and pepper became more prominent.[46] It also recommended a cooking technique called "hot-spicy cooking" (*lapeng* 辣烹), for cooking many freshwater and marine products. The method was first to boil the main food ingredient, such as fish or mollusc, with liquorice, and then blend it with pepper, Sichuan pepper, spring onion, sauce, and vinegar. A dish cooked in this way again carries the numbing and hot-spicy taste, but the hot spiciness of pepper had become its signature flavour, as it now entitled this cooking technique.[47]

There is furthermore an intriguing corruption case indicating hot spiciness was coveted as the most essential value of pepper. This case was disclosed in 1452 when for distributing an immense store of pepper imported by Zheng He's voyages (1405-1433) from the Indian Ocean World, the Ming imperial state (1368-1644) paid pepper as salary to soldiers.[48] This pepper salary was, however, craftily embezzled by the officials in charge who first offered it to some restaurants. The restaurants would "put pepper in boiling water and boil out its hot spiciness " (將胡椒沸湯煮去辣味). In return, those officials would receive financial benefit from the restaurants.[49] As a result, what soldiers received was less-hot-spicy pepper. Much of its flavour went to pepper the food offered in the restaurants associated with those corrupted officials.

These examples have yet to exhaust the extensive use of pepper in Chinese foodways from the thirteenth through the early sixteenth centuries. The 1504 recipe collection is the epitome of "China's

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[45] Ibid, *juan* 10:9a.
[46] Song, *Songshi yangsheng bu*, *juan 3*, 119.
[47] Ibid, *juan* 4, 131.
[48] For pepper and Zheng He, see T'ien, "Chêng Ho's Voyages and the Distribution of Pepper in China," 186-197.
[49] Ye, *Ye Wenzhuang gong zouyi*, "*bianzou cungao*," *juan* 1:8a-b.

age of pepper", as it used pepper extensively in several major food sections. By then, pepper, albeit still being an exotic exclusively imported from overseas, was no longer a spice mainly for exotic cuisines in China. Instead, it was now an essential part of Chinese foodways. We may conclude this phenomenon with a poem by an official, Wang Gong (fl. early 15th c.), who served the Emperor Yongle (1403-1424) in a period when Zheng He's fleet was active in the Indian Ocean World:

In Praise of Pepper

Bearing folded, small, and copious seeds, the Central Plain has no place to let it take root.

Since it has been used in tripods for seasoning, ginger and cassia have been superseded one after another.

詠胡椒

結實重畚小更繁，中原無地可移根。

自從鼎鼐調和去，薑桂紛紛不共論。[50]

2. Spice Hubs of Java

Where did such a plethora of pepper come from? Thanks to T'ien Ju-kang's influential article in the 1980s, researchers of Asian maritime trade tend to take Zheng He's voyages in the early fifteenth century as the turning point through which pepper was transformed from a rarity to a commonly used spice in China.[51] However, this argument fails to address the analysis we have made in section one. As pepper had been used as a major ingredient in the popular spice mixtures (*liaowu*) since the Mongol

[50] Wang, *Baiyun qiaochang ji*, *juan* 4:37a.

[51] T'ien, "Chêng Ho's Voyages and the Distribution of Pepper." T'ien's argument impacted Reid's conceptualisation of the early fifteenth century as the starting point of the age of commerce in Southeast Asia. Reid, *Southeast Asia in the Age of Commerce, 1450-1680, Volume Two*, 12.

period, and the Sichuan stir-frying had already been popular since the early thirteenth century, we have to revisit T'ien Ju-kang's thesis by focusing on earlier periods.

A good starting point is a pepper-induced trade war between Java and the Southern Song dynasty, which took place circa two centuries ahead of Zheng He's voyages. In 1225, Zhao Rukuo, a Southern Song official serving the Maritime Trade Superintendency of Quanzhou,[52] noted in his *Description of Foreign Countries* (*Zhufan zhi* 諸蕃志, 1225):

> There is a vast storage of pepper in this foreign country (Java) and the merchant ships, in order to catch multi-fold profits, often smuggle [out of China] copper cash for bartering purposes. The court has repeatedly forbidden trade [with this country], but the deceptive foreign traders change its name to Sujidan.
>
> 此番胡椒萃聚，商舶利倍蓰之獲，往往冒禁，潛載銅錢博換，朝廷屢行禁止興販，番商詭計，易其名曰蘇吉丹。[53]

This record marks a new era in China's maritime trade with the tropical world of Asia. Like never before, an exotic spice had become such a financial concern for an imperial state in China, and, also as never before, a Southeast Asian regime had been subject to such a full-scale trading embargo because of its success in exploring the Chinese consumer market. In the 1970s, Kentaro Yamada, a founding scholar of East Asian aromatic and spice history, proposed that this record marked the beginning of "China's age of pepper" (*Chūgoku no koshō jidai* 中国の胡椒時代), when strong demand for pepper in China drew supplies first from Java, then from the Malabar coast of South India, and eventually also from Samudera in northern Sumatra.[54] However, Yamada's thesis, which was unfortunately ignored by T'ien Ju-kang, has yet to receive due attention from Southeast Asian and

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[52] Zhao served in Quanzhou between 1225-1227. Dohi, *Sōdai Nankai bōekishi no kenkyū*, 207-229.
[53] Zhao, *Zhufan zhi jiaoshi*, *juan shang*, 55. Translation adapted from Hirth, and Rockhill, *Chau Ju-kua*, 78.
[54] Yamada, *Tōa kōryō shi kenkyū*, 235-246.

Indian Ocean specialists. For the lack of follow-up research, the concept of "China's age of pepper" still rests upon some scattered evidence cited by Yamada from Chinese geographic notes and Marco Polo's travelogue. These sources, while generally delineating a China-centric expansion of pepper frontiers, cannot answer why Java assumed such an important role in the first place and why thereafter the frontiers shifted to the Indian Ocean World. To address these questions, we need to contextualise "China's age of pepper" with updated scholarship from Southeast Asian and Indian Ocean studies.

To begin with, Java did not suddenly emerge as a pepper exporter. The advent of pepper production in Java preceded Zhao's record for about two centuries. It was part of the commercialisation of Javanese society from the tenth through the early eleventh centuries when the political centre of Javanese states moved from the hinterland of central Java to the coastal area of eastern Java and enjoyed a maritime trade boom stimulated by surging demand from China for tropical spices and aromatics.[55] An inscription, which, according to Jan Wisseman Christie's analysis of its style and script, dates to the reign of Airlangga, namely, the first half of the eleventh century, shows that a commercial warehouse in a seaport of the Brantas Delta in eastern Java had, among other typical local exports, a cash crop transplanted from India, namely, *mirica* (black pepper).[56] Although the context of this stele, which was discovered not in its original place but in an inland location in eastern Java, was vague, the term unambiguously carries a Sanskrit root (*marica*) and distinguishes itself from native cubeb pepper in Java, which as seen in chapter one was historically branded as tender pepper and *bidengqie* (*viḍaṅga*) in China trade.

This transplantation helped Java in its long-term rivalry with other Asian maritime powers. From the late tenth through the early eleventh centuries, Java, Srivijaya, and Chola waged wars against each

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[55] Wisseman Christie, "Javanese Markets and the Asian Sea Trade Boom"; idem, "Trade and Value in Pre-Majapahit Java"; Hall, "Indonesia's Evolving International Relationships in the Ninth to Early Eleventh Centuries."
[56] Wisseman Christie, "Javanese Markets and the Asian Sea Trade Boom," 373-4.

other for hegemony around the straits of Melaka and Sunda.[57] Whereas the exact causes of each conflict varied, there always lingered an economic incentive to maximise their share in trade with China, whose demand for tropical spices and aromatics had been unleashed by the change in Chinese medical culture discussed in chapter one. Among these rivalling powers, Srivijaya and Java represented two different patterns. The trading regime of Srivijaya primarily relied on the transhipment of Indian Ocean commodities in general, and highly valuable frankincense from West Asia in particular, to China.[58] It lacked a strong agricultural base, and its hinterland offered no cash crops but gold and forest products.[59] Java's sphere of influence was to the east, including the so-called spice islands, namely, Maluku and Banda, which produced cloves and nutmeg, and Timor and the Lesser Sunda Islands, which produced sandalwood. Besides that, the island of Java was densely populated and offered important cash crops for Asian maritime trade, such as rice, pepper, safflower dye, and white cardamom.[60]

During the eleventh century, these two rivalling powers took divergent paths. Srivijaya survived repeated raids by Chola in 1017, 1025, and ca. 1068, and moved its centre to Jambi, to northwest of its original centre, Palembang, both on the east coast of Sumatra.[61] For maintaining the status of being a trading entrepôt, it became increasingly belligerent, coercing traders to visit its port(s).[62] It also

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[57] For the conflicts between Java and Srivijaya, see de Casparis, "Airlangga"; Heng, *Sino-Malay Trade and Diplomacy*, 81-84. For the conflicts between Srivijaya and Chola, see articles in Kulke, Kesavapany, and Sakhuja, eds., *Nagapattinam to Suvarnadwipa*. For an updated overview of these conflicts, see Kulke, "Śrīvijaya Revisited," 64-72.

[58] So, "Dissolving Hegemony or Changing Trade Pattern?"; Heng, *Sino-Malay Trade and Diplomacy*.

[59] Manguin, "At the Origins of Sriwijaya."

[60] Wisseman Christie, "Javanese Markets and the Asian Sea Trade Boom".

[61] There is a debate about whether Srivijaya was a single polity with a centre, or a putative title used by a group of trading regimes around the Straits of Melaka. I tend to believe Jambi was a major centre of Srivijaya since the end of the eleventh century, because otherwise it is difficult to explain why it was Jambi (Malayu), instead of other ports, that became the primary target of the Singhasari's expedition in 1275. Wolters, "A Note on the Capital of Śrīvijaya during the Eleventh Century"; Fukami, "Sanbutsusei no saikentō"; Jordaan and Colless, *The Mahārājas of the Isles*, 106-121.

[62] Heng, "State Formation and the Evolution of Naval Strategies," 388-394.

attempted to monopolise two high-value aromatics for the China trade, namely, frankincense and sandalwood. A Chinese jotting from the early twelfth century noted that Srivijaya had already controlled the trade of frankincense and was now working to monopolise sandalwood. For achieving that goal, it "orders traders to sell [sandalwood] to its rulers, causing a several-fold increase of price" (令商就其國主售之，直增數倍).[63] These two aromatics were from two different trading zones. Frankincense was primarily from West Asia, whose maritime circulation to China had to pass through the Malay World under Srivijaya's control. Sandalwood was, however, not necessarily tied to Srivijaya, but from the islands of Timor and the Lesser Sunda, which traditionally fell within Java's sphere of influence.[64]

This record was not the only evidence of Srivijaya's involvement in the trade in Java's orbit. In 1156, following an invitation for tribute missions from Emperor Gaozong (r. 1127- 1162) of the Southern Song dynasty, a Srivijaya mission arrived with a rich load of goods. Among them, there was an astonishing amount of frankincense (81,680 catties), nutmeg (2,674 catties), pepper (10,750 catties), and sandalwood (19,935 catties).[65] The latter three were all typical exports from Java and the eastern Indonesian Archipelago.

Srivijaya's trade of commodities from Java's orbit took place in a divided period in Javanese dynastic history. In the 1040s, the kingdom of Airlangga (r. ca. 1010s–1040s) in eastern Java was split

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[63] Zhu, *Pingzhou ketan*, *juan* 2, 30. Translation adapted from Heng, "Shipping, Customs Procedures, and the Foreign Community," 12.

[64] Derek Heng suggests the sandalwood that Srivijaya aimed to control was *Pterocarpus santalinus*, namely, sanders or red sandalwood from South India and the Malay Peninsula, mainly valued for its hardness and red colour, but possessing no remarkable aroma. However, the Chinese had a different term, *zitan* (紫檀, purple sandalwood), for *Pterocarpus santalinus*. The term used in this account, *tanxiang* (檀香 sandal incense), indicates that it was fragrant *Santalum album* from Timor and the Lesser Sunda Islands. Heng, "State Formation and the Evolution of Naval Strategies in the Melaka Straits," 389-390; Schafer, "Rosewood, Dragon's Blood, and Lac," 130-131.

[65] *Song huiyao*, vol. 16, *fanyi* 7, 9966-9967.

by his sons into Janggala and Pañjalu (Kaḍiri).[66] The history of these two regimes is poorly documented, and it is still debated when and how they were reintegrated by the Singhasari dynasty (mid-13th c.-1292) in the mid-thirteenth century.[67] Hardly anything is known about their participation in maritime trade. Chinese records show Java kept sending tribute missions in the twelfth century, but it is uncertain which regime initiated them.[68]

Its political weakness notwithstanding, Java's trade with China was booming during this divided period. For merchants based in late twelfth century Canton, Java was a more important trading partner than Srivijaya.[69] This contrasted success hinged upon a new pattern in China's maritime trade, in which private merchants from the China Coast, instead of tribute missions from Southeast Asia, prevailed.[70] This pattern, as Derek Heng's monograph shows, was born with the change of Chinese maritime policy in the late eleventh century. For generating more fiscal revenue from overseas trade, the Northern Song imperial state abandoned previous restrictions upon private merchants, allowing them to sail overseas from more trading ports and with fewer registration requirements. With better access to and knowledge about the Chinese domestic market, these private traders gradually marginalised the trade by tribute missions. They also explored many small ports of Southeast Asia, directly traded with them for local products, and circumvented the established trading entrepôts of Srivijaya.[71]

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[66] Buchari, "Sri Maharaja Mapanji Garasakan"; Nihom, "Ruler and Realm"; Jordaan, "Bělahan and the Division of Airlangga's Realm."
[67] Hunter, "The Body of the King"; Sidomulyo, "From Kuṭa Rāja to Singhasāri"; Sidomulyo, "Kṛtanagara and the Resurrection of Mpu Bharāda."
[68] *Song huiyao*, vol. 16, *fanyi* 4, 9830.
[69] Zhou, *Lingwai daida jiaozhu*, *juan* 3, 126.
[70] Wolters, *The Fall of Śrīvijaya in Malay History*, 4. These private traders were not necessarily ethnic Chinese. Many were of foreign descent but had since long settled down in the trading ports of South China, such as Canton and Quanzhou. For their background, see Cheng, "Cong fanke dao tangren."
[71] Heng, *Sino-Malay Trade and Diplomacy*, 38-54.

Java benefited from this shift. The island itself offered abundant cash crops. The commercialised and populous Javanese rural society was furthermore a major consumer market for Chinese goods.[72] Among them, Chinese copper coins were eagerly sought after by local traders because of an ongoing monetary transformation in Javanese society, which demanded small denomination coins to energise small-scale exchange in the rural market.[73] These factors attracted many traders from China to Java and induced a massive outflow of Chinese copper coins in exchange for Javanese products.[74]

Among exports from Java, pepper had a large consumer market in China. In 1213, a local office of the Maritime Trade Superintendency in Hangzhou reported that merchants carried pepper, lakawood (*jiangzhen xiang* 降真香), *suosha* (*Amomum villosum*), *doukou* (*Alpinia katsumadai*, or white cardamom, or nutmeg), and *huoxiang* (*Agastache rugosa* 藿香) from Canton and Quanzhou to sell in Hangzhou.[75] Among them, *suosha* and *huoxiang* were cultivated in the Far South of China, the former being a widely used spice and the latter being a popular aromatic. Lakawood, as Derek Heng's research has shown, was an emerging low-value Southeast Asian aromatic catering to the everyday consumption of ordinary households in China.[76] Together with pepper and *doukou*, this group of southern goods constituted low-value spices and aromatics targeting mass consumption in the domestic market. Listed as the first among them, pepper was becoming a commonly traded exotic in the Chinese spice and aromatic market, echoing the concurrent rise of Sichuan stir-frying.

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72 Wisseman Christie, "States without Cities"; idem, "Javanese Markets and the Asian Sea Trade Boom"; idem, "Trade and Value in Pre-Majapahit Java."
73 Wisseman Christie, "Money and Its Uses in the Javanese States"; van Aelst, "Majapahit Picis."
74 For the outflow of Chinese copper coins, see So, "Financial Crisis & Local Economy," 133-137; Schottenhammer, "The Role of Metals and the Impact of the Introduction of *huizi* Paper Notes"; Heng, "Export Commodity and Regional Currency."
75 *Song huiyao*, vol. 7, *zhiguan* 44, 4221.
76 Heng, "The Trade in Lakawood Products."

In Chinese sources, Java's export of pepper was first noted by an important geographic treatise based on information from the trading community of Canton, *Representative Answers from the Region beyond the Mountains* (*Lingwai daida* 嶺外代答, 1178). It shows:

> The country of Java (Shepo) is also called Pujialong (Pekalongan). It is located to the southeast of the sea, below the [sea] currents, and hence called the Lower Coast (下岸). A ship from Canton, sailing in the eleventh or twelfth month and following a favourable wind by day and night, can reach it within a month…It produces pepper, sandalwood, cloves, white cardamom, nutmeg, and agarwood.
>
> 闍婆國，又名莆家龍，在海東南，勢下，故曰下岸。廣州自十一月、十二月發舶，順風連昏旦，一月可到。…土產胡椒、檀香、丁香、白豆蔻、肉豆蔻、沉香。[77]

Therefore, with pepper and white cardamom from its own hinterland, and sandalwood, cloves, nutmeg, and agarwood from associated islands, the island of Java was now assembling these popular spices and aromatics for the China trade.

Yet, where were the trading ports of Java located? The leading commercial hub was certainly Pekalongan, as it was equalised by this account with the country of Shepo (Java). Pekalongan is located along the north coast of central Java, far away from the political centres of the then divided dynasties in eastern Java. From the seventh through the ninth centuries, when the political centres of Javanese kingdoms were still in central Java, the coast where Pekalongan is located was pivotal for their communications with the maritime world.[78] However, after the political centres moved to eastern Java in the early tenth century, this coast became peripheral. Little is known about its history until the

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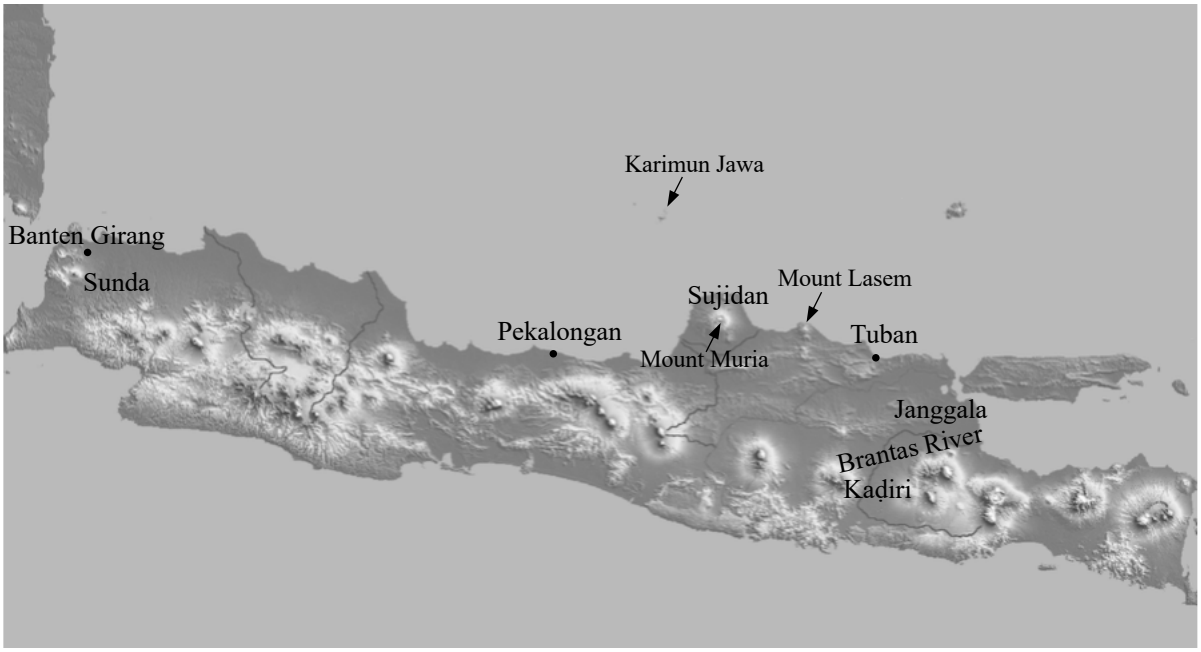
[77] Zhou, *Lingwai daida jiaozhu*, *juan* 2, 88-89.

[78] Van der Meulen, "In Search of "Ho-Ling""; Satari, *New Finds in Northern Central Java*; Wisseman Christie, "Revisiting early Mataram"; Degroot, *Candi, Space and Landscape*, 79-84; Griffiths, "The Epigraphical Collection of Museum Ranggawarsita."

resuscitation of Pekalongan as a chief trading port representing Java in this late twelfth century Chinese account. This development likely reflects the political dividedness of eastern Javanese dynasties giving some breathing space for this coast to re-emerge as a trading centre.



Map 2.1 Java in the early thirteenth century (Adapted from "Topography of Java" by Sadalmelik, https://en.wikipedia.org/wiki/Java#/media/File:Java_Topography.png).

Pekalongan was not the only spice hub of Java. Zhao Rukuo, in the early thirteenth century, noted a string of trading ports along the north coast of Java (Map 2.1). To the west of Pekalongan was Sunda (Xintuo 新拖), which at that time was still a dependency of Srivijaya.[79] Its port should be Banten Girang, because Sunda Kelapa (present Jakarta) would only become a Sundanese trading centre after the establishment of Pajajaran Kingdom in Bogor in 1333.[80] Zhao noted that the mountains of Sunda produced high-quality pepper that was "small-grained but heavy, superior to that of Tuban" in eastern Java, but its trade was hampered by the lack of security.[81] To the east of Pekalongan was a prosperous trade hub called Sujidan, whose exact location has yet to be identified, but certainly situated

[79] Zhao, *Zhufan zhi jiaoshi*, *juan shang*, 36; Hirth and Rockhill, *Chau Ju-kua*, 62.
[80] Guillot, *Banten avant l'Islam*, 120-121.
[81] Zhao, *Zhufan zhi jiaoshi*, *juan shang*, 48; Hirth and Rockhill, *Chau Ju-kua*, 70.

somewhere around Mount Muria, which was known as its landmark.[82] According to Zhao, the export of Sujidan was not much different from Java (Pekalongan), but with an uppermost abundance of pepper.[83] It helped to earmark a place name in Chinese rutters (sailing manuals) dating from the fifteenth century and on, referring to Mount Muria or nearby Mount Lasem as Mount Pepper (Hujiao shan 胡椒山, or Jiao shan 椒山).[84] To the east of Sujidan was Tuban (打板 Daban), about which Zhao offered little information, besides suggesting its pepper was inferior to Sunda.[85]

Further to the east was one of the twin dynasties in eastern Java, Janggala (Rongyalu 戎牙路 or Chongjialu 重迦盧). Compared with the inland dynasty of Kaḍiri, Janggala was much better-known to the contemporary Chinese. Zhao described it as a country on a flat plain, easily accessible by boats and carts. Its buildings were like China, and it also produced pepper.[86] These descriptions imply Janggala was a relatively agricultural and prosperous country. Likely for that reason, Zhao noted another name for Janggala was Great Java (Da Shepo 大闍婆), indicating it was more important than Pekalongan (Java). These two places, representing central and eastern Java, were also juxtaposed in other Chinese sources. A late thirteenth-century text, *Miscellaneous Notes on Island Barbarians* (*Daoyi zazhi* 島夷雜誌), mentions both Janggala (Great Java) and Pekalongan, showing it took eight days to sail from Pekalongan to Janggala and their customs were the same.[87] Further to the east of Janggala, Zhao

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[82] Zhao, *Zhufan zhi jiaoshi*, *juan shang*, 62; Hirth and Rockhill, *Chau Ju-kua*, 85. Fukami suggests Sukodono, a village to the south of Jepara, is a good candidate, but it has yet to be supported by local archaeological or epigraphic evidence. Fukami, "Shōbanshi no Sujidan no ichi ni tsuite." An important clue, which deserves further research, is a Dutch archaeological survey in the early 1940s, which reveals rich deposits of Chinese ceramics from the eleventh through the fourteenth centuries along the northeast and northwest lower slopes of Mount Muria. Van Orsoy de Flines, "Onderzoek naar en van keramische scherven in de bodem in Noordelijk Midden-Java," 73-79.

[83] Zhao, *Zhufan zhi jiaoshi*, *juan shang*, 62; Hirth and Rockhill, *Chau Ju-kua*, 85.

[84] *Liangzhong haidao zhenjing*, 45, 57-58, 66-67, 69-71.

[85] Zhao, *Zhufan zhi jiaoshi*, *juan shang*, 48, 60; *juan xia*, 195; Hirth and Rockhill, *Chau Ju-kua*, 70, 82, 222.

[86] Zhao, *Zhufan zhi jiaoshi*, *juan shang*, 61; *juan xia*, 195; Hirth and Rockhill, *Chau Ju-kua*, 84, 222.

[87] This text was incorporated by *Extensive Records of the Forest of Affairs*. It was originally based on information from the Maritime Trade Superintendency of Canton. It mentions the establishment of the Mongol Yuan

provided brief accounts for many small trading places, which produced sandalwood, cloves, and *doukou* (most likely nutmeg).[88] These accounts represent a nascent understanding of the exact origins of fine spices and aromatics in the eastern archipelago of Indonesia, tantalising traders from China to explore a spice and aromatic trading world beyond Java.

3. To Malabar

After showing the prosperous spice and aromatic trade along the north coast of Java, Zhao's text, however, contains a strange note that "someone says that the country of Wuliba in Nanpi has the most [pepper], and that the [pepper] bought by the foreign traders in Java comes from Wuliba" (或曰南毗無離拔國至多，番商之販於闍婆，來自無離拔).[89] Most historians are in agreement that Nanpi (南毗) referred to the land of Nambūdiris, namely, the elite Brahmin class in Kerala (Malabar),[90] and Wuliba (in Amoy dialect Ma-li-bwat) was Malabar.[91] It therefore points to the renowned pepper land of Malabar.[92]

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dynasty, but keeps referring to Java as Shepo (闍婆), which was mainly used in the Song period, instead of Zhaowa (爪哇), which substituted Shepo in the Mongol Yuan period. Therefore, the text should be edited shortly after the Mongol Conquest of South China in 1279. *Xinbian zuantu zenglei qunshu leiyao shilin guangji* (Xiyuan jingshe edition), *qianji*, 5:2b.

[88] Zhao, *Zhufan zhi jiaoshi*, *juan shang*, 61; *juan xia*, 179-183; Hirth and Rockhill, *Chau Ju-kua*, 84, 208-211.

[89] Zhao, *Zhufan zhi jiaoshi*, *juan xia*, 195-196; Hirth and Rockhill, *Chau Ju-kua*, 223.

[90] Pelliot, "Encore à propos des voyages de Tcheng Houo," 221; Narayanan, *Perumaḷs of Kerala*, 262-271, 316. Liu Yingsheng proposed that Nanpi could also be transcribed as Dravidian, referring to entire South India, because in some cases Nanpi also referred to the Coromandel Coast, where there was no Nambūdiris. Liu, "Song Yuan shidai de Maba'er, Xiyang, Nanpi yu Yindu." However, this transcription is difficult to address why, in the early fifteenth century account of Ma Huan, Nankun (南昆) (a variant of Nanpi) only referred to the ruling class of Malabar. Therefore, while acknowledging the vagueness and fluidity of this term, at this stage I still tend to adhere to the conventional rendering of Nanpi as Nambūdiris.

[91] Hirth and Rockhill, *Chau Ju-kua*, 223, note 2.

[92] There is a concern that the note might be interposed by Li Diaoyuan in the late eighteenth century when he re-edited the text for publication. However, this was unlikely because the two geographic terms, Nanpi and Wuliba, were rarely used after the fourteenth century, when they were replaced by new toponyms, such as Xiyang (西洋 Western Ocean) and Guli (古里 Calicut). Moreover, by the age of Li, Chinese junks had since long ceased to visit South India. It is therefore unlikely that Li, living in the eighteenth century, would have any new information to offer about the origin of Java pepper in the early thirteenth century. A more reasonable

Although an epigraphic record attests to the presence of Malabar merchants in eastern Java in 1053,[93] there is no evidence to indicate a large-scale export of pepper from Malabar to Java. Commercially speaking, it was unprofitable for Malabar pepper to make a detour via Java, rather than to be shipped directly to China or transhipped via en route ports along the Straits of Melaka. Therefore, we may not take at face value this account to assume Java's prosperous trade of pepper with China relied upon supplies from Malabar. It was more likely a rumour that was not accurate in terms of the exact origin of Java pepper, but that enticed contemporary Chinese merchants to search for a pepper land beyond Java. It might also reflect overseas traders' anxiety to find an alternative source of pepper, because Java, as mentioned in the last section, had been subject to the strict trading embargo by the Southern Song imperial state in the early thirteenth century for the massive exchange of Java pepper for Chinese copper coins.

This isolated note was also the first Chinese record that associated Malabar with pepper. Until the early thirteenth century, Malabar was known in China mainly as a stop-over en route to the Arab countries (Dashi 大食). That role was particularly assigned for the southernmost commercial hub of Malabar, Kollam (Quilon, Gulin 故臨).[94] The history of Kollam as a trading port can be traced back to the early ninth century when some Christian merchants from West Asia moved to this region and received patronage from local rulers to establish this port city. Together with Jewish and Muslim merchants, they bridged a pepper production network in the hinterland of Malabar and a spice trading network across the Arabian Sea.[95] Meanwhile, for its relatively southern position (close to the southern

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assumption is that the note was either made by Zhao himself, when he collected some contradictory accounts from overseas traders, or added by his contemporary by the time when these geographic terms were still in currency.

[93] Wisseman Christie, "The Medieval Tamil-Language Inscriptions in Southeast Asia and China," 246.

[94] For Kollam in Chinese sources, see Pelliot, *Notes on Marco Polo*, vol. 1, 399-402.

[95] Malekandathil, *Maritime India*, 38-62; Prange, *Monsoon Islam*, 37-41; Narayanan, *Perumals of Kerala*, 277-284, 313-316.

extreme of Malabar), Kollam was a convenient rendezvous location between West Asia and China. In the mid-ninth century, shortly after the inception of this port city, Arab merchants had begun to take it as a regular stop on their trans-Indian Ocean journeys to China.[96] This trans-Indian Ocean route had become well known in China by the twelfth century. In the *Representative Answers from the Region beyond the Mountains*, Zhou Qufei described a journey from Canton to the Arab countries as follows: One should first sail to Lambri (Lanli 藍里), on the northwest tip of Sumatra, wait for a favourable monsoon there, and then cross the ocean to Kollam. In Kollam, one could change to a small ship to finish the final leg to the Arab countries (Map 2.2). Zhou also noted there were many migrants from the Arab countries living in Kollam.[97]

A few decades later, Zhao Rukuo supplemented information about Kollam's trade with Southeast Asia. He shows that every year Srivijaya, Kompei (Jianbi 監篦), and Kedah (Jituo 吉陀) sent ships to Kollam. The commodities they carried consisted of silk textiles, porcelains, *zhang* camphor (*zhangnao* 樟腦, camphor from the trees of *Cinnamomum camphora*), rhubarb, Chinese goldthread (*Coptis chinensis*, *huanglian* 黃連), cloves, camphor, sandalwood, *doukou*, and agarwood.[98] Among them, we can discern that silk textiles, porcelains, rhubarb, and Chinese goldthread were transhipped from China, and cloves and sandalwood were originally from the eastern Indonesian Archipelago.

However, neither Zhou Qufei nor Zhao Rukuo mentioned pepper. Besides showing Kollam's strategical position for a journey to the Arab countries, Zhou offered no information about its local products.[99] Zhao combined Kollam with other Nanpi countries, showing that these countries

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[96] Al-Sīrāfī, *Two Arabic Travel Books*, 31-33; Hourani, *Arab Seafaring*, 70-71, 73-75; Chaffee, *The Muslim Merchants of Premodern China*, 27; Prange, *Monsoon Islam*, 41.
[97] Zhou, *Lingwai daida jiaozhu*, *juan* 2, 90-91.
[98] Zhao, *Zhufan zhi jiaoshi*, *juan shang*, 67-68; Hirth and Rockhill, *Chau Ju-kua*, 88-89.
[99] Zhou, *Lingwai daida jiaozhu*, *juan* 2, 90-91.

produced grains, textiles, pearls, and gemstones.[100] The absence of pepper in these two Chinese accounts seemingly contradicted the anecdotal note that Java received pepper from Malabar, but it reflects the reality that the export of Malabar pepper to China had yet to be fully developed.

There were multiple factors hindering this trade. To begin with, the Southern Song imperial state restricted private traders from staying overseas for more than a year.[101] A round-trip to Malabar, however, usually took two years because of the long distance and needing to wait for the change of monsoons around the Straits of Melaka.[102] Therefore, Zhao noted that "the countries [of Nanpi] are the remotest and few foreign [trading] ships visit there" (其國最遠，番舶罕到).[103] The inconvenience for direct trade facilitated port regimes along the Straits of Melaka to assume an intermediary role. As Zhao's account shows, Srivijaya, Kompei, and Jituo (Kedah?) all had close trading relations with Kollam. The commodities they offered for the Malabar trade were not only from the Malay Peninsula and Sumatra, such camphor and agarwood, but also transhipped either from elsewhere in Southeast Asia such as cloves, sandalwood, or from China, such as silk textiles and porcelains.[104] These goods also appear in the archive of twelfth-century Jewish traders of the Red Sea route, indicating there were multiple transhipments for the trans-Indian Ocean circulations of spices and aromatics.[105] Given the extra costs derived from these long journeys and transhipments, goods that circulated from China to Malabar and vice versa could only consist of high-value commodities not locally available in a midway place. Pepper, already abundantly available in Java, was apparently not a good choice.

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[100] Zhao, *Zhufan zhi jiaoshi*, *juan shang*, 67-68; Hirth and Rockhill, *Chau Ju-kua*, 88-89.
[101] According to a 1164 regulation, the traders who returned within five months would receive tax reduction, and the traders who failed to return within a year would be punished. *Song huiyao*, vol. 7, *zhiguan* 44, 4218; Heng, *Sino-Malay Trade and Diplomacy,* 51-52, 64.
[102] Zhou, *Lingwai daida jiaozhu*, *juan* 2, 90-91.
[103] Zhao, *Zhufan zhi jiaoshi*, *juan shang*, 67-68; Hirth and Rockhill, *Chau Ju-kua*, 88.
[104] Zhao, *Zhufan zhi jiaoshi*, *juan shang*, 68; Hirth and Rockhill, *Chau Ju-kua*, 88-89.
[105] Goitein and Friedman, *India Traders of the Middle Ages*, 382-383.

This system, however, would be subject to a major reconfiguration from the 1270s. To begin with, after reunifying eastern Java in the 1250s, the Singhasari adopted an outward-looking policy by shifting its focus from the hinterland (represented by Kaḍiri) to the sea (represented by Janggala).[106] In 1275, it launched an expedition against Srivijaya, known as *pamalayu* in Indonesian history. The nature of this expedition is debated. Whereas previous research held it as punitive, an eminent historian of early Java and Srivijaya, J. G. de Casparis, suggested in the 1980s that the title of this campaign, *pamalayu*, indicates that it was rather for forging an alliance with Srivijaya in Jambi (Malayu), in preparation for an anticipated attack from the Mongols.[107]

Yet, de Casparis might have been over-enthusiastic about the solidarity of the archipelagic society against Mongol invaders. An undeniable result of this expedition is that it precipitated a power vacancy in the Straits of Melaka by the dawn of the Mongol maritime expansion. Before this attack, the influence of Srivijaya was already dwindling. Offering alternative stopover places for the trade between the Indian Ocean and China, a string of petty regimes had emerged along the east coast of northern Sumatra in the course of the twelfth and thirteenth centuries.[108] Among them, Kompei had even formally renounced its dependency upon Srivijaya through a war sometime before the 1220s.[109] Singhasari's expedition against the centre of Srivijaya, Jambi (Malayu), was a final blow to the latter's dissolving hegemony and cleared a path for the expansion of the Mongols into the Indian Ocean World.

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[106] Sidomulyo, "From Kuṭa Rāja to Singhasāri," 101.
[107] Andaya, *Leaves of the Same Tree*, 59; de Casparis, "Srivijaya and Malayu," 247-248.
[108] Wolters, *The Fall of Śrīvijaya*, 43-45; Milner, McKinnon, and Sinar, "A Note on Aru and Kota Cina"; McKinnon and Sinar, "A Note on Pulau Kompei"; McKinnon, "Beyond Serandib."
[109] Zhao, *Zhufan zhi jiaoshi*, *juan* 1, 49-50; McKinnon and Sinar, "A Note on Pulau Kompei," 54.

Shortly after the *pamalayu*, the envoys of the Great Khan would take the Straits of Melaka as a thoroughfare to Malabar.[110] In 1279, in the wake of the conquest of South China, Khubilai sent a Chinese envoy, Yang Tingbi, to Kollam. This mission was highlighted by the *History of Yuan* because Kollam was by then one among the few overseas countries that had yet to offer submissions to the Great Khan. After obtaining a letter from the ruler of Kollam, Yang Tingbi returned to China in 1280. However, Khubilai was unsatisfied by this letter and sent Yang to Kollam again. Yang departed in the first month of 1281, but encountered adverse winds around Sri Lanka (Mountain of Sinhala 僧伽耶山) in the third month of the same year. The mission had to detour to Pandya (Ma'bar in Arabic, Mabar'er 馬八兒 in Chinese) on the Coromandel Coast. In Pandya, the mission was unable to travel further via an overland route because the rulers of Pandya were preparing to invade Kollam.[111] Taking this lesson, they returned to China and decided to sail earlier next time. In the eleventh month of 1281 Yang Tingbi sailed from China again and safely reached Kollam in the second month of 1282. This mission managed to convince not only the ruler of Kollam but also the Christian and Muslim trading communities in that city. They all agreed to offer tribute to the Great Khan and sent envoys to accompany the mission back to China, likely because of some profitable trading opportunities Yang promised. En route, they stopped over in Samudera (Sumudula 蘇木都剌) and convinced its ruler to also submit to the Great Khan.[112] In 1283, Yang Tingbi was once again sent by the Great Khan to Kollam to secure the latter's vassalage.[113] As a result of these continuous voyages, in 1286 ten countries,

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[110] Fukami Sumio insightfully proposed that the Melaka Straits "seem to have been merely a passage rather than an emporium during the Yuan period". Fukami, "Gendai no Marakka Kaikyō," 118.

[111] Kollam was then part of Vēṇāṭu, which became independent after the disintegration of the Cēra Perumāḷ dynasty (ca. 800-1124) in the early twelfth century. As the southernmost part of Malabar, Vēṇāṭu had a long-term struggle against Pandya and Chola. Narayanan, *Perumāḷs of Kerala*, 128-129, 191-194.

[112] Song et al., *Yuan shi*, *juan* 210, 4669-4670; Sen, "The Yuan Khanate and India," 301-308; Mukai and Fiaschetti, "Yang Tingbi," 88-92.

[113] Song et al., *Yuan shi*, *juan* 12, 250-251; Sen, "The Yuan Khanate and India," 308.

including Sengjili (Cranganore? 僧急里),[114] Pandya (Maʿbar), Lambri (Nanwuli 南無力), and Samudera, offered vassalage to the Great Khan.[115]

These envoys to Malabar were part of the Great Khan's designation of a maritime empire. In the early 1280s, while Yang Tingbi was travelling back and forth between Kollam and China, the Great Khan was planning a maritime expedition against countries in the South Sea by using Champa as a forwarding base.[116] Whereas this plan was foiled by a series of defeats in Champa and Vietnam in the mid-1280s, military threat was still lingering and would be revived in the Mongol invasion of Java in 1293. At an undated moment around the late 1270s or early 1280s, there was even a debate in the Mongol court about whether military forces should be used in remote overseas countries such as Pandya, Kollam, and Samudera. Eventually, the strategy of requesting peaceful surrendering prevailed, and military options were reserved for the rulers who refused to submit, like the case of Java.[117]

Khubilai's aggressive maritime policy was not simply out of imperial aspiration, but also served pragmatic purposes. A well-known agenda was to secure a trans-Indian Ocean communication with Khubilai's chief supporter and ally, the Il-Khan in Persia. Throughout the 1280s and 1290s, a compelling issue for these two Mongol khans from the Toluid branch was that their overland communications were vulnerable in the face of assaults from rivalling branches in Central Asia led by Qaidu (1236-1301), who refused to acknowledge Khubilai as the legitimate Great Khan.[118] By the late 1280s, Qaidu had managed to control the routes between Persia and China and cut down their

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[114] Sengjili was Shingly (Cyngilin), recorded by Odoric of Pordenone as one of the two cities in the pepper-producing area of Malabar in the early fourteenth century. In the local Jewish tradition, it is associated with Cranganore (Koḍuṅgallūr), the former capital of the Cēra dynasty, but this link has recently been challenged by Ophira Gamliel. Odoric of Pordenone, "The Travels of Friar Odoric," 133-134; Jussay, "A Jewish Settlement," 278; Ophira Gamliel, "Back from Shingly."

[115] Song et al., *Yuan shi*, *juan* 210, 4670.

[116] Mukai, "Kubirai chō shoki Nankai shōyu no jitsuzō," 136-138; Lo, *China as a Sea Power*, 284-295.

[117] Song et al., *Yuan shi*, *juan* 134, 3260-3261; Sen, "The Yuan Khanate and India," 305-306.

[118] Biran, *Qaidu and the Rise of the Independent Mongol State*, 37-63; Shim, "The Postal Roads of the Great Khans in Central Asia," 435-440.

overland communications.[119] For instance, Bolad Chingsang (ca. 1240-1313), a Khubilai's envoy to the Il-Khan, was forced to stay in Persia, because, when returning to China in 1286, he was attacked by Qaidu's force en route.[120] This communication crisis necessitated the construction of an alternative route via the Indian Ocean. Therefore, while Khubilai was extending its influence as far as Kollam, from the other end, the Il-Khan supported merchants in the Persian Gulf, particularly, the al-Ṭībī family based on the Kish Island, to build a cross-Arabian Sea network leading towards Pandya.[121] Their networks crossed in the trading ports of South Asia, forging a trans-Indian Ocean empire of the Mongols.[122]

Yang Tingbi's voyages explored a fast-sailing route to make communication more efficient. Taking a lesson from the second voyage of 1281, he and his sailors learned how to follow the monsoons more accurately, so that they could reach Kollam within three or four months and return to China within a year.[123] In the following decades, the same route would be taken by many envoys travelling between the Great Khan and the Il-Khan, among whom the most famous is perhaps Marco Polo, to whom we will return soon.[124] Moreover, even after the collapse of the Il-Khan's rule in Persia in the 1330s, envoys from India and Europe would still use this route to communicate with the Great Khan. For instance, in 1342, Ibn Battuta was appointed by the sultan of Delhi to accompany a mission of the Great Khan back to China via Malabar.[125] In 1346 or 1347, the Pope's envoy to the Great Khan,

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119 Biran, *Qaidu and the Rise of the Independent Mongol State*, 44; Dardess, "From Mongol Empire to Yüan Dynasty," 142-143.
120 Allsen, *Culture and Conquest*, 72.
121 Kauz, "The Maritime Trade of Kish During the Mongol Period"; Yokkaichi, "The Maritime and Continental Networks of kīsh Merchants"; Qiu, "Background and Aftermath of Fakhr al-Dīn al-Ṭībī's Voyage".
122 I will elaborate on the concept of the Mongol Empire as a trans-Indian Ocean empire in a stand-alone article.
123 For the changing patterns of sailing, see Fukami, "Gendai no Marakka Kaikyō," 108-113.
124 Chen, "Yuandai de hanghai shijia Ganpu Yangshi"; Yokkaichi, "Cong Fengshi Bosi bei"; Qiu, "Background and Aftermath of Fakhr al-Dīn al-Ṭībī's Voyage".
125 Ibn Battuta, *The Travels of Ibn Baṭṭūṭa*, vol. 4, 773-775, 812-818.

Giovanni de' Marignolli, sailed from Quanzhou on St. Stephen's Day (26 December) and reached Kollam during Holy Week (ca. April) on his return journey.[126]

These back-and-forth voyages mobilised ocean-going ships from the China Coast. In Yang Tingbi's second trip (1281), it was a Chinese sailor, Zheng Zhen, who advised Yang to take an overland route to Kollam via Pandya (Maʿbar).[127] Zheng's suggestion indicates that Chinese seafarers had certain knowledge about the sailing route to Maʿbar Coast (also known as the Coromandel Coast). This was because, in comparison with Malabar, Maʿbar had much more contact with China during the Song period. Before the rise of the Pandya dynasty (mid-13th to early-14th c.) in the mid-thirteenth century, this region was ruled by Chola (ca. 850-1279). Chola, as mentioned in the previous section, launched maritime expeditions against Srivijaya in the eleventh century, which helped the expansion of Chola-sponsored Tamil guilds into Southeast Asia and China.[128] Following the same route, some Chinese also sojourned in Maʿbar and left an inscription in its main trading port, Nagapattinam, in 1267.[129] Zheng Zhen's knowledge about the overland route between Maʿbar and Malabar was likely drawn from these early contacts between Chola and China.

Projected by the Great Khan, the repeated voyages to Kollam helped Chinese seafarers become familiar with the routes beyond Maʿbar and to take Malabar as new destinations in their Indian Ocean voyages.[130] An early witness to this change was Marco Polo. In 1291, Polo joined a trans-Indian Ocean mission to Persia.[131] The mission embarked in Quanzhou, where Polo observed large ships with watertight compartments and iron-nails-fastened planks, capable to carry "five thousand baskets of

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126 Marignolli, "John de' Marignolli's Recollections of Eastern Travel (1338-1353)," 216, note 3; 230.
127 Song et al., *Yuan shi*, *juan* 210, 4669.
128 Wisseman Christie, "The Medieval Tamil-language Inscriptions."
129 Sen, "The Formation of Chinese Maritime Networks," 426-427. Wang, *Daoyi zhilüe jiaoshi*, 285.
130 For the rise of Chinese trading network in the Indian Ocean World, see Karashima, "Trade Relations Between South India and China"; Sen, "The Formation of Chinese Maritime Networks"; Yokkaichi, "Chinese and Muslim Diasporas".
131 Yokkaichi, "Cong Fengshi Bosi bei," 66; Vogel, *Marco Polo Was in China*, 82.

pepper, and some six thousand".[132] These ships were the so-called junks, a hybrid of East and Southeast Asian shipbuilding technologies, which began to prevail in the maritime trade of the South China Sea from around the thirteenth century.[133] Likely carried by this kind of junk, the mission, "with about two thousand men", first stopped over in Samudera in northern Sumatra.[134] Thereafter it sailed to South India, where Polo noted that Chinese ships were visiting Kollam and Eli (Hīlī in Arabic and Ezhimala in Malayalam). In Kollam, there were ships from China (Mangi), Arabia, and Levant, purchasing local goods, such as pepper, ginger, and brazilwood.[135] Eli, named after the promontory of Mount Eli in northern Kerala, had no harbour, but an anchorage outside a great river. Ships from China and other directions "come here in the summer and load in three days or in four days or perhaps in eight and go off as soon as they can", because "it is very dangerous to stay since there are beaches and sand and no harbour." Chinese ships had a comparative advantage as they carried "great anchors of timber that they hold their ships well in all great storms."[136] As even such a dangerous port was now frequented by Chinese ships, we may conclusively argue that, in the early 1290s, ships from China had been deeply exploring the pepper coast of Malabar, leaving Java far behind.

4. Towards a Trans-Indian Ocean World

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[132] Polo, *The Description of the World*, vol. 1, 355.
[133] Manguin, "Trading Ships of the South China Sea."
[134] Polo, *The Description of the World*, vol. 1, 91, 373. According to Polo, the mission stayed in Samudera for five months because of "the unfavourable weather" and "contrary winds". The long stay, instead of directly sailing to Kollam, was likely because this mission's final destination was not Malabar, but Persia. The sailors had to take the time needed for crossing the Arabian Sea into consideration. If they failed to cross it timely, it would be very dangerous to wait for the change of monsoons in an exposed anchorage along the Malabar Coast, which is subject to a very strong southwest monsoon. Therefore, it might be their strategy to wait in northern Sumatra so that they would have more time to cross the Indian Ocean during the next northeast monsoon. However, it seems that by the end, this strategy also failed to work, as it took another eighteen months for them to cross the Indian Ocean. They arrived at Hormuz approximately in early 1293. During this voyage, they likely experienced shipwreck(s) as most mission members died en route. For a recent study of Polo's mission to Persia, see Qiu, "Ma Boluo huicheng jing Bosi xingzong kao."
[135] Polo, *The Description of the World*, vol. 1, 414-415
[136] Ibid, 416-417.

Whereas Java's pepper trade was largely oriented towards the Chinese consumer market, Malabar was not. It was situated at the centre of the Indian Ocean World and had, latest since the Roman period, been visited by spice traders from the Red Sea and Persian Gulf routes, which led further towards the Mediterranean World. Taking these pre-existing trading networks into consideration, a further question we may ask is: How did ships from China fit into the trading world of the Indian Ocean? To answer this question, we may begin with the dangerous anchorage of Eli. Whereas Kollam corresponded to the southern extreme of the main pepper producing area of Kerala, Eli was close to its northern boundary. If a Chinese ship was merely looking for pepper, she would preferably visit a central Kerala port such as Cranganore, where pepper abounded, without risking herself to the further north. Then, what attracted these Chinese ships to a dangerous port in Malabar?

Eli was distinct from those ports in central and southern Kerala for the network it belonged to. Along with a string of trading ports in northern Kerala, Eli had a strong tie to a newly risen Muslim trading network centred upon the Rasulid Sultanate (1229-1454) in Yemen, which controlled the entrance of the Red Sea route to the Mediterranean World.[137] Being a juncture between the Rasulid-sponsored Muslim trading network and the Mongol-sponsored Chinese trading network, Eli was likely a place where traders from China met their counterparts from the Red Sea route.[138] There is also

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[137] A testimony to this link is a document of the port authority of Aden from the 1290s, which contains a list of stipends paid by the Rasulid court to Muslim religious leaders in over forty locations along the western and southeastern coasts of India. The Muslim communities in these places, which were ruled by non-Muslim local regimes, were crucial for the Rasulids' "oceanic policy". Through sponsoring these religious leaders and making the name of the Rasulid sultan being cited in their Friday sermons, it invited an extra-territorial allegiance of the Muslim traders in the non-Muslim-ruled ports of India to the Rasulid sultan, and attracted them to visit Aden, making Aden an entrepot of the Muslim trading network on the western Indian Ocean. Vallet, "Yemeni "Oceanic Policy""; idem, *L'Arabie marchande*, 568-571; Lambourn, "India from Aden," 87-88; Prange, *Monsoon Islam*, 255-263.

[138] Another place where these two networks interacted was the Pandya kingdoms on the Maʿbar Coast. Yasuhiro Yokkaichi's recent article shows that a leading Muslim merchant in Pandya receiving rewards from the Rasulid court, Taqī al-Dīn ʿAbd al-Raḥmān al-Ṭībī, was a member of the al-Ṭībī family based on the Kish Island in the Persian Gulf. That family's members served the Il-Khan as local officials in the Persian Gulf and court-merchants. In 1298, a member of this family would lead a trans-Indian Ocean mission for the Il-Khan to the court of the Great Khan in China. That mission was received by a Chinese junk merchant at a South Indian

evidence that Chinese ships kept visiting Eli till the mid-fourteenth century. In 1342, when Ibn Battuta visited Eli, he found that this was "the farthest town reached by ships from China" and one of the three principal ports visited by them in Malabar.[139]

Map 2.2 A trans-Indian Ocean world.

For trading with local and western Asian merchants on the Malabar Coast, Chinese ships did not only carry Chinese goods but also Southeast Asian spices. Polo noted Chinese ships visited Malabar (Melibar) with copper as ballast, and "also silk, cloth of gold, and cloth of silk, sendal, gold, and silver, cloves, spikenard, and such spicery as these which they of Melibar have not."[140] Among them, cloves, as introduced in the previous section, were an important eastern Indonesian spice whose trade to

port, whose trade was financed by the Mongol Yuan imperial state in China. Yokkaichi suggests that through these multiple patronage and trading networks, Chinese silver as well as other Chinese goods, such as porcelains, were circulated to Aden and the Red Sea route via South India. Yokkaichi, "The Maritime and Continental Networks of kīsh Merchants," 454; Vallet, *L'Arabie marchande*, 567; Kauz, "The Maritime Trade of Kish During the Mongol Period"; Qiu, "Background and Aftermath of Fakhr al-Dīn al-Ṭībī's Voyage"; Chen, "Yuandai de hanghai shijia Ganpu Yangshi."

[139] Ibn Battuta, *The Travels of Ibn Baṭṭūṭa*, vol. 4, 809. The other two were Kollam and Calicut.

[140] Polo, *The Description of the World*, vol. 1, 418-419.

Malabar was previously carried out by the trading regimes along the Melaka Straits. Chinese merchants were now substituting them to be the carriers of Southeast Asian spices to South India.

By the time of Polo's voyage, Java was still a principal supplier of cloves to those ships from China. Polo was aware that the island of Java had pepper, nutmeg, spikenard, galangal, cubeb pepper, and cloves. He found merchants from China "have formerly drawn very vast treasure and still draw everyday" from Java.[141] However, shortly after Polo's voyage, the Great Khan launched the Java campaign (1293). This invasion, albeit being a military fiasco, undermined Java's hegemony in the Indonesian Archipelago. While the invading Mongol/Chinese force unwisely involved themselves in the rivalries between different courts in eastern Java and were eventually driven out by the founder of the Majapahit dynasty (1293-early 16th c.), Kertarajasa Jayawardhana (Wijaya, r. 1293-1309), the former mighty Singhasari dynasty also collapsed.[142] It would take decades for the Majapahit to consolidate its control of eastern Java, before resuming overseas expansion from around the 1330s-1340s.[143]

A weakened Java gave more space for traders from China to explore direct trade with islands in the eastern archipelago of Indonesia. Roderich Ptak's research reveals that in the early fourteenth century there emerged a sailing route from Quanzhou, along the eastern edge of the South China Sea, penetrating through the Sulu Zone, and reaching the Maluku Islands, which produced cloves. It perhaps also further extended to the Banda Islands, which produced nutmeg, and Timor, which produced sandalwood.[144] With this eastern route, junks from China could bypass Java and purchase fine spices directly from the eastern Indonesia Archipelago.

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141 Ibid, 368.
142 For the Mongol invasion of Java, see Bade, *Of Palm Wine, Women and War*. For a more thorough investigation of Chinese sources, see Deng, "Yuanchao zheng Zhaowa shishi kao."
143 Krom, *Hindoe-Javaansche geschiedenis*, 360-398; Sidomulyo, "Kṛtanagara and the Resurrection of Mpu Bharāda," 130.
144 Ptak, "From Quanzhou to the Sulu Zone and beyond"; idem, "Some References to Timor in Old Chinese Records," 37; idem, "The Northern Trade Route to the Spice Islands," 29-33.

The key testimony to this change is Wang Dayuan's *Sketched Record of Island Barbarians* (*Daoyi zhilüe* 島夷誌略). First published in 1349, this text records geographic knowledge collected by Wang from his two overseas voyages. The dates and itineraries of these two voyages are yet to be settled. The only undisputed account is that Wang's ship anchored at the west coast of Sri Lanka on the twelfth day of the tenth month of 1330 (22 November 1330), indicating that he was either sailing to or returning from the Malabar Coast around 1330.[145] For the eastern Indonesian Archipelago, the text offers detailed accounts about Chinese trade in Maluku, Banda, and Timor, showing that ships from China visited these islands for typical local products, namely, a small group of relatively expensive spices and aromatics, which I refer to here as "fine spices", including cloves, nutmeg, and sandalwood. Among them, the Maluku trade had become regular, as local chieftains expected Chinese ships to come every year, but trips to Timor were occasional and unwelcome to sailors for the fear of catching endemic febrile diseases (likely malaria).[146] As Chinese traders identified these islands as the origins of fine spices, they also realised that the trading ports along the north coast of Java were merely transhipping them. Wang indicated that the only important spice from Java was pepper. All other spices and aromatics, which were generally referred to as "drugs" (*yaowu* 藥物) by Wang, were transhipped from elsewhere (藥物皆自他國來也).[147]

With better access to the fine spices from the eastern Indonesian Archipelago, ships from China had more cargoes to offer in the trans-Indian Ocean exchange of spices, particularly for the trade with West Asian merchants.[148] An important article by Gao Rongsheng reveals that there was a complicated "horse ship" (*machuan* 馬船) trading system in Malabar that connected spice traders from the two ends

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[145] Wang, *Daoyi zhilüe*, 311.
[146] Ibid, 175-178, 204-213.
[147] Ibid, 159.
[148] For an overview of Chinese transhipment of Southeast Asian and Indian Ocean goods, see Yang, "Yuandai Nanhai maoyi zhong de shangpin yu huobi wenti."

of the Indian Ocean World.[149] Largely based on the notes of Wang Dayuan, Gao points out that ships from China carried Chinese goods as well as cloves and nutmeg to Malabar. There, they waited for the arrival of "horse ships" from West Asia in the eighth or ninth month (ca. September and October). These ships were larger than Chinese ships, but they used no nail and were not watertight, and the sailors had to bail out water day and night. These features distinguished them from Chinese junks, and likely made them less seaworthy and unable to winter in the stormy Malabar Coast, like what Chinese junks often did. They carried frankincense as ballast cargo and hundreds of horses on top of it.[150] In Malabar, they met both local merchants and traders from China. Through a tripartite exchange, traders from China carried back pepper and West Asian commodities, such as frankincense; Malabar traders obtained horses as well as Chinese goods; and West Asian traders purchased pepper, fine spices, and Chinese goods.

By the time of Wang Dayuan, this trading system had become well established and a principal rendezvous location emerged. In the early-mid fourteenth century, Calicut rose from obscurity to the centre of this trans-Indian Ocean world. Wang noted Calicut was the principal port of the Western Ocean. Ships from China, if unable to finish trade before the change of monsoons, would winter in the port of Kollam until the eighth or ninth month, and then move to Calicut to meet the "horse ships" from West Asia.[151] Ibn Battuta, in 1342, observed Chinese vessels passed the winter in a sheltered port adjacent to Calicut, Pantalayani-Kollam, but the primary trading port was Calicut, which received traders from China, Java, Sri Lanka, the Maldives, Yemen, and Fars (Persia). He concluded "its harbour is one of the largest in the world".[152]

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149 Gao, "Gulifo/Gulin," 62-65.
150 Wang, *Daoyi zhilüe*, 267-270, 321-330, 364-369. For an English translation, see Ptak, "Wang Dayuan on Kerala."
151 Wang, *Daoyi zhilüe*, 321-330.
152 Ibn Battuta, *The Travels of Ibn Baṭṭūṭa*, vol. 4, 812.

Like Eli, Calicut had no geographical advantage. It had no sheltered harbour, and lighterage, namely, loading and discharging with lighters, was the only option for an ocean-going vessel, making it exposed to dangerous storms.[153] Therefore, those ships from China had to winter elsewhere in either Kollam or Pantalayani-Kollam. What attracted traders to Calicut, as recently proposed by Sebastian Prange, was a legal framework provided by its ruling house, the Zamorins.[154] Despite originally being a small principality in politically fragmented Kerala,[155] the regime of the Zamorins was unique in terms of its strong interest in promoting maritime trade through offering legal security for traders, which even extended to the properties of those who were shipwrecked in Calicut.[156] That policy attracted many Muslim traders to live in Calicut.[157] They helped integrate Calicut with the trading network of the western Indian Ocean, particularly into the two vital trading routes of the Red Sea and the Persian Gulf (Map 2.2).[158] With this network, the Zamorins managed to turn Calicut into a leading port of Malabar in the early-mid fourteenth century. Thereafter, with revenue from maritime trade, it launched a series of military expeditions against rivalling port systems, making itself the dominant power of Kerala by the arrival of the Portuguese in 1498.[159]

Along with the rise of Calicut, traders from China began to realign the functions of the main trading ports of Malabar.[160] Kollam was no longer a principal pepper exporter, as Wang Dayuan merely

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153 Prange, *Monsoon Islam*, 43; Ibn Battuta, *The Travels of Ibn Baṭṭūṭa*, vol. 4, 815.
154 Prange, *Monsoon Islam*, 160-166.
155 The regime of the Zamorins in Calicut was originally one of the small principalities in the post-Cēra fragmentation of Kerala. Haridas, "The Emergence of a Medieval South Indian Kingdom"; Krishna Ayyar, *A History of the Zamorins of Calicut, Part 1*, 1-45.
156 Prange, *Monsoon Islam*, 160-166.
157 Ibid, 182-191.
158 Compared with its neighbouring ports in northern Kerala, such as Eli, Calicut's network relied less on Aden, and had instead a stronger tie with the Persian Gulf route through Gujarat and Hormuz for until 1393 the names of the Muslim rulers in these two regions, instead of the Rasulids sultan, were cited in the Friday prayer of Calicut. Ibid, 270-278.
159 Krishna Ayyar, *The Zamorins of Calicut*, 56-110; Malekandathil, *Portuguese Cochin*, 33-36; Menon, *A Survey of Kerala History*, 175-187.
160 For an overview of the history of the trading ports of Malabar, see Malekandathil, "Coastal Polity and the Changing Port-Hierarchy of Kerala," 75-90.

listed pepper among other local products without further remarks.[161] It still served as a convenient stop-over and wintering place for ships from China, as the city was "the nearest of the Mulaibār towns to China and it is to it that most of the merchants [from China] come".[162] Calicut, being the centre of the "horse ship" trade, was also an important pepper-trading port. Local traders built godowns to store pepper, which was collected from the expanding territory of the Zamorins. Yet, its pepper export could not match a central Kerala port called "Xiali" (下里). Xiali, situated between Kollam and Calicut, most likely referred to Cochin.[163] It had pepper "superior to all other countries, so numerous to count," so that "the pepper in other foreign [countries] is merely [as much as] the overspill of this country" (地產胡椒，冠於各番，不可勝計…他番之有胡椒者，皆此國流波之餘也).[164]

After Wang Dayuan, China's trade with this trans-Indian Ocean world would be subject to major political upheavals. To begin with, the fall of the Mongol Yuan dynasty in China in 1368 was preceded by a devastating rebellion (1357-1366) in Quanzhou, which destroyed the business of many

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161 Wang, *Daoyi zhilüe*, 321; Ptak, "Wang Dayuan on Kerala," 47.

162 Ibn Battuta, *The Travels of Ibn Baṭṭūṭa*, vol. 4, 817.

163 There is an attempt to identify Xiali with Alwaye, a river port situated at the top of the delta of Periyar, whence the Periyar River bifurcates into two major branches, one emptying into the Arabian Sea by Cranganore and the other by Cochin. It is right to locate Xiali in the delta of Periyar, as this river flew through the most productive pepper-growing region of Malabar, but the identification of Xiali with Alwaye is problematic for it was unlikely that an ocean-going ship from China would sail so upriver to Alwaye, while ignoring the two important seaports, Cranganore and Cochin, on its estuaries. There is a long-ignored link that may help associate Xiali with Cochin. The rise of Cochin is usually traced to 1341, when a large flood silted up the harbour of Cranganore and expanded the channel to the sea near Cochin. Likely because of this background, the original Malayalam name for Cochin was "Kochazhi" (Koch-Azhi), meaning "small or new harbour in order to distinguish it from the large or old harbour of Cranganore." It was exactly noted by Wang Dayuan that Xiali was also called "Small Port" (Xiao Gangkou 小港口). Moreover, there is a phonetic connection between Kochazhi and Xiali. The pronunciation of Azhi in Malayalam sounds like "ali", and the pronunciation of Xiali in Hokkien Chinese, which was the language of the Chinese sailors, sounds like "hali". Wang Dayuan likely recorded a contracted form of Kochazhi, namely, Azhi, which means sea or harbour, while dropping Koch(u), which means small. Probably for avoiding confusion with Cranganore, Wang Dayuan emphasised that Xiali was Small Port, namely, Small Azhi. Wang, *Daoyi zhilüe*, 268-269; Ptak, "Wang Dayuan on Kerala," 44-45; Malekandathil, *Portuguese Cochin*, 29-57; Jussay, "A Jewish Settlement," 278. Thanks to Archa Neelakandan Girija, who helped me navigate through these Malayalam toponyms.

164 Wang, *Daoyi zhilüe*, 267; Ptak, "Wang Dayuan on Kerala," 44.

Muslim traders in this city, who used to play a crucial role in the Indian Ocean trade.[165] Thereafter, the founder of the Ming dynasty, Emperor Hongwu (r. 1368-1399), attempted to revive the tribute system by restoring Srivijaya as the major trading partner of the Ming. That plan was soon foiled by the Majapahit, leading to the fall of Srivijaya and a major setback of the early Ming maritime policy.[166] Hongwu's son, Zhu Di, usurped his nephew's throne and became Emperor Yongle (r. 1402-1424) in 1402. He adopted a proactive policy by dispatching the voyages of Zheng He to the Indian Ocean. Whereas the first three voyages (1405-1411) took Calicut as the final destination, the remaining four voyages (1413-1433) became truly trans-Indian Ocean, as the main fleet sailed to Hormuz and several flotillas to Dhofar, Aden, and the east coast of Africa.[167] These voyages, as T'ien Ju-kang's research shows, carried back to China a huge amount of pepper, which was redistributed as salary to officials and soldiers.[168] The large-scale purchases made by Zheng He's fleets on the Malabar Coast might even account for the steep rise of pepper prices in Europe, which stimulated the Portuguese to search for an alternative route to Calicut via the Cape of Good Hope.[169]

After Zheng He's voyages, Melaka assumed the former position of Srivijaya, acquiring a semi-monopoly of the transhipment of pepper from an emerging pepper frontier in Samudera to China through the Ming tribute system. That system prohibited the participation of private merchants based on the China Coast and caused a retreat of Chinese ships from the Indian Ocean World. Taking this opportunity, other tribute states of the Ming, such as Ryukyu, Siam, and Korea, also took part in the transhipments of pepper from Southeast Asia to China, constructing interwoven spice networks.

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165 Maejima, "The Muslims in Ch'uan-chou at the End of the Yuan Dynasty"; Chaffee, *The Muslim Merchants of Premodern China*, 157-161; Liu, "Yuanmo Fujian yanhai zhanluan yu yisibaxi yijun de zujian."
166 Wolters, *The Fall of Śrīvijaya*, 49-76.
167 For the details of these voyages, see Ma, *Ying-yai sheng-lan*. For the China-Calicut connection in the early Ming period, see Ptak, "China and Calicut in the Early Ming Period."
168 T'ien, "Chêng Ho's Voyages."
169 O'Rourke and Williamson, "Did Vasco da Gama matter for European Markets?" 662-664.

However, into the second half of the fifteenth century, their roles would gradually be marginalised by Chinese private traders, who fought against the monopoly of the tribute system and sailed directly to Melaka and other trading ports in Southeast Asia to purchase pepper. Their interactions with the Ming tribute system would largely define China's maritime exchange with tropical Asia until the Portuguese occupation of Melaka in 1511.[170] Even thereafter, when the Portuguese in Melaka attempted to establish a trading relation with China, they found that in Canton, Chinese merchants' "whole idea is pepper".[171]

5. Bringing Fire Down!

From Java to the Indian Ocean, the reconfiguration of global spice networks triggered by the Mongol Conquest made pepper available to Chinese consumers in unprecedented abundance. However, at this same time, Chinese medical culture was undergoing a major change. From the late twelfth through the mid-fourteenth centuries, a number of influential physicians, often collectively known in Chinese medical history as "the four great masters of the Jurchen Jin (1115–1234) and Mongol Yuan (1271–1368) periods" (金元四大家), including Liu Wansu (fl. late 12th c.), Zhang Congzheng (fl. late 12th - early 13th c.), Li Gao (ca. 1180-1251), and Zhu Zhenheng (1281-1358), proposed polemic theories concerning the prevailing warming culture of the Northern and Southern Song medicine as we have seen in chapter one. Amid their debates, Chinese medicine experienced a major shift from a warming culture that favoured "warming the centre" with exotics, to a cooling culture that contended for

[170] Ptak, "Ming Maritime Trade to Southeast Asia," 170-182; idem, "The Fujianese, Ryukyuans and Portuguese"; Ts'ao, "Pepper Trade in East Asia," 237-243; Meilink-Roelofsz, *Asian Trade and European Influence*, 27-88.
[171] Pires, *The Suma Oriental of Tomé Pires*, vol. 1, 124.

"bringing fire down" (*jianghuo* 降火) by restraining their use.[172] Against this backdrop, the abundance of pepper in Chinese medicine would arouse strong concerns among Chinese medical practitioners. This section focuses on how these concerns emerged, evolved, and eventually influenced Chinese dietary practices.

To begin with, concerns over over-consumption or over-dosage of strong spices such as pepper were not new. Already in the early tenth century, Li Xun, through indicating "the one that faces the yin [side] is *bidengqie* (*dengqie*), and the one that faces the yang (side) is pepper",[173] had been implying that pepper was different from *bidengqie* (cubeb pepper or *Embelia Ribes*) in terms of its strong yang nature. He hence admonished that over-consumption of pepper would impair the lungs.[174] Thereafter, in the early twelfth century, Kou Zongshi advised that "over-dosage of pepper would (over-)proceed to *qi*" (過劑則走氣).[175] These precautions were founded in the *Inner Canon*'s correspondences of five flavours with five palace viscera and five body elements (Table 2.1). For instance, the acrid flavour supposedly entered the lungs (辛入肺) and proceeded to the *qi* (辛走氣). The consequences of "enter" or "proceed" were vaguely defined. It could be either benefiting or harming, but over-consumption, potentially leading to "over-entering" or "over-proceeding", was certainly unrecommended. For instance, in the case of the acrid flavour, its over-consumption would supposedly worsen *qi*-associated illness.[176]

Acrid	Lung	*Qi*
Sour	Liver	Sinews
Bitter	Heart	Bones

[172] Wu, "A Medical Line of Many Masters," 36-65; Furth, "The Physician as Philosopher of the Way," 423-459; Simonis, "Illness, Texts, and "Schools" in Danxi Medicine," 52-71; Leung, "Medical Learning from the Song to the Ming," 374-398; Fan, *Zhongguo yixue shilüe*, 223-265.
[173] *Chongxiu Zhenghe jingshi zhenglei beiyong bencao*, *juan* 14, 349.
[174] Ibid.
[175] Ibid.
[176] *Huangdi neijing suwen*, *juan* 23, 74-75.

Salty	Kidney	Blood
Sweet	Spleen	Flesh

Table 2.1 Five flavours' correspondences.

Source: *Huangdi neijing suwen*, *juan* 23, pp. 74-75.

Besides these medical texts, there is evidence that maritime traders also felt an urgency to address the strong acrid flavour of pepper because of the large volume of pepper they handled. Zhao Rukuo in the early thirteenth century learned from the trading community of Quanzhou that in Sujidan (around Mount Muria in central Java), where pepper was most abundant, collectors often suffered from headaches caused by the acrid fumes from pepper (為辛氣熏迫). Therefore, traders from China sold *chuanxiong* (*Ligusticum chuanxiong* 川芎) to them for curing the pepper-induced headache.[177] Into the mid-fourteenth century, as ships from China took Xiali in central Malabar as the primary source of pepper, this account was also relocated to Xiali. Wang Dayuan also noted that in Xiali collectors were unable to stand the hot-spicy flavour of pepper (其味辣，采者多不禁) and had to take a *chuanxiong* decoction as antidote.[178] These two accounts were, however, unlikely faithful representation of the medical practices of pepper collectors in Indonesia and India, as there is no evidence that collectors in pepper plantations suffered from acrid-flavour-induced headaches, and also very few traders from China had a chance to visit the pepper-producing mountainous hinterlands of Sujidan and Xiali. These accounts more likely reflected Chinese pepper traders' concerns over their own long-term contact with huge amounts of pepper as a trading item. They, therefore, projected their understanding of the detriment caused by the strong flavour of pepper and its remedy onto these accounts.

In these two accounts, what is also remarkable is the idea of using a Chinese medicine *chuanxiong* as a remedy. As *chuanxiong* itself was also defined as acrid and warm,[179] it had no capacity to

[177] Zhao, *Zhufan zhi jiaoshi*, *juan* 1, 60-61.
[178] Wang, *Daoyi zhilüe*, 267.
[179] *Chongxiu Zhenghe jingshi zhenglei beiyong bencao*, *juan* 7, 174.

counterbalance the warming nature of pepper. Instead, its use was based upon *chuanxiong*'s function as a headache killer,[180] and also upon the function of an acrid medicine to disperse pathogenic *qi* caused by another acrid thing, as the *Inner Canon* defined the acrid flavour had a capacity to disperse.[181] Therefore, we may not associate these concerns with the cooling culture that had more fundamental conflict with the nature of pepper.

The medical culture that favoured cooling agents began as a regional medical movement in North China under the Jurchen Jin dynasty (1115–1234) from the late twelfth century, with little influence on the consumption and trade of warming exotics in South China under the Southern Song dynasty (1127 - 1279), which still followed the Northern Song medical culture. An undisputed progenitor of this northern movement was Liu Wansu (Hejian) (fl. late 12th c.). Different from the mainstream medical culture inherited from the Northern Song, Liu creatively identified fire as a principal pathogenic factor and re-oriented the pathology of cold damage from cold to heat. He literally interpreted febrile diseases (*rebing* 熱病) as heat (*re* 熱), and argued that the febrile diseases of cold damage, by their nature, were caused by heat.[182] With this new interpretation, Liu criticised the pathology of yin patterns constructed by Northern Song physicians such as Zhu Gong and pointed out they were all but "heat patterns" (*rezhen* 熱證).[183] As a result, the practice of "warming the centre" for the three yin patterns could no longer stand, and the *Inner Canon*'s doctrine of "sweating for the three yang and purging for the three yin" revived.

This theory first found a group of followers in North China, where the Northern Song medical culture had not been endorsed by imperial powder since the Jurgen invasion in the late 1120s. Among

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[180] Ibid.
[181] *Huangdi neijing suwen*, *juan* 22, 73.
[182] Fan, *Zhongguo yixue shilüe*, 233-234; Boyanton, "The *Treatise on Cold Damage* and the Formation of Literati Medicine," 198-199.
[183] Liu, *Shanghan zhige*, preface, 244; *juan zhong*, 254.

Liu's followers, Zhang Congzheng (fl. late 12th - early 13th c.) was well-known for his three attacking methods of sweating, purging, and vomiting.[184] Preferring these aggressive treatments, Zhang largely abandoned the practice of "warming the centre" and strictly limited the use of warm and acrid medicines. He classified pepper, together with dried ginger, galangal, and aconite (*fuzi* 附子), as a typical "preparation for desiccating" (*zaoji* 燥劑). Their clinical use should be confined to illness caused by accumulated cold, and long-term consumption should be avoided because of their desiccating effects.[185]

Zhang further criticised the common practice of using warming exotics to treat digestive problems. Zhang observed:

> Physicians, without checking the roots [of the illnesses], roast ginger in fire and boil cassia in decoctions. Cloves have yet to stop; *doukou* continues. Long pepper has yet to stop; pepper continues. Although [they are] said to harmonise the stomach, the stomach is actually not cold. Although [they are] said to replenish the stomach, the stomach is actually not depleted.
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> 醫氏不察本原，火里燒姜，湯中煮桂，丁香未已，豆蔻繼之，蓽撥未已，胡椒繼之。雖曰和胃，胃本不寒；雖曰補胃，胃本不虛。[186]

In general, Zhang was reticent to attribute digestive problems to cold. For instance, he proposed that the cause of various types of occlusions (十膈五噎) of the digestive tract was heat congestion (熱結) in the three yang palace viscera, namely: the large intestine, the small intestine, and the urinary bladder. This interpretation went against most of his contemporaries, who, followed the medical culture we have seen in chapter one, diagnosed these digestive problems as caused by cold and depletion, and

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[184] Fan, *Zhongguo yixue shilüe*, 237-241.
[185] Zhang, *Rumen shiqin*, *juan* 1, 373.
[186] Ibid, *juan* 3, 404-405.

hence prescribed these warming agents. As a result, when people learned that Zhang suggested treating digestive problems with purging and cooling agents, they were all aghast.[187]

Whereas Zhang Congzheng's aggressive methods failed to arouse strong sympathy among literati, a more eclectic approach proposed by Zhu Zhenheng (Danxi) (1281-1358) in the mid-fourteenth century would make the cooling culture more appealing to them. Different from Liu and Zhang, Zhu was a southerner living in the Mongol Yuan period and was active in the early and mid-fourteenth century. By his age, the reintegration of China through the Mongol Conquest facilitated the spread of the new ideas of Liu and Zhang from the North to the South, challenging southerners' mainstream medical culture, which still favoured warming exotics. Zhu was among a new generation of southern physicians, who under the northern influence, began to develop a new medical system that at once opposed the warming exotics of the Imperial Pharmacy and took southern literati's expectation of mild treatment for their self-perceived delicate bodies into serious consideration.[188]Serving that purpose, Zhu Zhenheng's medical theory developed two interconnected concepts, both with profound influence on Chinese medicine and foodways. One was "nourishing yin" (滋陰 or 補陰), which, as we will return to in section five of chapter three, was crucial to the rise of sea cucumbers from the late sixteenth century. The other was "bringing fire down" (降火), which rang the death knell for the age of warming exotics such as pepper.

The idea of "bringing fire down" was not Zhu Zhenheng's invention, as it had already been essential to Liu Wansu's pathogenic fire theory. Yet, with influence from Neo-Confucianism and from another eminent northern physician, Li Gao (1180-1251), to whom we will return soon, Zhu reconceptualised fire from an external environmental factor into an internal vital element abiding in

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[187] Ibid, 405.

[188] Wu, "A Medical Line of Many Masters"; Furth, "The Physician as Philosopher of the Way"; idem, *A Flourishing Yin*, 145-151; Fan, "Yizhe Ge Yinglei".

visceral organs.[189] Zhu identified two types of internal fire, namely, sovereign fire (*junhuo* 君火) and minister fire (*xianghuo* 相火), the former mainly abiding in the heart and the latter abiding in the kidneys and the liver.[190]

The division of fire into sovereign fire and minister fire was associated with the system of "the five circulatory phases and the six seasonal influences" (*wuyun liuqi* 五運六氣). This system became popular in China from the late eleventh century, for it offered a model for the Northern Song ruling elites to envision an orderly and predictable world.[191] In this system, fire as one of the five phases was divided into two, namely: sovereign fire and minister fire, in order to turn the five phases into six to be corresponded with the six seasonal influences, namely: wind (*feng* 風), fire (*huo* 火), summer heat (*shu* 暑), dampness (*shi* 濕), dryness (*zao* 燥), cold (*han* 寒). For the same purpose, the kidneys were divided into the left kidney and the right kidney, the former being associated with water and the latter being associated with minister fire, and the heart, which was originally associated with fire, was redefined as associated with sovereign fire, so that the five depot organs became six and were now compatible with the sixfold system (Table 2.2).

Seasonal influences	Circulatory phases	Palace organs
Wind	Wood	Liver
Fire	Sovereign fire	Heart
Summer heat	Minister fire	Right kidney
Dampness	Earth	Spleen
Dryness	Metal	Lung

[189] Furth, "The Physician as Philosopher of the Way," 445-448.
[190] Zhu, *Gezhi yulun*, 28-29.
[191] Goldschmidt, *The Evolution of Chinese Medicine*, 183-186.

Cold	Water	Left kidney

Table 2.2 The sixfold system that associated seasonal influences with circulatory phases and palace organs. Source: Despeux, "The System of the Five Circulatory Phases and the Six Seasonal Influences," 126, 150-153.

This system had become an important source of innovation in Chinese medicine since the early twelfth century, when the Northern Song Emperor, Huizong (r. 1100-1126), personally promoted it. It, thereafter, also inspired the medical masters of the Jurchen Jin and Mongol Yuan periods to develop their own theories to apply this system for medical practices.[192] An interesting observation is that, in these derivative theories, while the location of sovereign fire was not disputed, minister fire was subject to wildly different interpretations. Among them, Li Gao's interpretations directly influenced Zhu Zhenheng. As a founding physician of the "warming and replenishing" medical culture, which we will discuss in detail in chapter three, Li proposed two very different interpretations of minister fire in his works. In a discourse concerning the kidneys, Li followed the division between the left kidney as water and the right kidney as minister fire, and suggested nourishing yin if there was extra minister fire and replenishing yang if minister fire is deficient.[193] The other was a discourse concerning the spleen and the stomach. It vaguely associated minister fire with yin fire and suggested that minister fire (yin fire) was situated in the Lower Burner (*xiajiao* 下焦), which corresponded to the lower part of the body trunk and supposedly contained the kidneys and the liver.[194]

As a result of this interpretation, minister fire was considered no longer specifically located in the right kidney, but in the lower part of the body trunk and associated with both the kidneys and the liver. Li's original conception was that the spleen and the stomach in the centre of the body trunk should be replenished with warming agents, so that they had sufficient yang force to control the

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[192] Despeux, "The System of the Five Circulatory Phases and the Six Seasonal Influences," 153-157; Goldschmidt, *The Evolution of Chinese Medicine*, 184-186.
[193] Li, *Yixue faming*, 754.
[194] Li, *Nei wai shang bianhuo lun*, *juan zhong*, 542. Li referred to both minister fire and yin fire in this text, but he did not explicate their relation. For the vagueness of this theory, see Ding, *Jin Yuan yixue pingxi*, 209-212.

minister fire (yin fire) in the lower part. Li also suggested that minister fire (yin fire) was "the thief of primordial *qi*" (元氣之賊). He did not clearly explain why, but from his cryptic text, we may assume that he believed minister fire, like yin fire, was of a yin nature, and the primordial *qi* in the spleen and the stomach was of a yang nature. Therefore, if the yang force in the spleen and the stomach was depleted, primordial *qi* would become too weak to control the minister fire or yin fire in the lower part of the body trunk.[195]

Zhu adapted this interpretation for proposing an opposing theory. On the one hand, Zhu followed Li Gao by suggesting that, as mentioned, minister fire occupied the kidneys and the liver. He also pointed out that these two organs belonged to the Lower Burner and were "both yin and lower" (皆陰而下者也). On the other hand, he did not associate minister fire with yin fire. Instead, he suggested that minister fire was extremely "violent and fierce" (暴悍酷烈), as he argued

> Regarding the seasonal influence of sovereign fire, the classics speak of summer heat and dampness. Regarding the seasonal influence of minister fire, the classics speak of fire, for its violent and fierce manifestations are more intense than those of sovereign fire. This is why it is said that "minister fire is the thief of primordial *qi*".
>
> 君火之氣，經以暑與濕言之；相火之氣，經以火言之，蓋表其暴悍酷烈，有甚於君火者也。故曰相火元氣之賊。[196]

It is unclear which classics Zhu referred to, but his interpretation fundamentally contradicted the correspondence system of "the five circulatory phases and the six seasonal influences". That system, as we just mentioned, in fact associated sovereign fire with fire instead of "summer heat and

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[195] Li, *Nei wai shang bianhuo lun*, 542.
[196] Zhu, *Gezhi yulun*, 28-29. The translation is adapted from Furth, "The Physician as Philosopher of the Way," 447.

dampness", and minister fire with summer heat instead of "fire". It is also vague why minister fire with more violent and fierce manifestations would become "the thief of primordial *qi*". We shall bear in mind that Li Gao hinted that minister fire was "the thief of primordial *qi*" because of its yin nature. Zhu, however, never explicitly recognised minister fire as yin. Instead, his description of the "violent and fierce" nature of minister fire indicated that it was an extremely yang force that could damage yin. Zhu also proposed that minister fire, although situated in an overwhelmingly yin region of the body, tended to burn the "true yin" (*zhenyin* 真陰) of the body.[197]

Zhu's reconceptualisation of minister fire shall be understood in the context of his concern over the deficiency of yin. Zhu Zhengheng's theory was established on his observation that "yang is in excess, and yin is deficient" (陽有餘陰不足).[198]. Zhu perceived that yin was more essential than yang in terms of keeping a balanced body.[199] He believed that "when yin is depleted, one is sick; when yin is exhausted, one dies" (陰虛則病，陰絕則死).[200] The conceptualisation of a violent and fierce minister fire in one of the most yin parts of the body likely helped Zhu stress the vulnerability of yin to a volatile fire force. As Zhu identified minister fire as an internal force not strictly corresponding to the right kidney, he also returned to the original fivefold system by corresponding the two kidneys to water, which was essentially yin. It hence led to a subtle situation in the two kidneys where water and minister fire coexisted, making the former vulnerable to the violent and fierce nature of the latter.

Out of these concerns, Zhu's medicine focused on keeping minister fire tamed in its residing organs from burning yin and water. To avoid the minister fire being aroused, Zhu suggested that one should avoid indulgence in flavour-rich food and sexual activity. In his "Discourse on taking bland

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197 Zhu, *Gezhi yulun*, 28-29.
198 Ibid, 7-8.
199 Ibid, 28-29.
200 Ibid, 29.

food" (茹淡論) and "Discourse on replenishing with the art of the bedchamber" (房中補益論), he admonished that both heavy flavours and sexuality could arouse desire and move the heart, which was associated with mind and emotion. Once one failed to control the heart, the sovereign fire in the heart would be out of control and would in turn arouse the minister fire in the kidneys and the liver, which would burn yin.[201]

Yet not all flavours were harmful. Zhu suggested a division between "natural and bland flavours" (自然衝和之味), which were given by the Heaven with basic foodstuffs, such as like grains, beans, vegetables, and fruits, and "cooking, seasoning, and partially heavy flavours" (烹飪調和偏厚之味), which were made by the human beings with condiments. Whereas the former had a capacity to nourish yin, the latter would cause diseases and lead to death. Zhu admonished "the one who is satisfied with bland flavours can control the heart, and fire descends; the one who feels comfortable with partially heavy flavours indulges his (her) desires, and fire prevails" (安於沖和之味者，心之收，火之降也；以偏厚之味為安者，慾之縱，火之勝也).[202]

Among the so-called partially heavy flavours, Zhu particularly cautioned against hot spiciness (*xinla* 辛辣). In his medical work, he strongly associated it with heat. Zhu believed that elderly people usually had heat-pattern diseases and should avoid hot-spicy and sweet-slimy (辛辣甜滑) foods.[203] The same idea was extended to the female body. For a woman who died of heat and phlegm-related madness, Zhu diagnosed that the root of the heat was that she attended a banquet during the hot months of summer, the environment was muggy and hot, and she took hot-spicy food during the

[201] Ibid, 30-31.
[202] Ibid, 30.
[203] Ibid, 10.

banquet.[204] Even for a two-year-old baby, Zhu diagnosed that he carried foetus poison (胎毒) from birth because his mother loved "hot spiciness and hot things" (辛辣熱物) during the pregnancy.[205]

Propelled by these aligned concerns over fire, heat, and strong flavours, Zhu turned against the formulary of the Imperial Pharmacy. He criticised the unscrupulous use of spices and aromatics in the popular health drinks proposed by the formulary:

> Now look at the "various types of drinks" [of the Imperial Pharmacy]. Without the spiciness of *doukou*,[206] *suosha* (*Amomum villosum*), dried ginger, and galangal, which pleases the mouth; without the aroma of cloves, agarwood, sandalwood, *zisu* (*Perilla frutescens* 紫蘇), and cassia, which pleases the nose; and [without] being seasoned with sour, salt, sweet, and bland [taste], how can they gratify people? In well-off families, during leisure time, hosts make them as a courtesy and guests take them as a pleasure.
>
> 今觀諸湯，非豆蔻、縮砂、乾薑、良薑之辛宜于口，非丁香、沉、檀、蘇、桂之香宜于鼻，和以酸咸甘淡，其將何以悅人？奉養之家，閒佚之際，主者以此為禮，賓朋以此取樂。[207]

The harms of these spices and aromatics, according to Zhu, were multi-fold. "Aroma and spiciness raise up *qi*, gradually leading to effusion; accumulated warming becomes heat, gradually leading to pent-up fire; sweet flavour loves [to stay on] the diaphragm, gradually leading to fullness in the centre" (香辛升氣，漸至於散；積溫成熱，漸至鬱火；甘味戀膈，漸成中滿). As the centre was blocked, and *qi*, heat, and fire all raised up, "yang becomes excited in the upper part [of the body trunk]

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[204] Ibid, 17.
[205] Ibid, 11-12.
[206] *Doukou* could be either nutmeg (*rou doukou*), or white cardamom (*bai doukou*), or *cao doukou* (*Alpinia katsumadai*).
[207] Zhu, *Jufang fahui*, 49.

and yin becomes feeble in the lower part [of the body trunk]" (陽亢於上，陰微於下), leading to a dangerous imbalance.[208]

The same concerns targeted pepper. In his *Supplement to Dilatations on Materia Medica* (*Bencao yanyi buyi* 本草衍義補遺), Zhu provided radically new and negative descriptions for some widely used exotics, including pepper, cloves, and camphor. For pepper, it goes as follows:

> Pepper belongs to fire and has [the property of] metal. Its nature is dry. Eating it accelerates [food passing through] the diaphragm. The one who loves to eat [it] suffers greatly from the damage to the *qi* of the spleen, stomach, and lung. Being long accumulated, the great *qi* will also be damaged. For the one who suffers from *qi* illness, the damage will be great.
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> 胡椒屬火而有金，性燥，食之快膈。喜食者，大傷脾、胃、肺氣，積久而大氣則傷，凡痛氣疾大其禍也。[209]

This account no longer rendered pepper as a benign warming medicine, but a dangerous hot spice. With properties like fire, metal, and dry, pepper became opposite to Zhu Zhenheng's doctrine that in a normal body, "yang is in excess, and yin is deficient". The focus upon *qi* further alienated pepper from this doctrine, as, in Chinese medicine, *qi* was usually considered as yang, vis-à-vis blood which was considered as yin. Zhu believed "*qi* is always in excess and blood is always deficient" (氣常有餘，血常不足).[210] Pepper, with a capacity to proceed to *qi* for its acrid flavour, would only lead to further excessiveness of *qi*. With these problems, pepper was no longer depicted as a digestive agent for the stomach and spleen or a phlegm remover for the lungs, but instead harmful to these viscera.

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[208] Ibid.
[209] Zhu, *Bencao yanyi buyi*, 62.
[210] Zhu, *Gezhi yulun*, 7.

Zhu Zhenzheng's teachings were propagated by his disciples, who formed a current of medical learning after Zhu's nickname, namely, the Danxi medicine. Among them, Dai Sigong (1324-1405) was crucial. Active in the second half of the fourteenth century, Dai was respectfully received by literati and the royal family of the newly founded Ming dynasty, becoming arguably the most prestigious physician in early Ming China.[211] In Dai's career, there was a pepper-related case contributing to his fame. In that case, a patient felt cold during the summer and had to wear heavy clothes. All the food he ingested had to be hot, as otherwise he would vomit. Following an unnamed physician's advice, he took chicken boiled with pepper as a remedy, but the ailment only worsened. Dai Sigong, inspired by one of Liu Wansu's teachings that "fire in its extremity is like water" (火極似水), diagnosed that this cold illness was not caused by cold but by fire, and the fire had been only further instigated by pepper. Therefore, he made a fundamental shift by replacing the peppered chicken with cooling agents, which soon cured the patient.[212] Cases like this helped popularise the fire-centric pathology of Liu Wansu and Zhu Zhenheng, and undermine the use of warming agents like pepper.

Whereas the first generation of Zhu's disciples, like Dai, acknowledged personal advising from Zhu, later physicians more often became affiliated to Danxi medicine through reading. In the fifteenth and sixteenth centuries, many books authored by Zhu or his disciples were published, forming the so-called "Danxi corpus".[213] They found avid readers among elite physicians, encouraging them to deeply rethink about the popularity of pepper in everyday cuisine. Among them, some attempted to reconcile with this hot-spicy foodway. For instance, a self-styled follower of Zhu Zhenheng, Wang Lun (1453-1510), to whom we will return in chapter three, published a polemic work in the early sixteenth century, in which he pointed out that people in Southeast China were supposed to take cold medicines because

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[211] Liu, "Yi yu wen, shi yu yin," 18-23.
[212] Song, *Hanyuan xuji*, *juan* 2, 806.
[213] Simonis, "Illness, Texts, and "Schools" in Danxi Medicine."

of the hot climate, but in practices they ate a lot of pepper, ginger, and cassia, and were not sickened. To make this dilemma accountable, he explained

> Although it is hot in the Southeast, the land is low-lying and damp; acrid and hot foods and drugs can also expel dampness.
>
> 東南雖熱，然地卑多濕，辛熱食藥亦能劫濕。[214]

In the Danxi medicine, dampness was closely associated with heat, often collectively referred to as "damp heat" (*shire* 濕熱).[215] This account therefore implies that pepper, albeit being "acrid and hot", could help control damp heat, which was the typical environmental factor of Southeast China, through expelling dampness from the body.

Yet the tension between the anti-fire principle of the Danxi medicine and pepper's hot and fire nature was still lingering and would eventually impact one of the most influential physicians and naturalists in Chinese history, Li Shizhen (1518-1593). Born to a physician family in an inland province, Hubei, Li was a fan of pepper.[216] This appetite was likely cultivated by the regional cuisine of Hubei. In modern Chinese cuisines, Hubei, like its neighbouring Sichuan Province, is well-known for its hot-spicy foodway. Although there is no source to trace this foodway back to the sixteenth century, an important clue is the unique naming practice of chili pepper in Hubei. Different from the rest of China, chili pepper has been known as "big pepper" (大胡椒) or "surpassing pepper" (賽胡椒) in Hubei since at least the eighteenth century. It indicates that there was a replacement of pepper by hotter spicy chili pepper, which likely took place sometime around the seventeenth century when chili pepper was introduced to this region.[217] Before that replacement, one may expect that an inland province such as

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[214] Wang, *Mingyi zazhu*, *juan* 1, 3. This translation is adapted from Hanson, *Speaking of Epidemics in Chinese Medicine*, 57.
[215] Zhu, *Gezhi yulun*, 26-27.
[216] Li, *Bencao gangmu*, *juan* 32, 1858-1859.
[217] Dott, *The Chile Pepper in China*, 55-58.

Hubei would have a limited supply of an exotic spice like pepper.[218] Yet, Li Shizhen, as a provincial physician living in sixteenth-century Hubei, not only acknowledged he himself "is fond of pepper since [he was] young" (自少嗜之), but also suggested pepper "is now everywhere in Chinese food and is a daily-used item" (今遍中國食物，為日用之物也).[219] However, at a certain moment in his life, Li turned against his favourite spice. He recounted:

> I [used to] suffer from eye illness every year, but without suspecting [pepper]. Afterwards, I gradually learn its detriment, and hence stop it with determination. The eye illness also stops. [Now] even if I only eat one or two grains [of pepper], I immediately feel dim-sighted with roughness. This has never been tested by other people before.
>
> 歲歲病目而不疑及也。後漸知其弊，遂痛絕之。目病亦止。纔食一、二粒，即便昏蹙。此乃昔人所未試者。[220]

Behind this turn was a changing perception of pepper. Before the publication of Li Shizhen's *Systematic Materia Medica* (*Bencao gangmu* 本草綱目, 1596), the mainstream *materia medica* in China was *Zhenglei Materia Medica*, which, as we have seen in chapter one, positively depicted pepper as a warm and digestive medicine.[221] In comparison, Zhu Zhenheng's radically different account had limited publicity outside his disciples until the late fifteenth century, when his *Supplement to Dilatations on Materia Medica* was posthumously published as an appendix to other medical works attributed to him.[222] In the sixteenth century, a copy of it was read by Li.[223] It inspired Li with the idea that pepper was of a fire

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[218] Ibid, 58
[219] Li, *Bencao gangmu*, *juan* 32, 1858.
[220] Ibid, 1859.
[221] For the transition between *Zhenglei Materia Medica* and *Systematic Materia Medica*, see Bian, *Know Your Remedies*, 23-48.
[222] Yan and Zhu, "*Bencao yanyi buyi* xiaokao."
[223] Li reviewed Zhu's *Supplement to Dilatations on Materia Medica* in the introduction of the *Systematic Materia Medica*. Li, *Bencao gangmu*, *juan* 1, 10.

nature, desiccating, and able to induce *qi* ailments. This idea led Li to diagnose his eye illness as a heat problem caused by his appetite for pepper. He argued that it was "because acrid flavour proceeds to *qi*, heat drives fire, and this item's (pepper) *qi* and flavour are both heavy" (蓋辛走氣，熱助陽，此物氣味俱厚故也).[224] Out of this personal experience, Li paraphrased Zhu's account in his *Systematic Materia Medica*, and proposed that pepper "is acrid, hot, and purely yang. It proceeds to *qi,* drives fire, dims eyes, and induces sores" (辛熱純陽，走氣助火，昏目發瘡).[225]

Thereafter, as *Systematic Materia Medica* became a standard work in Chinese medicine, Zhu Zhenheng's negative perception of pepper, through Li Shizhen's adaptation, was also popularised. By the early 1640s, a popular dietary *materia medica*, *Materia Medica of Edible Items* (*Shiwu bencao* 食物本草), had already incorporated abridged accounts of Li Shizhen and Zhu Zhenheng in the section about pepper, using them to negate positive descriptions copied from the pre-Mongol period texts.[226] By the early nineteenth century, dietary guidance by a physician Zhang Mu denied all medical functions of pepper by showing how dangerous its hot nature was. It suggested that even for cold-related illness, it was better to supplant pepper with Sichuan pepper, as the latter was less hot. It cautioned: Pepper, if used for seasoning, should be of a minimal amount. Otherwise, long term consumption would lead to numerous ailments.[227]

Among literati, an anti-hot-spiciness sentiment would be further instigated by the advent of locally cultivated chili pepper. As one of the earliest records about chili pepper in Chinese foodways, the *Materia Medica of Edible Items* described its flavour as "extremely hot-spicy" (極辛辣).[228] A late

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224 Ibid, *juan* 32, 1859.
225 Ibid, 1858.
226 Yao, *Shiwu bencao dianjiao ben*, *juan* 16, 959.
227 Zhang, *Tiaoji yinshi bian*, *juan* 1, 84-85.
228 Yao, *Shiwu bencao dianjiao ben*, *juan* 16, 965.

seventeenth century treatise on gardening noted that the flavour of chili pepper was "hottest-spicy" (最辣). People seeded it in the spring, harvested it in the winter, and then ground it until very fine, to be used as a seasoning material to substitute pepper.[229] As two recent monographs about chili pepper in China have shown, the extremely intensive hot spiciness of chili pepper, as well as its successful adaptation to China's environment and agriculture, made it a cheap spice welcomed by poor families in the economically backward inland regions of China, but at the same time also caused it to be denied by the refined taste of the literati.[230]

By the early nineteenth century, the anti-pepper physician, Zhang Mu, was stupefied by the popularity of chili pepper. He found that, of his contemporaries, seven or even eight out of ten ate chili pepper. They prepared it in various ways, such as salted, mixed with fermented beans, pulverised, or processed into sauce. Zhang believed that chili pepper in its hot nature was accountable for many diseases and people with internal heat would quickly die after ingesting it. He admonished that a sensible person should take bland and peaceful food and should not try any chili pepper.[231] Rethinking heat pattern diseases, Zhang even began to miss the age of the Qin (221-207 BCE) and Han (202 BCE-220 CE), when "in this world there were no perils of pepper and chili pepper" (世無胡椒、辣枚子之禍).[232]

Conclusion

Back to the poem on pepper that opens this chapter, to Chinese literati influenced by Zhu Zhenheng's teachings in the post-Mongol era, this poem might sound otherworldly. For them, it was hard to

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229 Chen, *Huajing*, *juan* 5, 267-268.
230 Dott, *The Chile Pepper in China*, 29-76, 106-118; Cao, *Zhongguo shila shi*, 52-58.
231 Zhang, *Tiaoji yinshi bian*, *juan* 3, 174.
232 Ibid, *juan* 1, 84.

imagine that pepper once featured so prominently in the friendship between two highly esteemed scholars in late thirteenth-century China. For those post-Mongol-period Chinese literati, pepper, as a common condiment carrying strong hot spiciness, was no longer a proper gift. Even if such a gift exchange did take place, it deserved no poem in one's anthology. Instead, as blandness was now elevated by the new medical culture, openly denying a strong spice such as pepper, even if privately enjoying it in practice, was their new shared taste.

Such a change may sound familiar to historians of European spice history. In a certain way, the expansion of the Mongol Empire in the Indian Ocean World from the late thirteenth century is comparable to the expansion of the Portuguese Empire about two centuries later. They both took the pepper coast of Malabar as their major destinations and they both contributed to the change of the availability of pepper to their home consumer markets. Moreover, in European spice history, it is also well known that after a highly profitable initial stage, pepper, together with other fine spices, lost a strong market after the seventeenth century, largely because they were demystified by new knowledge about the nature of spices and became too common to be appealing.[233] Although we have no comparable data to precisely indicate how much pepper was imported to China throughout the Mongol Yuan and Ming periods, from the medical and culinary evidence we have examined in this chapter, we may identify a similar shift that pepper became no longer appealing to Chinese elite consumers after it became widely available in China.

Tracing the origin of this change in taste, the Mongol period was crucial. It bears witness to two inter-connected developments with profound influence on Chinese foodways and global spice trade. On the one hand, the rise of a trans-Indian Ocean empire of the Mongols in the late thirteenth century led to an expansion of China's spice frontiers from Java to the Indian Ocean World, inducing junks

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[233] Halikowski-Smith, "Demystifying a Change in Taste"; Freedman, *Out of the East*, 216-226.

from China to frequent the pepper coast of Malabar. That expansion boosted the widespread use of pepper in contemporary Chinese foodways, either for preparing spice mixtures, for stir-frying or simply for achieving a strong flavour of hot spiciness. On the other hand, the reintegration of China through the Mongol Conquest facilitated the transmission of new medical thoughts from the North to the South, inspiring Zhu Zhenheng to develop a new medical theory with the doctrine that "yang is in excess, and yin is deficient". That theory targeted the popular hot-spicy foodway, and strongly opposed the use of pepper. It was further popularised by the disciples of Zhu Zhenheng in the early Ming period and eventually enlightened Li Shizhen in the sixteenth century to redefine pepper from a benign warming agent to a dangerous hot medicine of a fire nature in his influential *materia medica*, leading to a fundamental reconceptualisation of pepper among Chinese literati. As a result, the Mongol period became both a golden age in Chinese spice history and its turning point. There were at once an increasingly hot-spicy foodway and an increasingly anti-hot-spiciness medical culture. The irreconcilable tension between them urged literati to distance themselves from pepper, and, moreover, to search for some new rarities, which to be explored in the next chapter.