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

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Warming the Centre

Sometime between 1225 and 1227, while the Mongols were conquering the Jurchen Jin dynasty (1115 - 1234) in North China,¹ the Imperial Pharmacy of the Southern Song dynasty (1127 - 1279) in South China proposed a “pepper drink” (*hujiao tang* 胡椒湯) to be sold in its local branches, with a recipe as follows:

- 1 tael (*liang* 兩) of red mung beans (*bongdou* 紅豆),
- 1 tael of cassia,
- 6 taels of pepper,
- 3 taels of dried ginger,
- 30 taels of balloon-flower root (*jiegeng* 桔梗), and
- 7 taels of liquorice.²

According to the formulary of the Imperial Pharmacy, these ingredients would be mixed, pulverised, and sold as a compound by many local branches of the Pharmacy spread across the territory of the Southern Song dynasty.³ Consumers were advised to scoop a big coin of it,⁴ add a little salt, and then pour hot water over it. As the Pharmacy advertised, this drink could:

¹ For the Mongol conquest of North China, see Wang, *In the Wake of the Mongols*.

² Chen, Pei, and Chen, comps., *Taiping huimin beji jufang*, juan 10, 397-398.

³ The Imperial Pharmacy was a kind of chain drugstores selling prepared prescriptions, instead of simples. Fan, “Liang Song guanyao ju” (2), 38-40; Goldschmidt, *The Evolution of Chinese Medicine*, 128-130.

⁴ A copper coin served as a scoop to take a small amount of powder up.

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Cure the intrusion of cold in the spleen and the stomach, diaphragm impediment,⁵ pain in [the area of] the heart and the abdomen,⁶ vomiting with [qi] counterflow, and nausea. Regular use can warm the spleen and the stomach, remove cold, and soothe qi.

治脾胃受寒，胸膈不利，心腹疼痛，嘔逆，惡心。常服溫暖脾胃，去寒，順氣。⁷

In light of the advances of the Mongol forces, a pepper drink as well as its digestive and warming efficacies may seem to be an issue too trivial to recount, but if we shift our focus from military conquest to cultural exchange, we may find that this drink is a testimony to a unique age in Chinese history when spices and aromatics pervaded Chinese medicine and foodways and defined China's connections with the tropical world of Asia. Students of the Northern and Southern Song dynasties are no strangers to such an age, as the pervasive influence of the so-called aromatic drugs in Chinese material culture during this period has become a well-known theme.⁸ It may also sound familiar to Southeast Asian historians, as a commercial boom in Southeast Asia from the tenth through the thirteenth centuries has been identified and attributed to China's strong demand for tropical spices and aromatics.⁹

Yet, beyond a general consensus among East and Southeast Asian specialists over the immense scale of the spice and aromatic trade, there remains a fundamental question to be nuanced: Why was there such a strong demand for these flavour and aroma-rich exotics in China? Previous scholarship in this field tends to approach this question from an olfactory perspective, referring to these exotics as “aromatic drugs”, and associating them with the incense culture of Chinese literati, which had

⁵ Chinese medicine considered swallowing difficulties as the blockage of the diaphragm (膈不通 *ge butong*). Fan, *Zhongguo bingshi xinyi*, 131-132.

⁶ Chinese medicine tended to confuse the pain in the stomach with the heart. A vaguely defined term, “heartache and abdominal pain” (心腹疼痛 *xinfu tengtong*), was used to describe stomach pain. *Ibid*, 133-134.

⁷ Chen, Pei, and Chen, comps., *Taiping buimin heji jufang*, juan 10, 398.

⁸ Two standard works on this subject are Yamada, *Tōa kōryō shi kenkyū*; Lin, *Songdai xiangyao maoyi shi*.

⁹ Wisseman Christie, “Javanese Markets and the Asian Sea Trade Boom”; Wade, “An Early Age of Commerce in Southeast Asia.”

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attained a high level of refinement by the Northern and Southern Song periods.¹⁰ However, this smell culture-centric approach inadvertently marginalises a globally important spice, pepper. While possessing no remarkable aroma for perfuming and incense-burning, pepper became deeply integrated into Chinese medicine and foodways and came to play a dominant role in China's maritime trade with Southeast Asia by the dawn of the Mongol Conquest.¹¹ Targeting this gap, the chapter aims to answer how pepper, together with a group of exotic aromatics and spices, emerged at the intersection between medicine and food in China.

1. Warming Exotics

Back to the pepper drink of the Imperial Pharmacy, this drink is listed in a unique section in the Pharmacy's formulary entitled "all sorts of drinks" (*zhubutang* 諸湯), which contains 26 recipes in total. These recipes were added by the Pharmacy into its printed formulary at different stages. For instance, in the 1225-1227 update, the Pharmacy proposed, besides the pepper drink, also "fennel seed drink" (*huixiang tang* 茴香湯), "sandalwood drink" (*tanxiang tang* 檀香湯), and "suosha (*Amomum villosum*) drink" (*suosha tang* 縮砂湯).¹²

These flavour-rich drinks targeted no urgent issues. In the Northern and Southern Song periods, they served as health drinks for everyday consumption and assumed a social function tantamount to tea in China. By then, a spicy and aromatic drink was an everyday necessity for a well-off family because a basic etiquette in serving a guest prescribed that, "when a guest arrives tea is served, on

¹⁰ Liu, *Songdai xiangpu zhi yanjiu*, Yang, *Xiangshi*; idem, "L'encens sous les Song (960–1279) et les Yuan (1279–1368)."

¹¹ There have been some related studies about the introduction of pepper to China, but a thorough investigation is wanting. Laufer, *Sino-Iranica*, 374-375; Schafer, *The Golden Peaches of Samarkand*, 149-151; Yamada, *Tōa kōryō shi kenkyū*, 231-235; Ts'ao, "Pepper Trade in East Asia," 222-225; Chen, *Silu yiming*, 43-66.

¹² Chen, Pei, and Chen, comps., *Taiping huimin beji jufang*, *juan* 10, 393-401.

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her/his departure decoctions are served” (客至則設茶，欲去則設湯).¹³ Ready-made decoctions were also sold on the street. In Kaifeng, the capital city of the Northern Song, they were sold together with tea as breakfast drinks.¹⁴ A renowned cityscape scroll of Kaifeng, *Along the River During the Qingming Festival* (*Qingming shanghe tu* 清明上河圖), depicts a beverage stall that advertises “aromatic drinks” (*xiang yinzi* 香飲子) on its banner and serves a passer-by with a bowl of drink (Figure 1.1).

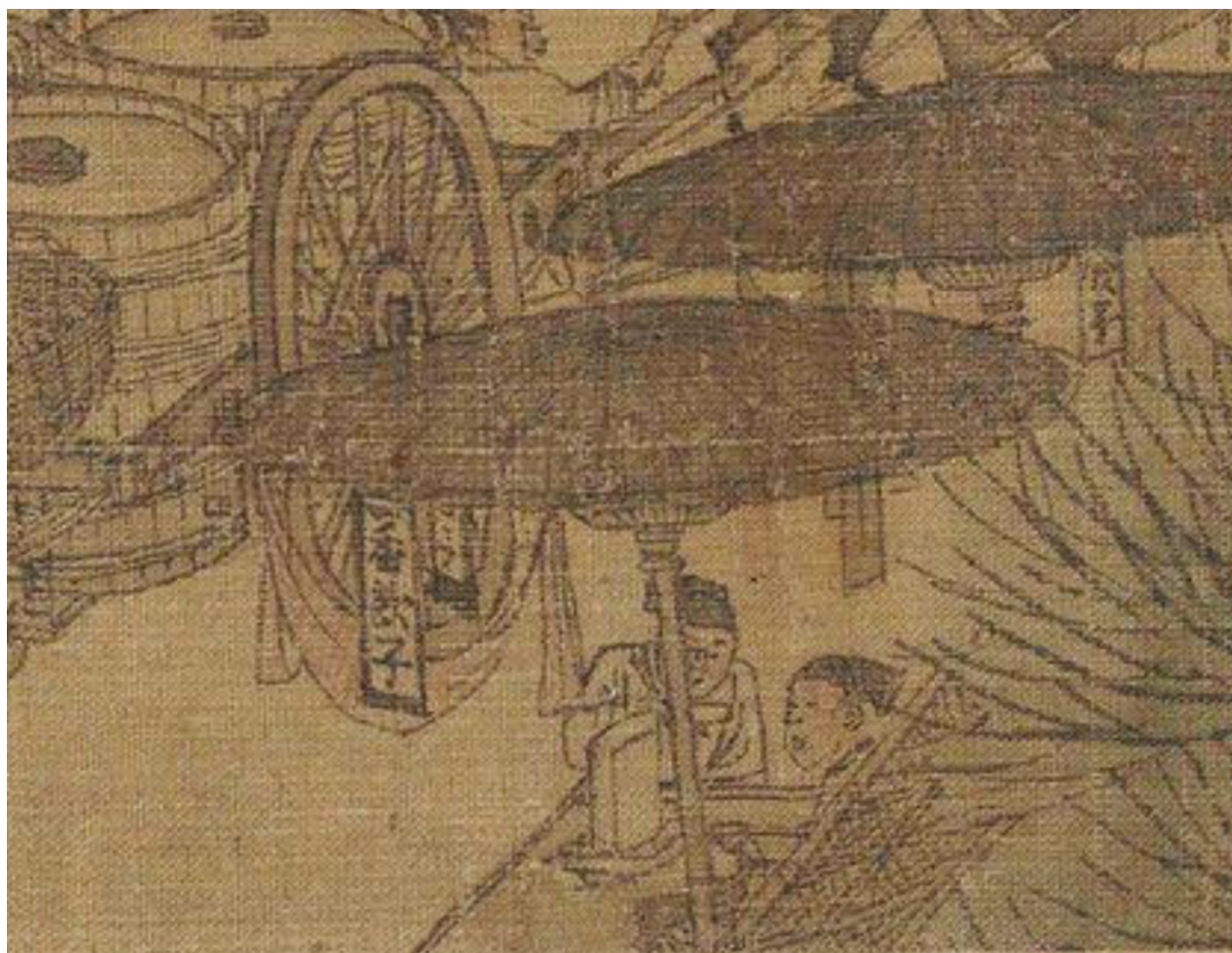


Figure 1.1 Street scene with a beverage stall from *Along the River During the Qingming Festival*, attributed to Zhang Zeduan (fl. early 12th c.).

Source: Palace Museum, Beijing.

¹³ Liu, “Kezhi ze shecha, yuqu ze shetang”; idem, “*Chanyuan qinggui zhong suojian de chali yu tangli*”; Benn, *Tea in China*, 130-137; Chen, “Fa chu bosu,” 9-12.

¹⁴ Meng, *Dongjing menghualu jianzhu*, 357; Yi, “Beisong de jianjian tangchayao”; Zheng, *Yaolin waishi*, 135-136.

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These drinks were a testimony to a medical culture that favoured exotic spices and aromatics. An important promotor of this culture was the Imperial Pharmacy. Established by the Northern Song imperial state in 1076 as part of a major fiscal reform, the Pharmacy aimed to at once sell ready-made medicines to the public for a reasonable price and to generate a profit.¹⁵ Endorsed by imperial power, it could easily access an immense store of exotic spices and aromatics collected by the Maritime Trade Superintendency (Shibosi 市舶司) from ocean-going ships.¹⁶ That supply encouraged the Imperial Pharmacy to widely prescribe exotics in its formulary.¹⁷ The formulary was well-received in the mainstream medical culture of the Northern and Southern Song dynasties, which favoured spicy and aromatic exotics.¹⁸ All but one of the 26 health drinks in its formulary contain at least one spicy or aromatic ingredient, such as cloves, clove twigs, clove bark,¹⁹ cassia, sandalwood, ginger, galangal, *suosha* (*Amomum villosum* 縮砂), pepper, nutmeg, fennel seeds, asafoetida, *bidenggjie* (cubeb pepper or *Embelia ribes* 華澄茄), *cao doukou* (*Alpinia katsumadai* 草豆蔻), and *zisu* (*Perilla frutescens* 紫蘇).²⁰ Among them, cloves, clove twigs, clove bark, sandalwood, pepper, nutmeg, fennel seeds, asafoetida, and *bidenggjie* were either from or preferably from overseas.²¹

What were the medical functions of these spicy and aromatic exotics? Through a survey of their medical descriptions in the mainstream *materia medica* promulgated by the Northern Song imperial state,

¹⁵ Fan, “Liang Song guanyao ju” (1), 29-38; Goldschmidt, *The Evolution of Chinese Medicine*, 126-128; Fan, *Beisong Jiaozheng Yishujie xintan*, 239-254.

¹⁶ Fan, “Liang Song guanyao ju” (2), 33-37; Lin, *Songdai xiangyao maoyi shi*, 204-269.

¹⁷ Fan, *Beisong Jiaozheng Yishujie xintan*, 250-258.

¹⁸ Liu, *Yongjia yipai yanjiu*; Fan, *Zhongguo yixue shilüe*, 167-169.

¹⁹ The so-called clove bark (丁香皮 *dingxiang pi*) was not the bark of a clove tree, but the bark of a cinnamon tree from Ambon and the Maluku Islands called *kulit lamang* in Malay, which “is chewed for its clove-like taste”. Zumbroich, “From Mouth Fresheners to Erotic Perfumes,” 51.

²⁰ The only exception is apricot-kernel cream drink (杏霜湯 *xingshuang tang*). Chen, Pei, and Chen, comps., *Taiping huimin beji jufang*, juan 10, 393-401.

²¹ For a general survey of their origins, see Wheatley, “Geographical Notes on Some Commodities Involved in Sung Maritime Trade”. For more discussions on cloves, sandalwood, pepper, nutmeg, fennel seeds, and *bidenggjie*, see the following sections and chapter two.

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Zhenglei Materia Medica (*Zhenglei bencao* 證類本草), we find that they were mostly defined as acrid and warm (Table 1.1).²² The majority of them had certain clinical uses for treating digestive ailments, such as sudden turmoil (cholera), indigestion, and vomiting. These symptoms were typically associated with the over-abundance of yin and the depletion of yang in the principal viscera responsible for digestion, namely, the spleen and the stomach.²³ Therefore, these exotics were often considered to have warming effect such as “warming the spleen and the stomach” (溫脾胃), “warming the centre” (溫中), “curing accumulated cold” (治積冷), and “removing *qi* depletion and cold in the stomach mouth” (去胃口氣虛冷) (Table 1.1). Correspondingly, according to the Imperial Pharmacy’s formulary, these health drinks were also often for “curing all sorts of cold *qi*” (治一切冷氣), “warming the centre and benefiting *qi*” (溫中益氣), “removing cold and soothing *qi*” (去寒順氣), and “warming the spleen and the stomach” (溫脾胃).

	Flavour and nature	Main efficacies ²⁴
Asafoetida ²⁵ 阿魏	Acrid flavour and neutral 味辛、平	It kills all types of worms, removes malodorous <i>qi</i> , breaks concretion-illness accumulation, brings down malign <i>qi</i> , and eliminates evil demons and <i>gu</i> poison. 主殺諸小蟲，去臭氣，破癥積，下惡氣，除邪鬼、蠱毒。
Cloves ²⁶ 丁香	Acrid flavour and warm 味辛、溫	They warm the spleen and the stomach, stop sudden turmoil, [cure] congestion with distension, wind poison,

²² *Zhenglei Materia Medica* is not a single text, but a series of *materia medica* compiled mainly during the late eleventh and early twelfth centuries. Here I refer to a thirteenth century print, *Chongxiu zhenghe jingshi zhenglei beiyong bencao*.

²³ For their aetiology, see Wang et al., comps., *Taiping shenghui fang*, *juan* 5, 107 119, 121, 132, 138, 140; *juan* 47, 1432, 1435, 1440, 1448, 1454, 1457.

²⁴ For the translation of Chinese illness terms, this research mainly follows Zhang and Unschuld, *Ben cao gang mu Dictionary, Volume One*.

²⁵ *Chongxiu Zhenghe jingshi zhenglei beiyong bencao*, *juan* 9, 224.

²⁶ *Ibid*, *juan* 12, 307.

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		all types of swelling, and sweets-illness and bug-erosion of teeth. They are able to effuse all sorts of fragrances. 主溫脾胃，止霍亂、擁脹、風毒、諸腫，齒疳齩，能發諸香。
<i>Bidengqie</i> (cubeb pepper or <i>Embelia ribes</i>) ²⁷ 萹澄茄	Acrid flavour and warm 味辛、溫 Acrid and bitter flavour, and slightly warm 味辛苦，微溫	It brings <i>qi</i> down, dissolves food, [deals with] skin wind and <i>qi</i> distension in the heart and the abdomen, stimulates appetite, cures demon <i>qi</i> , dyes hair, and perfumes the body. 主下氣、消食，皮膚風，心腹間氣脹，令人能食，療鬼氣，能染髮及香身。 It deals with sudden pain in [the region] of the heart and the abdomen, sudden turmoil with vomiting and diarrhoea, phlegm aggregation-illness, and cold <i>qi</i> . 主心腹卒痛，霍亂吐瀉，痰癖，冷氣。
Fennel seeds ²⁸ 懷香子（茴香）	Acrid flavour and neutral 味辛、平	It deals with all sorts of ulcer, sudden turmoil, and harm caused by snakes. 主諸瘻、霍亂及蛇傷。
Nutmeg ²⁹ 肉豆蔻	Acrid flavour and warm 味辛、溫	It deals with demon <i>qi</i> and warm the centre; cures accumulated cold, distention with pain in the heart and the abdomen, sudden turmoil, strike by malign cold, attachment illness of vomiting and foam, and cold <i>qi</i> ; dissolves food, and stops diarrhoea and sudden turmoil among children being breast-fed. 主鬼氣、溫中，治積冷，心腹脹痛，霍亂，中惡冷，疰嘔沫，冷氣，消食，止洩，小兒乳霍。

²⁷ Ibid, *juan* 9, 235. For the two different accounts, see section three in this chapter.

²⁸ Ibid, 225.

²⁹ Ibid, 231.

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Pepper ³⁰ 胡椒	Acrid flavour and greatly warm 味辛、大溫	It brings <i>qi</i> down, warms the centre, removes phlegm, and eliminates wind cold in the depot and palace organs. 主下氣、溫中，去痰，除臟腑中風冷。 It removes <i>qi</i> depletion and cold in the stomach mouth; [deals with] food remaining [in the body] overnight failing to dissolve, sudden turmoil (cholera), <i>qi</i> counterflow, sudden pain in the heart and the abdomen, and upward rushing of cold <i>qi</i> ; harmonises <i>qi</i> . 去胃口氣虛冷，宿食不消，霍亂，氣逆，心腹卒痛，冷氣上衝，和氣。
Sandalwood ³¹ 檀香	Hot 熱	It deals with the heart and the abdomen, sudden turmoil, and strike by malign demon <i>qi</i> ; kills worms. 主心腹，霍亂，中惡鬼氣，殺蟲。

Table 1.1 Warming exotics.

Source: *Chongxiu Zhenghe jingshi zhenglei beiyong bencao*.

2. Foreign *Jiao*

How did these exotics come to be classified as warming and digestive? To answer this question, we shall investigate their integration within Chinese medicine. Being exotics, most of them only became known to Chinese medical practitioners from the mid-centuries of the first millennium, when Chinese *materia medica* began to incorporate spices and aromatics from southern and western Asia.³² This incorporation, in its initial stage, often intermingled medical knowledge of foreign origins with local adaptations.

³⁰ Ibid, *juan* 14, 349. For the two different accounts, see section three in this chapter.

³¹ Ibid, *juan* 12, 309.

³² Concerning their integrations with Chinese medicine, a case study that inspires this research is Leung and Chen, “The Itinerary of Hing/*Awei*/Asafetida across Eurasia.”

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This was the case with pepper. Pepper (*Piper nigrum*) is the seed of a vine plant that originally grows in the mountainous terrain of the Malabar Coast of South India. Its Chinese name, *hujiao* (胡椒), is a combination of *hu* (foreign) and *jiao*, literally meaning foreign *jiao*. In ancient China, *jiao* commonly referred to a woody plant whose seed husks are used as spices, which are presently known as *hua jiao* (flower pepper 花椒) in Chinese or Sichuan pepper in English. Medieval Arabic text transliterated it as *fagara*, influencing Carl Linnaeus in 1753 to name it *Schinus fagara* (now *Zanthoxylum fagara*).³³ In ancient China, *jiao* was classified in accordance with their original places. Among them, the most important were *qin jiao* (秦椒) and *shu jiao* (蜀椒). The former was native to Shaanxi, the core area of early Chinese imperial states. The latter was from Sichuan, a southern frontier of ancient China.³⁴ Based on this nomenclature, the Chinese name for pepper, *hujiao*, denoted a type of *jiao* from a foreign land.

To the Chinese in the first millennium, the exact origin of pepper was an enigma. Being the first Chinese record of pepper, the dynastic history of the Later Han (25-220 CE), *Hou Hanshu* (*The Book of the Later Han* 後漢書), notes that pepper was a product of India.³⁵ Thereafter, a mid-fifth-century geographic book, *Extensive Records* (*Guang zhi* 廣志), notes that pepper was “from the Western Regions”,³⁶ referring to the Inner Asian world to the west of China. The dynastic histories of the Wei (386-534) and the Sui (581-619) note that pepper was from Persia.³⁷ The official *materia medica* of the Tang dynasty, *Newly Revised Materia Medica* (*Xinxiu bencao* 新修本草, 659), records that pepper was

³³ Austin and Felger, “Sichuan Peppers and the Etymology of *Fagara* (Rutaceae).”

³⁴ Lin, “Jiaoshi chutan.”

³⁵ Fan, *Hou Hanshu*, *juan* 88, 2921; Ts’ao, “Pepper Trade in East Asia,” 222.

³⁶ This long-lost text was quoted by Jia, *Qimin yaoshu yizhu*, *juan* 4, 303. For the date of *Extensive Records*, see Wang, “*Guang zhi* chengshu niandai kao.”

³⁷ Wei, *Weishu*, *juan* 102, 2270; Wei et al., *Suishu*, *juan* 83, 1856-1857.

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from Xirong (西戎), namely, the place of “western [warlike] people”.³⁸ The famous monk, Xuanzang (602-664), who made a pilgrimage to India and stayed there for over ten years, noted that in Aṭāli (Azhali 阿吒釐), a non-Buddhist province of the ancient kingdom of Malwa in west-central India, there were “pepper trees whose leaves are like Sichuan pepper” (出胡椒樹，樹葉若蜀椒也).³⁹ However, Xuanzang had likely never visited Aṭāli and eye-witnessed a pepper plant, as his description of pepper as a tree with leaves like Sichuan pepper is simply wrong. About two centuries later, a new account was provided by an erudite scholar living in Chang’an, Duan Chengshi (ca. 801-863). He claimed that pepper’s foreign name was *meiliuzhi* (昧履支), known as *marica* in Sanskrit. It was the seed of a vine plant from the kingdom of Magadha (*Mojiatuo guo* 摩伽陀國).⁴⁰ Magadha referred to the region around Patna in Middle India.⁴¹ It had intensive diplomatic, religious, and medical exchange with China during the seventh century.⁴²

Yet, none of these above-mentioned places was precisely the origin of pepper. Throughout the first millennium, the principal pepper producing area was the Malabar Coast in the Far South of India. This coast experienced a critical transition during the period when the Chinese became increasingly interested in pepper. From the fifth through the ninth centuries, it lost direct trade with the Roman Empire via the Red Sea route and was gradually integrated by West Asian traders into a Persian/Arab network.⁴³ Contemporary Chinese were unlikely aware of that change, but gradually more records about pepper in China during this period indicate that there was likely a diversion of Malabar pepper,

³⁸ Su et al., *Xinxiu bencao*, juan 14, 205.

³⁹ Xuanzang and Bianji, *Datang Xiyu ji*, juan 11, 907. Soothill and Hodous, comps., *A Dictionary of Chinese Buddhist Terms*, 286.

⁴⁰ Duan, *Youyang zazhu*, juan 18, 179.

⁴¹ Sen, “In Search of Longevity and Good Karma,” 7, footnote 16.

⁴² Ibid, passim.

⁴³ Malekandathil, “Muziris and the Trajectories of Maritime Trade”; Power, *The Red Sea from Byzantium to the Caliphate*; Hourani, *Arab Seafaring in the Indian Ocean*.

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which was previously oriented to the Mediterranean World and West Asia, towards an emerging consumer market in East Asia via overland routes via Central Asia.

With an exotic origin, pepper was initially known as a condiment for exotic cuisines in China. A sixth-century agricultural encyclopaedia, *Essential Arts of the Common People* (*Qimin yaoshu* 齊民要術), records a cooking technique called “*hu pao rou fa*” (胡炮肉法), literally meaning “meat roasted in a foreign way”. *Pao* in classical Chinese means “clay-wrapped baking”, namely, “to wrap meat up in vegetable leaves, paste clay all around it and bake it directly in the fire”.⁴⁴ The *hu pao rou fa* was to encase finely sliced threads of lamb into sheep’s stomach and then bury the stitched stomach in a hot pit. Its seasonings included fermented beans, salt, spring onion stems (*cong bai* 蔥白), ginger, Sichuan pepper, long pepper (*bibo* 萆茭), and pepper. The encyclopaedia remarks that it was “exceptionally fragrant and delicious” (香美異常).⁴⁵ Later on, in the ninth century, Duan Chengshi also noted that, when people made “foreign-dish meat” (*hupan rou* 胡盤肉), they all used pepper, which had an “extremely hot-spicy” (至辛辣) flavour.⁴⁶

Some of these exotic cuisines were incorporated into Chinese dietary therapies. In the seventh century, an eminent physician, Sun Simiao (fl. 7th c.), proposed two dishes for restoring a depleted body. The first was a stew of sheep heads and legs, recommended as a “recipe for replenishing five types of exhaustion, seven types of harm, and depletion detriment” (補五勞七傷虛損方). Its seasonings were very close to the *hu pao rou fa*, including pepper, long pepper, dried ginger, spring onion stems, and fermented beans.⁴⁷ The second was a “recipe for replenishing depletion and

⁴⁴ Huang, *Fermentations and Food Science*, 73.

⁴⁵ Jia, *Qimin yaoshu yizhu*, *juan* 8, 605-606.

⁴⁶ Duan, *Youyang zazhu*, *juan* 18, 179. For more examples of the use of pepper for exotic cuisines in Tang China, see Wen, *Tangdai wailai xiangyao yanjiu*, 263-271.

⁴⁷ Sun, *Beiji qianjin yaofang jiaoshi*, *juan* 11, 376; idem, *Qianjin yifang jiaoshi*, *juan* 12, 204.

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exhaustion” (補虛勞方), which was even closer to the *bu pao rou fa*, as it used a technique to encase sliced sheep viscera into a sheep stomach, and then boil it. It used similar seasonings, including pepper, long pepper, fermented beans, spring onion, and butter.⁴⁸

Why did Sun Simiao recommend these two dishes with exotic spices for replenishing the body? These recipes appear in a section entitled “elderly care and dietary therapy” (養老食療). It targeted elder’s illness, which, according to Sun, was “mostly because, while young, they took too much cool during spring and summer, and their food and drink are too cold” (夫老人所以多疾者，皆由少時春夏取涼過多，飲食太冷). Therefore, elderly people should stop eating cold things like finely sliced raw fish (*yukuai* 魚鱠), raw vegetables, and raw meat.⁴⁹ Addressing this strong concern over pathogenic cold, both recipes contained warming ingredients. The different body parts of sheep were defined by Chinese *materia medica* as warming and able to replenish body depletion.⁵⁰

Pepper also served a warming agent in these two dishes. In the age of Sun Simiao, pepper was for the first time recorded by Chinese *materia medica*. The 659 *Newly Revised Materia Medica* defined it as:

Acrid flavour, greatly warm, and not toxic. It brings *qi* down, warms the centre, removes phlegm, and eliminates wind cold in the depot and palace organs. [It] grows in Xirong. [Its] shape is like the seed of Chinese buckthorn (*Rhamnus utilis*, *shuli* 鼠李). [It] is used for seasoning food. [Its] taste is very acrid and delicious, but its fragrance is not as good as Sichuan pepper.

味辛，大溫，無毒。主下氣，溫中，去痰，除臟腑中風冷。生西戎，形如鼠李子。

調食用之，味甚辛美，而芳香不及蜀椒。⁵¹

⁴⁸ Sun, *Qianjin yifang jiaoshi*, *juan* 12, 204-205.

⁴⁹ Ibid, 203. For Sun Simiao’s dietetic medicine, see Chen, “Tang Song shiliao gainian yu xingwei zhi chuanyan”; Engelhardt, “Dietetics in Tang China.”

⁵⁰ Su et al., *Xinxin bencao*, *juan* 15, 216-217.

⁵¹ Ibid, *juan* 14, 205.

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The core efficacies in this description, such as “warming the centre” and “eliminating wind cold in the depot and palace organs”, well addressed Sun Simiao’s concern over cold. These efficacies were largely borrowed from native Sichuan pepper. For instance, both *shu jiao* (Sichuan pepper from Sichuan) and *qin jiao* (Sichuan pepper from Shaanxi) were for “warming the centre”. Additionally, *shu jiao* also had the function of “bringing *qi* down” and “eliminating cold in the five depot and six palace organs”.

Yet, two differences between Sichuan pepper and pepper highlight pepper’s exotic origin. The first concerns toxicity. Whereas both *shu jiao* and *qin jiao* were defined as toxic, pepper was not. The benign nature of pepper was most likely a result of Indian influence. In Ayurveda, pepper, together with dried ginger and long pepper, constitutes the “three acrids” (Skt. *trikatuṅga*; Ch. *sanxin* 三辛).⁵² They are the most basic hot medicines, so widely used so that “very few compound prescriptions are free from them”.⁵³ These three acrids also jointly appear as seasonings in the *bu pao rou fa* and in one of the replenishing recipes of Sun Simiao. Buddhist medicine, which drew heavily on Ayurveda, defined pepper as a basic dietetic material for long term consumption.⁵⁴ A seventh-century disciplinary text (*vinaya*) for Buddhist monasteries in China clearly regulated that a sick monk should take porridge seasoned with pepper, long pepper, and haritaki for the rest of his life.⁵⁵ As Chinese medicine received influence from Ayurveda mainly through Buddhist medicine, Buddhist benign perception of pepper was likely accountable for the benign nature of pepper in the *Newly Revised Materia Medica*.

The second and a more subtle difference is their specific clinical uses. Whereas *shu jiao* was used for treating digestive problems, such as dissolving “abiding rheum and food remaining in the abdomen overnight” (心腹留飲宿食), “stopping intestinal flush and diarrhoea” (止腸澀下利), and

⁵² Dutt, *The Materia Medica of the Hindus*, 241-242; Salguero, *Translating Buddhist Medicine in Medieval China*, 118. For pepper in Buddhist medical and dietary practices, see Chen, *Silu yiming*, 43-66.

⁵³ Dutt, *The Materia Medica of the Hindus*, 242.

⁵⁴ Chen, *Silu yiming*, 46-47.

⁵⁵ Daoxuan, *Sifen lü shanfan buque xingshibiao, juan xia*, 118. For the translation of *vinaya*, see Heirman, “*Vinaya*.”

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“destroying the poison of worms and fish” (殺蟲魚毒); in the *Newly Revised Materia Medica*, pepper had none of these efficacies, but was characteristically for “removing phlegm”.⁵⁶ Sun Simiao in his clinical guidance for commonly used drugs also identified pepper as for treating “phlegm repletion” (*tanshi* 痰實) and “bringing *qi* down”.⁵⁷

Why was pepper used for treating phlegm? To answer this question, some early formulae may help. Shortly before the compilation of the *Newly Revised Materia Medica* in 659, Zhen Quan’s (fl. early 7th c.) *Tested Recipes Recorded from the Ancient to Present* (*Gujin luyan fang* 古今錄驗方) had already collected three pepper pill prescriptions, all for treating cough.⁵⁸ The first was a “pepper pill” (*hujiao wan* 胡椒丸) made of pepper, long pepper, dried ginger, *baizhu* (*Atractylodes macrocephala*), cassia, galangal, ginseng, *kuandong* flower (*Tussilago farfara* 款冬花), *ziman* (*Aster tataricus* 紫菀), and liquorice. It was for treating a syndrome of “coughing, rising *qi*, chest fullness, and at times vomiting foam” (療咳，上氣胸滿，時復嘔沫).⁵⁹ The second was a “pepper pill for ordering the centre” (*hujiao lizhongwan* 胡椒理中丸), made of pepper, long pepper, dried ginger, *kuandong* flower (*Tussilago farfara*), liquorice, tangerine peel, galangal, *xixin* (*Asari Radix et Rhizoma*), and *baizhu* (*Atractylodes macrocephala*). It was for “curing coughing, counterflowing *qi*, inability to eat, and short of *qi* (panting)” (療咳嗽逆氣，不能飲食，短氣).⁶⁰ This pill was derived from an important compound medicine, “ordering the centre pill” (*lizhong wan* 理中丸), whose original ingredients consisted of ginseng, dried ginger, liquorice, and *baizu* (*Atractylodes macrocephala*).⁶¹ In cold damage medicine, the “ordering the centre pill”

⁵⁶ Su et al., *Xinxiu bencao*, *juan* 13, 189; *juan* 14, 196-197, 205.

⁵⁷ Sun, *Qianjin yifang jiaoshi*, *juan* 1, 17, 20.

⁵⁸ Zhen, *Gujin luyan fang*, 77-78, 86-87; Wang, *Waitai miyao fang*, *juan* 9, 167-168; *juan* 10, 185.

⁵⁹ Zhen, *Gujin luyan fang*, 77-78; Wang, *Waitai miyao fang*, *juan* 10, 185.

⁶⁰ Zhen, *Gujin luyan fang*, 86; Wang, *Waitai miyao fang*, *juan* 9, 167.

⁶¹ Zhang, *Shanghan lun*, *juan* 7, 79, clause 386.

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was for making the “central burner” (中焦) in order,⁶² which corresponded to the spleen and the stomach.⁶³ Substituting ginseng with pepper, long pepper, *kuandong* flower (*Tussilago farfara*), tangerine peel, galangal, and *xixin* (*Asari Radix et Rhizoma*), the “pepper pill for ordering the centre” moved its function upwards from the central burner to the chest, for treating coughing and panting in the lungs caused by cold.⁶⁴ The last was a “small pepper pill” (*xiao hujiao wan* 小胡椒丸), containing only three ingredients, namely: pepper, dried ginger, and *kuandong* flower (*Tussilago farfara*). It was for curing “coughing, counterflow with cold, and cold in the chest, as if there were an item in the throat that fails to be pitted out” (療寒冷咳逆，胸中有冷，咽中如有物狀，吐之不出).⁶⁵

These pills, named after an exotic from India and used for treating cough supposedly caused by cold, bridged two medical traditions. On the one hand, they fit a major efficacy of pepper, namely, “bringing *qi* down”, which was derived from its nomenclatural link with *shu jiao* (Sichuan pepper from Sichuan). That efficacy helped stop coughing by bringing down the rising and counterflowing *qi*. On the other hand, the combined use of the three acrids (in the first two recipes) implies influence from Ayurveda.

In Ayurveda, cough, like many other diseases, can be caused by three principal faults (*dosha*, often translated as humours), namely: phlegm (*kapha* or *śleṣman*), bile (*pitta*), and wind (*vāta*). Among them, bile and phlegm particularly represent a binary worldview, namely: Bile is associated with fire, heat, and the sun, with a main seat in the navel; phlegm is with water, cold, and the moon, and its main seat is in the chest.⁶⁶ For their hot nature, the three acrids are typically used for treating illness caused by

⁶² Ibid, *juan* 4, 51, clause 159.

⁶³ *Nanjing jiaozhu*, *juan* 23, 46; *juan* 31, 60.

⁶⁴ For the pathology of coughing and panting in early seventh-century Chinese medicine, see Chao, *Zhubing yuanhou lun jiaoshi*, *juan* 14, pp. 455-456.

⁶⁵ Zhen, *Gujin luyan fang*, 87; Wang, *Waitai miyao fang*, *juan* 9, 168.

⁶⁶ Wujastyk, “Agni and Soma,” 350-352, 363-365; idem, *The Roots of Ayurveda*, 30; Scharfe, “The Doctrine of the Three Humors.”

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phlegm, including phlegmatic cough. For instance, in an important early Ayurvedic text, the Bower Manuscript (ca. early 6th c.), there is a section dedicated to “cough due to phlegm”, which recommended patients to take prescriptions that use the three acrids as main ingredients.⁶⁷ Pepper’s medical use, as one of the three acrids, for treating phlegmatic cough in Ayurveda was most likely accountable for its function in these three pepper pills for treating cough supposedly caused by cold.

This link further brings out an intricate history of translating the concept of phlegm from Ayurveda to Chinese medicine. From around the second century CE, Buddhist translators in China initially translated phlegm as *han* (寒) or *leng* (冷), both meaning cold, corresponding to the original meaning of phlegm as a fault in Ayurveda. From the second half of the sixth century, the translation shifted to *tan* (mucus or phlegm 痰) and *dan* (sloshing fluid 淡), mainly referring to viscous fluid (mucus) in the chest.⁶⁸ Therefore, when the *Newly Revised Materia Medica* (659) incorporated pepper into Chinese medicine, phlegm had been known as *tan* or *dan* in China. In line with that, pepper’s efficacy for treating phlegm as a cold fault in Ayurveda might be also translated as treating *tan* (痰), in association with mucus in the chest, in Chinese medicine.

Therefore, by the seventh century, although pepper had been integrated into Chinese medicine, some medicinal understanding from ancient India stayed as exotic elements with pepper. Albeit with efficacy to warm the centre, in clinical practices pepper was mainly used for treating problems located

⁶⁷ Hoernle, *The Bower Manuscript*, part II, 122-123, lines 463-468b. For more examples of using three acrids to treat cough in Ayurveda, see Wen, *Tangdai wailai xiangyao yanjiu*, 335-337.

⁶⁸ Endo et al., “Tan no kigen” I and II; Simonis, “Ghosts or Mucus?” 612-613; Salguero, “Mixing Metaphors,” 63-66; Köhle, “A Confluence of Humors.” Natalie Köhle’s article points out that the shift was associated with the concurrent evolution of another concept in Ayurveda which considered phlegm as a waste digestive product resembling sloshing fluid in the abdomen (淡飲 *danyin*) in Chinese medicine. The entanglement of this concept with phlegm as a fault mainly occupying the chest caused an upward movement of phlegm from a waste digestive product in the abdomen to viscous fluid (mucus) in the chest.

in the upper part of the body trunk, namely, cough and phlegm in the chest.⁶⁹ Although already used as a condiment, pepper often appeared together with long pepper and dried ginger, forming the three acrids in the Ayurvedic tradition and effusing a strong sense of exoticism.

3. Moving Pepper to the Centre

These exotic traces would gradually disappear amid further integration of pepper within Chinese medicine. From the eighth through the tenth centuries, there was a relocation of the main efficacies of pepper from the lungs (the chest) to the spleen and the stomach (the abdomen).⁷⁰ Through this relocation, pepper, together with a group of exotic spices and aromatics, became an important digestive agent, closely tied to the Chinese foodways.

An early piece of evidence concerning the use of pepper for treating digestive disorders is from Meng Shen (621-713) and Zhang Ding's (fl. 8th c.) *Dietetic Materia Medica* (*Shiliao bencao* 食療本草, ca. early 8th c.). It shows that pepper could “cure wind cold in the five depot organs, pain in the heart and the abdomen caused by cold *qi*, and vomiting with clear, watery fluid” (治五藏風冷，冷氣心腹痛，吐清水).⁷¹ Whereas the efficacies for treating wind cold and cold *qi* were not new, the use of pepper for treating “vomiting with clear, watery fluid” indicates that it was dealing with a stomach disorder. However, besides this case, there is no evidence supporting the widespread use of pepper for treating digestive problems, until about two centuries later when a completely new medical description of pepper emerged.

⁶⁹ Chinese medicine divides the trunk of the body into three parts. The chest, containing the lungs and the heart, corresponds to the upper part; the upper abdomen, containing the spleen and the stomach, corresponds to the central part; and the lower abdomen, containing the kidneys, the liver, the urinary bladder, and the intestine, corresponds to the lower part.

⁷⁰ *Huangdi neijing suwen*, *juan* 29, 89-90.

⁷¹ *Chongxiu Zhenghe jingshi zhenglei beiyong bencao*, *juan* 14, 349. For the date and authorship of *Dietetic Materia Medica*, see Engelhardt, “Dietetics in Tang China,” 184.

This new account had an intricate link with some “fake” pepper from Southeast Asia. In his 1960s study about the origin of Srivijaya, O. W. Wolters proposed that during a divided period (311-589) in Chinese dynastic history, when South China’s overland routes to India and West Asia were cut off by hostile regimes in North China, traders coming from maritime routes managed to supplant expensive exotics originally from the overland routes with Southeast Asian substitutes.⁷² Some key evidence to support this argument comes from three “vintage texts” dating from around the fifth century: *Extensive Records* (*Guang zhi* 廣志), *Description of Guangzhou* (*Guangzhou ji*, 廣州記), and *Description of the Flora of the South* (*Nanfang caowu zhuang* 南方草物狀, also known as *Nanzhou ji* 南州記). All the texts only survive in the form of fragmentary quotations in later works and can be understood as reconstituted texts.⁷³

Among them, *Extensive Records* by Guo Yigong contains two seemingly contradictory accounts about pepper. One, as mentioned in the previous section, was quoted by Jia Sixie (fl. early and mid-6th c.), showing “pepper is from the Western Regions” (胡椒出西域).⁷⁴ The other was cited by a Chinese physician of Persian descent, Li Xun (late 9th - mid 10th c.), showing that *bidengqie* (華澄茄) “is grown in maritime [countries]. It is tender pepper. When [the seeds of pepper plants are] still green, [people] pluck them from trees and treat them. It is the one that has a thick tail and a round pedicle” (按《廣志》云：生諸海，嫩胡椒也。青時就樹採摘造之，有柄麤而蒂圓是也).⁷⁵

⁷² Wolters, *Early Indonesian Commerce*, 87-158.

⁷³ Ibid, 87-94; Xiao, “*Haiyao bencao* yu Liuchao shiqi Lingnan de yiyao wenhua.” For the date of *Extensive Records*, see Wang, “*Guang zhi* chengshu niandai kao.” For the date of *Description of the Flora of the South*, see Ma, “The Authenticity of the “Nan-Fang Ts’ao-mu Chuang”,” 225-226.

⁷⁴ Jia, *Qimin yaoshu yizhu*, *juan* 4, 303.

⁷⁵ Li, *Haiyao bencao*, *juan* 2, 31; Laufer, “Vidanga and Cubebs,” 286; Wolters, *Early Indonesian Commerce*, 67. It is worth noting that both Laufer and Wolters were misled by a wrong citation made by Li Shizhen in his *Bencao gangmu* which attributed this record to Gu Wei’s *Guangzhou zhi* (廣州志 Records of Guangzhou).

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The so-called *bidenggie* was derived from a Sanskrit term, *viḍaṅga*, originally referring to pepper-like seeds of *Embelia ribes*, which is “a large climbing shrub, abundant in the hilly parts” of South Asia and part of Southeast Asia.⁷⁶ The seeds of *Embelia ribes* are a commonly used drug in Ayurveda.⁷⁷ According to European reports in the nineteenth century, *Embelia ribes* was also used as an adulterant for pepper in India.⁷⁸ Yet in Chinese *materia medica*, *bidenggie* (*viḍaṅga*) was not explicitly associated with *Embelia ribes*, but referred to another tailed pepper-like spice from Java and its surrounding islands, namely, cubeb pepper (*Piper cubeba*).⁷⁹

The complexity behind this strange borrowing, which used the Sanskrit term of an Indian drug (*Embelia ribes*) to refer to the seeds of an Indonesian plant (cubeb pepper) and claimed that they were “tender pepper” from the maritime countries, might never be fully unravelled.⁸⁰ What we may find particularly interesting is the historical context of its emergence in *Extensive Records*. *Extensive Records* was compiled in the mid-fifth century by Guo Yigong, who was living in North China.⁸¹ The mid-fifth century witnessed the intensified confrontation between the northern (Wei, 386-534) and southern (Liu Song, 420-479) dynasties,⁸² which likely caused the markets of North and South China to be segregated and supplied from two distinct routes. As a northerner, Guo had access to pepper in North

⁷⁶ Laufer, “Vidanga and Cubebs,” 282-283.

⁷⁷ Wujastyk, *The Roots of Ayurveda*, 158, 193, 297-298, 313; Watt, *Dictionary of the Economic Products of India*, vol. 3, 43; Dutt, *The Materia Medica of the Hindus*, 187.

⁷⁸ Watt, *Dictionary of the Economic Products of India*, vol. 3, 242-243; Laufer, “Vidanga and Cubebs,” 282-283.

⁷⁹ Hirth and Rockhill, *Chau Ju-kua*, 224; Laufer, “Vidanga and Cubebs,” 282-288.

⁸⁰ As far as I am aware, the confusion between cubeb pepper and *Embelia ribes* (*viḍaṅga*) only takes place in Chinese medicine. The English term “cubeb” is derived from its Arabic name, *kaḇāba*, which is related to *kaḇba* (ball) and *kaḇāb* (round balls of meat cooked upon skewers). King, “The New *materia medica* of the Islamicate Tradition,” 504. Meanwhile, Arabic has a different term for *Embelia ribes*, *falenja*, derived from the Sanskrit term *viḍaṅga*. Laufer, “Vidanga and Cubebs,” 285. In Malay, cubeb pepper has two indigenous names. One is *lada berekor* literally meaning tailed pepper; the other is *kemukus* related to vapour, steam, or fumigant. Hoogervorst, “Southeast Asia in the Ancient Indian Ocean World,” 185. In Ayurvedic classics, cubeb pepper has its own Sanskrit name, *kaṅkola* or *kakkola*. Zumbroich, “From Mouth Fresheners to Erotic Perfumes,” 65; Wujastyk, *The Roots of Ayurveda*, 354.

⁸¹ Wang, “*Guang zhi chengshu niandai kao*,” 54-55.

⁸² Wang, “The Nanhai Trade,” 46-47.

China, which was mainly imported via overland routes. Therefore, he noted that pepper was from the Western Regions. Meanwhile, he also incorporated texts from the South about tropical exotics.⁸³ These texts likely referred to pepper or “tender pepper” from the maritime routes. For instance, another vintage text, which was exclusively about the South, *Description of the Flora of the South*, clearly noted that pepper “grows in the countries of the South Sea” (生南海諸國).⁸⁴ It was likely from one of these southern texts that Guo learned that there was *bidengqie*, known as tender pepper, coming from “maritime [countries]”.

In the long term, the idea of *bidengqie* as tender pepper from the maritime routes would have profound impact on Chinese reconceptualisation of pepper. Initially, the *Newly Revised Materia Medica* (659) completely ignored this account and had no record about *bidengqie*. Thereafter, an excerpt, usually attributed to Chen Cangqi’s (fl. 713-741) *Supplement to Materia Medica* (本草拾遺 *Bencao shiyi*, 739), shows that *bidengqie* “grows in Srivijaya” (生佛誓國) and could “bring *qi* down, dissolve food, [deal with] skin wind and *qi* distension in the heart and the abdomen, stimulate appetite, cure demon *qi*, dye hair, and perfume the body” (主下氣、消食，皮膚風，心腹間氣脹，令人能食，療鬼氣，能染髮及香身).⁸⁵

This medical description is eclectic. Cubeb pepper, along with other Indonesian spices, such as cloves, nutmeg, camphor, and agarwood (aloeswood), was widely used in Indian perfumery.⁸⁶ That

⁸³ Wang, “*Guang zhi chengshu niandai kao*,” 55.

⁸⁴ It was cited in *Chongxiu Zhenghe jingshi zhenglei beiyong bencao*, *juan* 14, 349. Shang Zhijun’s recompilation changes it to “生南海諸地”. That is an editing error. Li, *Haiyao bencao*, *juan* 3, 64.

⁸⁵ *Chongxiu Zhenghe jingshi zhenglei beiyong bencao*, *juan* 9, 235; Li, *Bencao gangmu*, *juan* 32, 1860. This passage appears in *Materia Medica of the Kaibao Period* (974) without a clear attribution. Li Shizhen attributed it to Chen Cangqi. Laufer and Wolters followed that. Shang Zhijun’s recompilation of Chen Cangqi’s *Supplement to Materia Medica*, however, does not include it. Chen, *Bencao shiyi jishi*. I tend to believe that it was written by Chen Cangqi or another Tang author because the text refers to Śrīvijaya as Foshi (佛誓), a term used during the late seventh and early eighth centuries for missions from Śrīvijaya, instead of Sanfoqi (三佛齊), a term emerging from the early tenth century. Wang, “The Nanhai Trade,” 74, 123; Haw, “Śrīvijaya, Java, and the Sunda Strait,” 426-429.

⁸⁶ Zumbroich, “From mouth fresheners to erotic perfumes,” 65-66, 69, 71-72, 75, 83.

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practice explains why this account referred to perfuming the body. In this Indian perfume culture, cubeb pepper was an important ingredient for making an important perfume paste, *yakṣa* mud (*yakṣakardama*),⁸⁷ whose association with *yakṣa* (nature spirits or demons) might evoke the function to exorcise demon *qi*. Its efficacies of being digestive can be possibly traced to its original place in Southeast Asia. According to a Portuguese account from the sixteenth century, in Java, cubeb pepper was “used much against the chill of the stomach”.⁸⁸ Yet, we have no conclusive evidence to support the use of cubeb pepper for hair dyeing outside China. Instead, in Ayurvedic hair dyeing recipes, *Embelia ribes*, together with powder iron, was commonly used.⁸⁹ We may, therefore, assume this account also incorporated a certain medical property from *Embelia ribes*. It likely witnessed the congruence of disparate functions of cubeb pepper and *Embelia ribes* from multiple traditions into a drug known as *bidengqie* in China.

Such rich functions notwithstanding, the clinical use of *bidengqie* was limited. Wang Tao’s (fl. early and mid-8th c.) voluminous recipe compilation, *Formulary of the Outer Terrace and the Arcane Essentials* (*Waitai miyao fang* 外臺秘要方, 752), contained no *bidengqie*. Li Xun in the early tenth century noted that “in ancient recipes, [*bidengqie*] is only partially used for dyeing hair, and not used for curing diseases” (古方偏用染髮，不用治病也).⁹⁰

It was Li Xun who redefined the medical properties of *bidengqie* and pepper. Li was from a family of Persian descent, who were involved in the exotic spices and aromatics trade in South China.⁹¹ As we will return to this point soon, by his age, warming exotics were becoming popular in the treatment of digestive problems. His major work, *Materia Medica of Overseas Drugs* (*Haiyao bencao* 海药本草, ca.

⁸⁷ McHugh, *Sandalwood and Carrion*, 137.

⁸⁸ Da Orta, *Colloquies on the Simples and Drugs of India*, 168.

⁸⁹ Chen, *Shufang yiyao*, 221, 226.

⁹⁰ Li, *Haiyao bencao*, *juan* 2, 31; *Chongxiu Zhenghe jingshi zhenglei beiyong bencao*, *juan* 9, 235.

⁹¹ Chen, “The Transmission of Foreign Medicine via the Silk Roads in Medieval China,” 246-251.

early 10th c.), offered new medical and natural descriptions of these exotics and reconceptualised some of them, including *bidengqie* and pepper, in line with the new medical culture. Meanwhile, as this work primarily focused on exotics from the maritime routes, Li heavily drew on the above-mentioned vintage texts concerning exotics from the South Sea.⁹² Therefore, the entanglement between *bidengqie* and pepper re-emerged and played a critical role in the reconceptualisation of their medical properties.

For *bidengqie*, Li revived the “tender pepper” account, and provided a new medical description as follows:

Acrid and bitter flavour, slightly warm, and not toxic. It deals with sudden pain in [the region] of the heart and the abdomen, sudden turmoil with vomiting and diarrhoea, phlegm aggregation-illness, and cold *qi*.

味辛苦，微溫，無毒。主心腹卒痛，霍亂吐瀉，痰癖，冷氣。⁹³

Casting off cosmetic functions such as hair dyeing and body perfuming, and expanding its medical functions for treating digestive disorders, Li reduced *bidengqie* from a versatile exotic with rich functions derived from its historical links with cubeb pepper and *Embelia ribes* to a mildly warm digestive.

This shift was tied to pepper. In the same work, Li Xun provided a new medical description for pepper:

It removes *qi* depletion and cold in the stomach mouth; [deals with] food remaining [in the body] overnight failing to dissolve, sudden turmoil, *qi* counterflow, sudden pain in the heart and the abdomen, and upward rushing of cold *qi*; brings *qi* into harmony. Over-consumption is not

⁹² Xiao, “*Haiyao bencao yu Liuchao*”.

⁹³ *Chongxiu Zhenghe jingshi zhenglei beiyong bencao*, juan 9, 235.

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recommended, [as it] will harm the lungs. Someone says the one that faces the yin [side] is *bidengqie* (*dengqie*), and the one that faces the yang (side) is pepper.

去胃口氣虛冷，宿食不消，霍亂，氣逆，心腹卒痛，冷氣上衝，和氣。不宜多服，損肺。一云向陰者澄茄，向陽者胡椒也。⁹⁴

This account, while unrelated to the record in the *Newly Revised Materia Medica* (659), has a clear intertextual link with the new medical properties of *bidengqie*. The core efficacies of pepper from “sudden turmoil” to “upward rushing of cold *qi*” are essentially the same as *bidengqie*, indicating that Li had either extended the latter to the former, or vice versa. This extension was facilitated by the hearsay recorded by Li Xun that pepper and *bidengqie* were simply from a same plant, one growing on the yang side and the other on the yin. Together with *Extensive Records*’ account of *bidengqie* as tender pepper, Li Xun established an inherent link between pepper and *bidengqie*.

Li Xun was not alone. A contemporary physician from Ningbo known as Rihuazi (日華子, fl. early to mid-10th c.), of whose background little is known, offered another two closely related accounts for pepper and *bidengqie*, both promoting clinical uses for digestive problems. Rihuazi suggested that *bidengqie* could “cure all kinds of *qi*, as well as sudden turmoil with diarrhoea, abdominal pain, kidney *qi*, and cold in the urinary bladder” (治一切氣，并霍亂瀉肚，腹痛，腎氣，膀胱冷).⁹⁵ Pepper could “harmonise the five depot organs, stop sudden turmoil, cold pain in the heart and the abdomen, strengthen the *qi* of the kidneys, deal with cold diarrhoea, and destroy all kinds of poisons from fish, meat, softshell turtles, and fungi” (調五藏，止霍亂，心腹冷痛，壯腎氣，及主冷痢，殺一切魚肉鼈蕈毒).⁹⁶ In comparison with Li Xun’s accounts, Rihuazi focused more on

⁹⁴ Ibid, *juan* 14, 349.

⁹⁵ Ibid, *juan* 9, p. 235.

⁹⁶ Ibid, *juan* 14, p. 349.

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remedies for the lower part of the abdomen, associated with diarrhoea, the kidneys, and the urinary bladder. Moreover, Rihuazi also introduced the idea that pepper was an effective antidote for foodborne pathogens (food poison), which would have profound influence on Chinese dietary practices.

This tenth-century shift redefined the clinical uses of *bidengqie* and pepper. Over a century later, Su Song (1020-1101) in his 1061 *Illustrated Materia Medica* noted that *bidengqie* was “frequently used in the spleen and the stomach medicines in contemporary formularies as” (今醫方脾胃藥中多用).⁹⁷ This observation indicates that the trajectory set by Li Xun and Rihuazi was now followed by eleventh-century physicians. It also offers a clear contrast to the “ancient recipes”, which, according to Li Xun, only partially used *bidengqie* for hair dyeing. Along with *bidengqie*, pepper also became a principal digestive medicine. In a concisely compiled *materia medica*, *Dilatations on Materia Medica* (*Bencao yanyi* 本草衍義, 1116), Kou Zongshi (fl. early 12th c.) noted:

Pepper removes cold phlegm in the stomach, and [deals with] vomiting with water, and vomiting soon after having eaten. Indeed effective! Over-dosage however proceeds to the *qi*. It can also be used to treat the cold and smoothness in the large intestine, but in each [case it] shall be assisted by other drugs.

胡椒去胃中寒痰，吐水，食已即吐，甚驗。過劑則走氣。大腸寒滑亦用，須各以他藥佐之。⁹⁸

Therefore, different from the medical practice in the seventh century, which aligned pepper with phlegm, cough, cold, and the lungs, the new practice associated pepper with phlegm, vomiting, cold,

⁹⁷ Ibid, *juan* 9, p. 235.

⁹⁸ Kou, *Bencao yanyi*, *juan* 15, 98-99. Kou Zongshi was a minor official interested in medicine. He submitted this *materia medica* to the Imperial Medical Service (太醫 Taiyi) of the Northern Song in 1116. Goldschmidt, *The Evolution of Chinese Medicine*, 121-123.

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and the stomach. It foregrounds the concept of phlegm as a pathogen in the stomach, which can be traced back to the idea of *danyin* (淡飲) or *tanyin* (痰飲) in Chinese medicine, originally referring to a sloshing fluid in the abdomen in a medical work of Zhang Zhongjing (fl. late 2nd to early 3rd c.) from ca. 200 CE, to whom we will return in the next section. In the third and fourth centuries, this concept evolved into “a dense fluid that could form watery lumps” and “was prone to accumulations”.⁹⁹ Thereafter, at the beginning of the seventh century, a foundational work on aetiology in Chinese medicine, *Treatise on the Origins and Signs of Various Kinds of Illnesses* (*Zhubing yuanhou lun* 诸病源候论, 610), proposed a nosology of *tanyin*. It conceptualised a symptom called cold phlegm (*lengtan hou* 冷痰候), whose root was the depletion weakness of stomach *qi*, which debilitated the movement of food through the digestive system and induced the accumulation of phlegm water (*tanshui* 痰水), making people unable to eat.¹⁰⁰ A few decades later, Sun Simiao described a symptom that, “when *tanyin* is abundant, the vomiting of water can happen any time” (凡痰飲盛，吐水無時節). This had become very close to the phlegm symptom that pepper was used for treating in the early twelfth century. Sun believed that this symptom was caused by consuming an excessive amount of cold drink, which led to obstinate cold and depleted the *qi* of the spleen and the stomach, making them unable to dissolve food and drink. Therefore, when food and drink entered the stomach, they would be transformed into cold water to vomit.¹⁰¹

Whereas Sun Simiao’s work had established the pathology of cold phlegm in the stomach, the treatment it offered was fundamentally different from Kou Zongshi. Sun only recommended one recipe, made of a mineral, for treating cold phlegm in the stomach. It was red halloysite (*chi shizhi* 赤

⁹⁹ Köhle, “A Confluence of Humors,” 466-469, 490-491.

¹⁰⁰ Chao, *Zhubing yuanhou lun jiaoshi*, *juan* 20, 610.

¹⁰¹ Sun, *Qianjin yifang jiaoshi*, *juan* 19, 292.

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石脂), a clay mineral rendered in Chinese as “red stone fat”. Sun Simiao suggested that a patient should pulverise three catties (*jin* 斤) of red halloysite and take a small amount of it with wine each time. After finishing this therapy, Sun believed that the patient would never suffer from vomiting water and diarrhoea again for the rest of her/his life. Moreover, it could also “replenish the five depot organs, and make one stout” (補五藏，令肥健).¹⁰²

This therapy points to an important medical culture that used minerals, instead of exotic spices and aromatics, for warming the visceral system and replenishing the body. There were a group of minerals defined by Chinese *materia medica* as warm and restorative. Being prescribed together with other mineral medicines, they could help generate an addictive psychological experience of being hot and energetic. From the third century CE, various sorts of mineral prescriptions, known as “cold food powder” (*hanshi san* 寒食散) or “five stone powder” (*wushi san* 五石散), were used by elite consumers for treating the intrusion of pathogenic wind and cold, or the emaciation of the body. However, because of their strong side effects, there was a tendency to dilute the dosage of minerals with herbal medicines.¹⁰³ By the end of the Tang period, mineral medicine gradually lost momentum.¹⁰⁴

In an important late tenth-century compilation of medical recipes sponsored by the Northern Song imperial state, *Formulary of Sagely Grace of the Taiping Period* (*Taiping shenghui fang* 太平聖惠方, 992), minerals and exotic spices and aromatics were both used for treating “turned-over stomach and vomiting” (反胃嘔噦). Of the seventeen formulae in this section, three prescriptions used minerals and four used spices and aromatics as main ingredients. Among them, red halloysite was once again separately used for curing vomiting. Sulphur and white alum (*bai fan* 白礬) formed another

¹⁰² Ibid.

¹⁰³ Jing and Xiao, “Zhonggu fusan de chengyin ji chuancheng.”

¹⁰⁴ Yu, “Hanshi san kao”; Zheng, *Yaolin waishi*, 124-131.

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prescription for treating the same symptom. White alum, yellow minium (*huang dan* 黃丹), and sulphur formed a prescription for treating “lasting accumulation of depletion cold in the depot and palace organs” (臟腑久積虛冷) and “turned-over stomach and vomiting”. Pepper appeared as a major ingredient in two prescriptions for treating “turned-over stomach and vomiting of food” (反胃嘔噦吐食), one together with raw ginger and the other with nutmeg, long pepper, and liquorice. Besides that, two other spicy and aromatic compounds, entitled “white cardamom powder” (*bai doukou san* 白豆蔻散) and “clove powder” (*dingxiang san* 丁香散), were also used for treating vomiting.¹⁰⁵

Elsewhere in the treatment of digestive ailments associated with the spleen and the stomach, exotic spices and aromatics had prevailed, and minerals had become hard to find. In the section for treating “depletion of spleen *qi*, and distention and fullness of the abdomen” (脾氣虛腹脹滿), all seven recipes used at least one exotic spice or aromatic, including cloves, putchuk, haritaki, pepper, and agarwood. For “depletion and cold of spleen and stomach *qi* and inability to digest water and grain” (脾胃氣虛冷水穀不化), six out of its eight recipes used exotic spices and aromatics, including cloves, white cardamom, haritaki, *bidengqie*, putchuk, nutmeg, long pepper, and pepper. So was the situation for “depletion weakness of spleen and stomach *qi* and inability to drink and eat” (脾胃氣虛弱不能飲食) (5 out of 8), “depletion weakness of spleen and stomach *qi*, vomiting, and inability to eat” (脾胃氣虛弱嘔吐不下食) (6 out of 12), “pain caused by cold *qi* in the spleen that attacks the heart and the abdomen” (脾臟冷氣攻心腹疼痛) (11 out of 11), “cold *qi* in the spleen and rumbling

¹⁰⁵ Wang et al., comps., *Taiping shenghui fang*, juan 47, 1454-1457.

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in the abdomen” (脾臟冷氣腹內虛鳴) (6 out of 6), “depletion and weakness of spleen and stomach *qi* and emaciation of the body” (脾胃氣虛弱肌體羸瘦) (4 out of 9), etc.¹⁰⁶

With minor differences notwithstanding, these syndromes were all considered as caused by cold or depletion to the digestive system. These two problems often co-existed as cold was considered as accountable for depletion, while heat was accountable for repletion. It hence comes as no surprise that warming agents were prescribed a remedy for this kind of syndromes. The question is what kind of warming agents were preferably used. In the seventh century, Sun Simiao, for treating the same problems, also proposed a group of formulae for warming and replenishing the spleen and the stomach, such as “warming-the-spleen decoction” (*wenpi tang* 溫脾湯), “replenishing-the-spleen decoction” (*bupi tang* 補脾湯), “ordering-the-spleen decoction” (*jianpi tang* 建脾湯), “soothing-the-spleen decoction” (*roupi tang* 柔脾湯), “great warming-the-spleen pill” (*da wenpi wan* 大溫脾丸), “restoring-the-spleen pill” (*zhuanpi wan* 轉脾丸), and “harmonising the stomach pill” (*benwei wan* 和胃丸). Reading their ingredients, we may find that native herbal medicines of a warming nature, including native spices and aromatics, such as ginger, magnolia bark (*Magnolia officinalis*, *houpo* 厚樸), balloon-flower root, ginseng, cassia, and Sichuan pepper, formed the majority. Mineral medicines, such as red halloysite, were interposed. Warming exotics like pepper, *bidengqie*, cloves, nutmeg, and white cardamom were, however, nowhere to find.¹⁰⁷

Therefore, from the age of Sun Simiao to the tenth century, a critical change in Chinese medicine was that exotic spices and aromatics emerged from almost non-existence to principal warming agents in the treatment of cold- and depletion-related digestive disorders. Such a change might have

¹⁰⁶ Ibid, *juan* 5, pp. 107-142.

¹⁰⁷ Sun, *Qianjin yifang jiaoshi*, *juan* 15, 234-236.

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encouraged Li Xun, who compiled his *Materia Medica of Overseas Drugs* in the early tenth century, to redefine the medical properties of pepper and *bidengqie*. Hailing from a family involved in the trade of exotic spices and aromatics, Li was likely more aware than most of his contemporaries of the rise of these warming exotics in this specific field. He recognised that pepper, already with a crucial medical property for “warming the centre”, had good potential to be rebranded as a warming digestive. With the evidence we have examined, we may speculate that Li first revised *bidengqie*’s medical properties, making it a purely digestive agent without other functions. Then, as his *materia medica* focused on “overseas drugs” from the maritime routes and heavily cited these vintage texts, he became also aware of the historical entanglement between *bidengqie* and pepper in *Extensive Records*, which referred to some tender pepper from “maritime [countries]” as *bidengqie*. He therefore further consolidated this link and extended a large part of *bidengqie*’s medical property to pepper, making pepper also a principal warming digestive.

Pepper and *bidengqie* were not alone. Returning to the seventh century, the *Newly Revised Materia Medica* identified cloves and agarwood as perfume ingredients without important medical functions, and patchouli as mainly for perfuming, exorcising evil spirits, and Taoist self-cultivation.¹⁰⁸ Chen Cangqi, in his *Supplement to Materia Medica* (739), suggested “mother cloves” (*mu dingxiang* 母丁香)¹⁰⁹ could be used for hair dyeing, but without giving any medical property. It was in the early tenth century that cloves would be redefined by Li Xun and Rihuazi as an important digestive medicine.¹¹⁰ Nutmeg first appears in the *Supplement to Materia Medica* but the existing text only indicates it was imported by ocean-going ships, without offering any medical description.¹¹¹ White cardamom was not recorded by

¹⁰⁸ Su et al., *Xinxin bencao*, *juan* 6, 97; *juan* 12, 179-180.

¹⁰⁹ Mother cloves are the ripe fruits of clove trees. They are less aromatic than cloves made of the flower buds of clove trees.

¹¹⁰ *Chongxiu Zhenghe jingshi zhenglei beiyong bencao*, *juan* 12, 307.

¹¹¹ *Ibid*, *juan* 9, 231.

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Chinese *materia medica* until the publication of *Materia Medica of the Kaibao Period* (*Kaibao bencao* 開寶本草) in 974.¹¹² With these diverse backgrounds notwithstanding, by the tenth century they were all assembled as warming and digestive medicines, jointly taking care of the spleen and the stomach right in the centre of the Chinese conception of the body trunk.¹¹³

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Soon after acquiring these warming and digestive efficacies, these exotic spices and aromatics would be favourably received by Chinese medicine, in association with a pivotal change of a mainstream medical theory, namely, the cold damage.¹¹⁴ The theory of cold damage was founded in an aetiology that associated febrile diseases with damage by pathogenic cold. It was broadly defined by the *Inner Canon* (ca. 1st c. BCE) that “as for febrile diseases of the present day, they all belong to the category of cold damage” (今夫熱病者，皆傷寒之類也).¹¹⁵ The *Inner Canon* offered a model to explain how cold damage progresses within the body along six conduit vessels (*jingmai* 經脈), which goes as follows:

On the first day, cold damage affects the Great Yang (*juyang* 巨陽) conduit vessel;

On the second day, it affects the Yang Brilliance (*yangming* 陽明) conduit vessel;

On the third day, it affects the Minor Yang (*shaoyang* 少陽) conduit vessel;

On the fourth day, it affects the Great Yin (*taiyin* 太陰) conduit vessel;

¹¹² Ibid, 239.

¹¹³ Besides these cases, according to a statistic by Robert M. Hartwell, there was a dramatic increase of the uses of exotic spices and aromatics in the treatment of abdominal pain and constipation from the Tang to the Northern and Southern Song periods. Hartwell, “Foreign Trade, Monetary Policy and Chinese ‘Mercantilism,’” 477-478. For a survey of the medical use of these aromatic drugs in the Tang period, see Wen, *Tangdai wailai xiangyao yanjiu*, 320-469.

¹¹⁴ I tend to agree with Stephen Boyanton that the cold damage medicine had already become popular before the eleventh century. Goldschmidt, *The Evolution of Chinese Medicine*, 69-102; Boyanton, “The *Treatise on Cold Damage* and the Formation of Literati Medicine”.

¹¹⁵ *Huangdi neijing suwen*, *juan* 31, 92.

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On the fifth day, it affects the Minor Yin (*shaoyin* 少陰) conduit vessel;

On the sixth day, it affects the Ceasing Yin (*jueyin* 厥陰) conduit vessel.¹¹⁶

These six conduit vessels correspond to six organs (Table 1.2). The three yang conduit vessels, which are influenced by cold damage in the first three days, correspond to three palace organs, namely: the urinary bladder (Great Yang), the stomach (Yang Brilliance), and the gall bladder (Minor Yang). The three yin conduit vessels, influenced in the last three days, correspond to three depot organs, namely: the spleen (Great Yin), the kidneys (Minor Yin), and the liver (Ceasing Yin).¹¹⁷ This association had already created a common ground for cold damage, which was an externally contracted disease (*waigan bing* 外感病) usually with acute symptoms, to interact with internal damage (*neishang* 內傷) to the visceral system supposedly caused by unregulated emotion, diet, or fatigue.

The *Inner Canon* further introduced a yin-yang division for the nosology of cold damage, as well as their corresponding treatments. It classified the six palace organs as yang; and the five depot organs as yin.¹¹⁸ In association with that, the pathology of cold damage was also divided into two phases. In the first phase, namely, the first three days, cold damage influenced the three palace organs, which all belonged to yang, namely, the so-called three yang (*san yang* 三陽). In the second phase, the pathology entered the three depot organs, which belonged to yin, namely, the three yin (*san yin* 三陰). These two phases demanded two different ways of treatment, namely, sweating for the three yang and purging for the three yin (Table 1.2).¹¹⁹

1 st day	Great Yang	Urinary bladder	Palace organs	Three yang patterns	Sweating
2 nd day	Yang Brilliance	Stomach			

¹¹⁶ Ibid.

¹¹⁷ *Huangdi neijing lingshu*, *juan* 10, 300-305.

¹¹⁸ *Huangdi neijing suwen*, *juan* 4, 16-17.

¹¹⁹ Ibid, *juan* 31, 92-93.

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3 rd day	Minor Yang	Gall bladder			
4 th day	Great Yin	Spleen	Depot organs	Three yin patterns	Purging
5 th day	Minor Yin	Kidneys			
6 th day	Ceasing Yin	Liver			

Table 1.2 The three-yang and three-yin pathology of cold damage, based on the *Inner Canon*.

During an epidemic period at the end of the Later Han dynasty (25-220 CE), this model inspired an important physician, Zhang Zhongjing (Zhang Ji), to compose an influential treatise on cold damage. Within ten years from 196 CE, Zhang witnessed two-thirds of his family members succumb to diseases. He attributed most of their deaths to cold damage, and decided to expand the brief description in the *Inner Canon* into comprehensive clinical guidance.¹²⁰ His final work, commonly known as *Treatise on Cold Damage* (*Shanghan lun* 傷寒論), elaborated on the typical symptoms of cold damage in the three yang and three yin stages and provided corresponding formulae.¹²¹ These formulae were influenced by an archaic text, *Classic of Decoctions* (*Tangye jing* 湯液經), which was attributed to a legendary chef Yi Yin, who allegedly used cassia and ginger as seasonings.¹²² Likely because of this influence, Zhang also widely prescribed decoctions made of warming and flavour-rich medicines, such as cured licorice, cassia, and ginger.

Decoctions made of these drugs had already carried the typical flavours of the spicy and aromatic health drinks mentioned in section one, as well as their warming efficacies, but they served distinct medical purposes. Zhang Zhongjing's medicinal decoctions were originally not for everyday consumption, but for curing acute symptoms. His favoured flavour-rich medicines, such as cassia, licorice, and ginger, were primarily for sweating and alleviating fever. Moreover, his work was

¹²⁰ Zhang, *Shanghan lun*, 6.

¹²¹ For the cold damage medicine by the age of Zhang Zhongjing, see Ye, *Shanghan xueshu shi*, 1-29; Fu, *Zhang Zhongjing yixue yuanliu*, 1-26.

¹²² Ye, *Shanghan xueshu shi*, 2-4; Huang, *Fermentations and Food Science*, 91.

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finished before the massive inflow of exotic aromatics and spices into China. It, therefore, contained hardly any warming exotics except the cassia from the Far South of China.¹²³

The boundaries between these two medical cultures, however, would be blurred amid a pivotal shift of the cold damage theory throughout the eleventh century. The shift is first identified by Japanese scholarship on the textual history of the *Treatise on Cold Damage*. Through meticulous comparison of three different editions of this treatise, compiled respectively in 992, 1065, and 1144, they point out there were some subtle textual changes in these three editions, which made a previously marginal and supplementary therapy, “warming the interior” (*wenli* 溫裏), a principal treatment for the three yin patterns of cold damage. As a result, purging, which was originally the basic treatment for the three yin, was squeezed into the Yang Brilliance pattern in the three yang. It therefore fundamentally changed the *Inner Canon*'s principle of sweating for the three yang and purging for the three yin, into sweating and purging for the three yang and warming the interior for the three yin.¹²⁴

An interesting observation is that this shift immensely expanded the clinical uses of exotic spices and aromatics. Step-by-step, they gradually occupied a prominent position in the cold damage medicine. Their uses in cold damage medicine are first well documented by the above-mentioned *Formulary of Sageby Grace of the Taiping Period* (992).¹²⁵ This formulary incorporated a full edition of the *Treatise on Cold Damage* in fascicle 8, and numerous recipes for treating various symptoms of cold damage in fascicles 9-14. In these recipes, we can find many exotics, including haritaki, patchouli, cloves, white cardamom, agarwood, camphor, nutmeg, fennel seeds, *bidenggie*, frankincense, and asafoetida.

¹²³ Cassia was mainly from the area to the south of the Nanling Range as well as northern Vietnam. Schafer, *The Vermilion Bird*, 195.

¹²⁴ Okada, Makizumi, and Kotaka, *Sōizen shōkan ron kō*. I, unfortunately, has no access to this book. The summary is based on a number of Chinese articles translated from this book, as well as a Japanese journal article by Kotaka Shuji. Makizumi, “Songban *Shanghan lun* de teshuxing”; idem, “Guanyu shanghan sanyin sanyang de bingtai lun”; Kotaka, “So Shoku (Tōba Kōji) o tsūshite Sōdai no igaku.”

¹²⁵ Wang et al., comps., *Taiping shenghui fang*, juan 9-14, 238-411.

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What were their functions in this early stage? Take the compound entitled “clove powder” (*dingxiang san* 丁香散) as an example: it appeared four times in the treatment of cold damage. In each specific treatment, its composition varied, but cloves were always its principal ingredient. In the tenth and eleventh centuries, like many other warming exotics, the core efficacy of cloves was known as “warming the spleen and the stomach” (主溫脾胃).¹²⁶ Therefore, outside the cold damage treatment, clove powder was mainly used for treating digestive problems, such as “discordance of cold and hot *qi* in the spleen and the stomach” (脾胃冷熱氣不和), “incapacity to digest water and grain because of cold and depletion of *qi* in the spleen and the stomach” (脾胃氣虛冷水穀不化), and “body emaciation caused by weakness and depletion of *qi* in the spleen and the stomach” (脾胃氣弱肌體羸瘦).¹²⁷ Within cold damage medicine, clove powder assumed a similar function. It was used for dealing with “vomiting after cold damage” (傷寒後嘔噦), “discordance of *qi* in the spleen and the stomach after cold damage” (傷寒後脾胃氣不和), and “incapacity to dissolve food remaining [in the body] overnight after cold damage” (傷寒後宿食不消).¹²⁸ All targeted the after-effect of cold damage treatment, aiming to restore the digestive function of the spleen and the stomach, which supposedly suffered from the aggressive therapies of purging and sweating. Besides that, in one exceptional case, the clove powder was also used for treating a syndrome of headache, high fever, and coughing on the third day when the pathology was influencing the Minor Yang conduit vessel. In this case, cloves were accompanied by a typical cough and headache remedy, *qianhu* (前胡, *Peucedanum praeruptorum*).¹²⁹

¹²⁶ *Chongxiu Zhenghe jingshi zhenglei beiyong bencao*, juan 12, 307.

¹²⁷ Wang et al., comps., *Taiping shenghui fang*, juan 5, 116-117, 121-122, 135-136.

¹²⁸ *Ibid*, juan 11, 318-320, 363-364, 366-367.

¹²⁹ *Ibid*, juan 9, 245-246.

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A similar pattern was followed by other warming exotics. In general, they were rarely used directly for treating cold damage while the pathology was developing along the six conduit vessels, but mainly for the digestive problems emerging as the after-effects of the conventional aggressive methods. Although still marginal, this pattern paved the way for the further integration of warming exotics and cold damage. In the next century, we will find warming exotics gradually moved from marginal to central, and their clinical uses also gradually moved forward from treating merely the after-effects to treating the main symptoms.

An early witness to this change is a concisely compiled formulary of only five fascicles, *Formulary of Extensive Relief* (*Boji fang* 博濟方, ca. 1041-1048), by a literatus-turned physician, Wang Gun (fl. mid-11th c.). Wang compiled this formulary out of his deep distrust of ignorant physicians, whom he blamed for the death of his father. Allegedly aiming to protect people from these physicians, Wang decided to publish the most essential part of his private medical recipe collection.¹³⁰ Exotic aromatics and spices featured prominently in these published recipes and were used for treating some acute symptoms of cold damage. For instance, Wang recommended a nutmeg powder (*doukou san* 豆蔻散) to treat a critical syndrome known as “double-infected cold damage” (兩感傷寒). This syndrome points to a theoretical impasse in the *Inner Canon’s* framework of sweating for the three yang and purging for the three yin. The problem is that what if the pathogenic cold infects a yang conduit vessel and a yin conduit vessel at the same time, namely, the so-called “double-infected”. The *Inner Canon* offered no solution and concluded that “one cannot avoid death” (必不免於死).¹³¹ The underlying dilemma was while sweating usually demanded hot medicines, purging usually required cold medicines.

¹³⁰ Wang, *Boji fang*, author’s preface. For the tension between literati and common physicians (including Wang Gun’s case) in the Northern Song period, see Boyanton, “The *Treatise on Cold Damage* and the Formation of Literati Medicine,” 78-97. For the emergence of literati physicians (儒醫 *ruyi*), see Hymes, “Not Quite Gentlemen?”; Chen, “Liangsong de shangyi shiren yu ruyi.”

¹³¹ *Huangdi neijing suwen*, *juan* 31, 92-93.

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If they were taken at the same time, they would either offset each other or have too strong counter-effects. Therefore, a long-held tenet was that if one took strong sweating medicines and strong purging medicines at once to treat the double-infected cold damage, it would be extremely dangerous.¹³²

Wang Gun's nutmeg powder offered a possible third path. On the one hand, it contains typical sweating and purging medicines such as cassia and rhubarb. Its instruction also states a patient after taking this powder shall “be covered [with a quilt]” (蓋覆) in order to promote sweating, and shall also observe faeces, which can be slightly unshaped (稍溏利).¹³³ On the other, its namesake main ingredient, nutmeg (*rou doukou* 肉豆蔻), had neither sweating nor purging efficacies, but, like cloves and pepper, was mainly for “warming the centre and curing accumulated cold” (溫中，治積冷) and for treating various digestive problems including sudden turmoil (cholera).¹³⁴ These efficacies were valued in this therapy for reconciling the supposed side effects of the purging and sweating medicines upon the digestive system, and for warming the vital force of patients to survive through this critical illness.

Besides the “double-infected cold damage”, concerns over the manifestation of digestive disorders and *qi* depletion in the course of cold damage also encouraged the use of exotic spices and aromatics. Wang proposed an agarwood powder (*chenxiang san* 沉香散) to treat a cold damage syndrome of “vomiting, blockage, depletion and weakness of true *qi* in the chest, and sinking and fine pulse” (傷寒嘔、結痞、心胸真氣虛弱，脈息沉細). It consisted of an equal amount of agarwood, fennel seeds imported from ocean-going ships (*boshang buixiang* 舶上茴香), green tangerine peel, pepper, Sichuan Chinaberry fruit (*Chuan lianzǐ* 川棟子), and tangerine peel. After taking a certain

¹³² Wang, *Waitai miyao fang*, *juan* 1, 1.

¹³³ Wang, *Boji fang*, *juan* 1, 4.

¹³⁴ *Chongxiu Zhenghe jingshi zhenglei beiyong bencao*, *juan* 9, 231.

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amount of decoction made of this compound, Wang believed even a severely ill patient would feel “*qi* turns upright and pulse grows” (氣正脈生).¹³⁵

Concerns over digestive disorders in the course of cold damage treatment were shared by the members of the Bureau for Revising Medical Texts. Installed by the Northern Song imperial government, this Bureau edited, printed, and standardised a series of important medical texts in the mid-eleventh century to guide clinical practices in China. Among them was the so-called “Song edition of *Treatise on Cold Damage*” (*Songben Shanghan lun* 宋本傷寒論).¹³⁶ Published in 1065, this edition had some important differences from the earlier edition incorporated by the *Formulary of Sagely Grace of the Taiping Period* (992).¹³⁷ Among them, a critical change is the first clause of the Great Yin pattern.

This clause defines that the typical symptoms of the Great Yin pattern include vomiting and diarrhoea. For treating this syndrome, the original text in the *Formulary of Sagely Grace of the Taiping Period* suggests that “if the pulse (of the patients) is floating, make them sweat; if their pulse is sinking, it is suitable to attack the interior [with purging]” (若脈浮者，可發其汗。沉者宜攻其裡).¹³⁸ These two manifestations of pulse correspond to the two major stages of cold damage. The floating pulse indicates that the pathology has yet to reach the interior and can be sweated out from the surface; and the sinking pulse suggests that the pathology has already entered the interior and shall be purged (attacked). Therefore, this advice exactly follows the principle of the *Inner Canon*. However, the Song edition of *Treatise on Cold Damage* replaces it with a completely different sentence that “if one purges, hardness will form under the chest” (若下之，必胸下結鞭).¹³⁹ The “hardness” under the chest

¹³⁵ Wang, *Boji fang*, *juan* 1, 3.

¹³⁶ For the background of this Bureau, see Goldschmidt, *The Evolution of Chinese Medicine*, 87-101; Fan, *Beisong Jiaozheng Yishuju xintan*, 67-80.

¹³⁷ Makizumi, “Songban *Shanghan lun* de teshuxing”; idem, “Guanyu shanghan sanyin sanyang de bingtai lun”.

¹³⁸ Wang et al., comps., *Taiping shenghui fang*, *juan* 8, 221.

¹³⁹ Zhang, *Shanghan lun*, *juan* 6, 66, clause 273.

implies a congealing around the diaphragmatic region and blocks food from entering the stomach.¹⁴⁰ This caveat makes purging no longer an option for the treatment of the Great Yin pattern, once there is a typical syndrome of vomiting and diarrhoea.

Textual changes like this encouraged Chinese physicians to reconceptualise cold damage. Shortly after the publication of the Song edition of *Treatise on Cold Damage*, a renowned physician specialising in cold damage, Han Zhihe (fl. late 11th c.), published one of the earliest explications of this treatise, in which Han proposed that, for most yin-pattern cold damage, purging should be replaced with warming the centre. He criticised that his contemporary physicians who, following the principle of “purging for the three yin”, tended to prescribe purgatives once they diagnosed a patient’s pulse was sinking and chest diaphragm felt full. That practice, according to Han, unfortunately, led to many deaths. Han instead suggested that many patients, whose pulses fit the three yin patterns of cold damage, also had symptoms of vomiting, *qi* blockage (*qisai* 氣塞), abdominal sounds, or abdominal pain, which were particularly common in the summer.¹⁴¹ This observation suggests that many of Han’s patients were not suffering from narrowly defined cold damage, which was contracted in winter, but from broadly defined cold damage, which had different manifestations through other seasons.¹⁴² Han believed that these syndromes demonstrated overabundance of yin in the interior and demanded a

¹⁴⁰ For the concern over blocking in Chinese medicine, see Scheid, “Promoting Free Flow in the Networks.”

¹⁴¹ Han, *Shanghan weizhi lun, juan xia*, 32-33.

¹⁴² The *Inner Canon* suggested that cold damage contracted in winter could develop into warm diseases (*wenbing* 溫病) in spring. Another medical canon, *Classic of Difficulties* (*Nanjing* 難經, ca. 1 century CE), further elaborated that cold damage had five patterns, including wind strike (*zhongfeng* 中風), cold damage (*shanghan* 傷寒), damp warmth (*shiwēn* 濕溫), febrile diseases (*rebing* 熱病), and warm diseases (*wenbing* 溫病). Such a broad definition helped impose a functional-configurational model upon diverse contagious diseases, turning them into different manifestations of the non-contagious climate-induced cold damage in different seasons. *Huangdi neijing suwen, juan 3*, 15; *juan 5*, 20; *juan 31*, 93; *Nanjing jiaozhu, juan 58*, 103; Hinrichs, “The Catchy Epidemic,” 22-24; Unschuld, *Huang Di nei jing su wen*, 200-201.

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treatment outside the framework of sweating for the three yang and purging for the three yin, namely, warming the centre.¹⁴³

Han's preference for warming the centre rested upon his concerns over the aggressive treatments of sweating and purging. Han pointed out that, unlike the era of Zhang Zhongjing when there were grave social crises and wars, people of his age had been living in "great peace" (*taiping* 太平) for a long time. Their lives were relatively easy, and they indulged in vitality-wasting pleasure. As a result, their bodies became tender and fragile. To nourish life, wealthy families habitually took restorative medicines, leading to extra yang in their bodies.¹⁴⁴ As a result, on the one hand, it was dangerous to take a hot medicine such as cassia to sweat, because it would further raise up yang force beyond the capacity of their tender and fragile bodies.¹⁴⁵ On the other hand, it was also dangerous to quickly attack the pathology in the interior through purging, because patients' "depot and palace organs are tender and fragile" (臟腑柔脆) and "blood and *qi* are weak" (血氣虛弱).¹⁴⁶

The conceptualisation of a relatively weak body, which had not experienced wars, echoed a changing identity of Chinese political elites. A well-known theme in Chinese historiography about the Tang-Song Transition (c. 8th-12th c.) is that, in the Northern Song period, literati who held degrees through the civil-service examinations replaced semi-hereditary aristocrats as the ruling elites of the Chinese imperial state.¹⁴⁷ Potentially as major clients of a prominent physician like Han, their cultural awareness of being civil and literate, instead of military and war-like, had profound implications for the changing perceptions of the body in Chinese medicine. It limited the applications of aggressive therapies and facilitated the rise of the conservative warming the centre therapy.

¹⁴³ Han, *Shanghan weizhi lun, juan xia*, 32-39.

¹⁴⁴ Ibid, appendix, 58.

¹⁴⁵ Ibid.

¹⁴⁶ Ibid, *juan shang*, 22.

¹⁴⁷ Bol, "This Culture of Ours"; Tackett, *The Destruction of the Medieval Chinese Aristocracy*.

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For warming the centre, Han proposed a group of mildly warming formulae. The first formula he proposed was a “warming the centre drink” (*wenzhong tang* 溫中湯). Its major ingredients were clove bark imported from ocean-going ships (*boshang dingxiang pi* 舶上丁香皮) and magnolia bark. Its minor ingredients were dried ginger, *baizhu* (*Atractylodes macrocephala* 白朮), clove twigs, and tangerine peel. It was also recommended that if one felt counterflow cold of the hands and feet (手足逆冷) and vomited, more clove bark and dried ginger should be added. Its main function was to deal with pathogenic cold in the stomach.¹⁴⁸

Another prescription, “magnolia bark drink” (*houpo tang* 厚樸湯), carried exactly the same name as a popular health drink. Its major ingredients were *danggui* (*Angelica sinensis* 當歸), magnolia bark, liquorice, clove twigs, and dried ginger and its minor ingredients were *xixin* (*Asari Radix et Rhizoma* 細辛) and ginseng. The drink was mainly for dealing with the overabundance of yin in the body.¹⁴⁹ By the late eleventh century, a beverage of the same name was regularly served by guards of the imperial palace to officials attending an audience with the emperor.¹⁵⁰ There was also a magnolia bark drink in the formulary of the Imperial Pharmacy. Its ingredients contained no *danggui* and *xixin*, but had additionally jujubes and clove bark. It dealt with a symptom akin to the overabundance of yin in the interior, namely, “depletion cold in the spleen and the stomach” (脾胃虛冷). The formulary touted long-term consumption of this drink could “warm the centre, soothe *qi*, and stimulate appetite” (常服溫中，順氣，進飲食).¹⁵¹

¹⁴⁸ Han, *Shanghan weizhi lun, juan xia*, 33-34.

¹⁴⁹ Ibid, 34-36.

¹⁵⁰ Liu, “Kezhi ze shecha, yuqu ze shetang,” 137-138; Sima, “Sima wengong shihua,” *juan* 88:9b.

¹⁵¹ Chen, Pei, and Chen, comps., *Taiping huimin heji jufang, juan* 10, 395-396.

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Into the early twelfth century, warming the centre would gain further ground along with Chinese changing perceptions of the pathology of cold damage. In his influential *Book for Saving Lives* (*Huoren shu* 活人書, 1118), Zhu Gong (fl. late 11th-early 12th c.), no longer adhered to the six conduit-vessel model of the *Inner Canon*, which stated that cold damage only began with contracting pathogenic cold from the surface through the Great Yang conduit vessel and then step-by-step moved to the interior yin conduit vessels. Instead, explicating a vaguely defined division between yin and yang patterns in the *Treatise on Cold Damage*, Zhu suggested that yin-pattern cold damage could be directly contracted via yin conduit vessels, without first going through yang conduit vessels. Zhu believed this occurred when “cold things damaged the spleen and the stomach” (冷物傷脾胃) and should be immediately treated with warm medicines.¹⁵² This interpretation blurred the boundary between cold damage, which was supposedly caught externally from environmental factors, and digestive ailments, which were supposedly damaged internally by irregular diet.¹⁵³ It would, on the one hand, further encourage the use of warming exotics, and, on the other hand, become a major target of criticisms from a new medical culture emerging in North China during the Jurchen Jin period, to which we will return in the final section of chapter two.

Conclusion

Before concluding this chapter, let us once again have a look at the famous early-twelfth-century cityscape scroll of the Northern Song imperial capital, *Along the River During the Qingming Festival*. The scroll depicts a pharmacy called “Home of the Imperial [Medical Service] Director Zhao” (Zhao Taicheng Jia 趙太丞家) on a busy street (Figure 1.2). The clients and physician in this pharmacy are

¹⁵² Zhu, *Shanghan leizheng huoren shu*, juan 4, 36-37, 41.

¹⁵³ For an overview of the treatment of digestive ailments in cold damage medicine, see Liu, “*Shanghan lun piwei xueshu*.”

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all decently dressed, peaceful, and respectful. These features signify their elite status. The signs in front of this pharmacy, as TJ Hinrichs has noted, evoke its focus on ailments caused by “overindulgence in food and wine”.¹⁵⁴ Yet a closer reading of this image reveals that the patient in this pharmacy is a baby, who is unlikely suffering from any overindulgence of food and wine at her/his age. We may therefore assume that this pharmacy specialises in internal and digestive ailments associated with food and drink.



Figure 1.2 An elite pharmacy in *Along the River During the Qingming Festival*, attributed to Zhang Zeduan (fl. early 12th c.).

¹⁵⁴ Hinrichs, “The Song and Jin Periods,” 117-118.

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Source: Palace Museum, Beijing.

Two of its front door banners tout two popular medicines. One is “great ordering the centre pills for curing intestine and stomach [disorders]” (大理中丸醫腸胃?). The other is “the authentic prescription of assembling fragrance pills for treating hangovers” (治酒所傷真方集香丸). The “great ordering the centre pill” was an updated version of the above-mentioned “ordering the centre pill” in Zhang Zhongjing’s cold damage medicine. From the original four ingredients consisting of ginseng, dried ginger, liquorice, and *baizu*, it now evolved into a complicated compound consisting of fourteen ingredients, including fennel seeds, pepper, and cloves, as follows:

Magnolia bark, cassia, tangerine peel, *baizhu*, liquorice, *xiongqiong* (*Ligusticum chuanxiong* 芎藭), *wuweizi* (*Schisandra chinensis* 五味子), *suosha*, fennel seeds, areca nuts, sal ammoniac (*naosha* 硃砂), dried ginger, pepper, and cloves.

Its function, according to a large compilation of formulae organised by Emperor Huizong (r. 1100-1126), was for treating “depletion of the spleen, obstacle of chest diaphragm with heart-pressure, tugging pain in the heart and the abdomen, and lack of appetite for drinks and food” (脾虛胸膈痞悶，心腹撮痛，不思飲食).¹⁵⁵ The pill was not only sold by this elite pharmacy for treating disorders of “the intestine and stomach”, but also taken by Emperor Huizong himself for treating a spleen ailment caused by “eating too much ice” (食冰太過).¹⁵⁶

The “assembling fragrance pill” appears in the formulary of the Imperial Pharmacy, which advocates that this pill could cure:

All kinds of *qi* illness, pain of the diaphragm with heart-pressure, distention and fullness in the [region of] flanks and ribs, pain in the heart and the abdomen, belching *qi* and sour swallowing,

¹⁵⁵ *Shengji zonglu*, *juan* 44, 835.

¹⁵⁶ Li, *Bencao gangmu*, *juan* 5, 395.

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vomiting with [qi] counterflow and nausea, and unwillingness to drink and eat; or damage by hangovers and disharmony among the spleen and the stomach. [It] cures them all together.

治一切氣疾，胸膈痛悶，脇肋脹滿，心腹疼痛，噫氣吞酸，嘔逆惡心，不思飲食，或因酒過傷，脾胃不和，並皆治之。

This all-purpose digestive agent consisted of overwhelmingly spicy and aromatic ingredients including “white cardamom, *suosha*, putchuk, turmeric, cloves, *xiangfuzi* (*Cyperus rotundus* 香附子), musk, and liquorice”. The Imperial Pharmacy even recommended customers “take this pill regularly to broaden the centre and soothe *qi*, dissolve wine remaining [in the body] overnight, promote drinking and eating, wear out accumulation and sluggishness, and remove concretion-illness lumps” (常服寬中順氣，消宿酒，進飲食，磨積滯，去癥塊).¹⁵⁷

Being advertised by an elite pharmacy in a cityscape painting representing the prosperity of the imperial capital of the Northern Song dynasty, these two pills are a testimony to the florescence of a unique medical culture, in which exotic spices and aromatics were widely and often indiscriminately prescribed for warming (*wen* 溫), ordering (*li* 理), or broadening (*kuan* 寬) the centre of the body in order to cure, replenish, and energise the digestive system, whose well-being was considered essential for sustaining a healthy body and for treating dangerous diseases such as cold damage.

Tracing the rising trajectory of this medical culture, we can identify two important stages. The first stage was roughly from the seventh through the tenth centuries, when some previously hardly-known exotics such as pepper were integrated into Chinese medicine. This integration did not immediately turn them into digestive agents. Instead, in the beginning, they often assumed other functions, such as removing phlegm, dyeing hair, perfuming the body, or exorcising demons.

¹⁵⁷ Chen, Pei, and Chen, comps., *Taiping huimin heji jufang*, juan 3, 123.

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Thereafter, by the tenth century, they were assembled as warming and digestive agents for treating the spleen and the stomach in the centre of the body. Whereas the wider context of this assembling demands further research, from the case of pepper and *bidengqie* we may find that there were inter-textual communications among spices that shared similar shape, flavours, or names. These underlying links facilitated the borrowing of medical properties among each other and led to a convergence towards warming digestives.

In the second stage, roughly throughout the eleventh century, these warming exotics were met with a changing perception of a mainstream Chinese medical theory, cold damage, which turned to favour the mild therapy of warming the centre over the aggressive therapies of purging and sweating. In this process, the medical functions these exotics acquired in the first stage dovetailed a strong desire of the new social and political elites of the Chinese imperial state, namely, the literati, for mildly treating their self-perceived civil and literate body. After these changes, by the twelfth century, exotic spices and aromatics had become an integral part of Chinese medicine, widely perceived as warming and digestive, and intimately tied to food and drink. Thereafter, from these warming and digestive exotics, pepper would further emerge as a daily used condiment in Chinese cuisine, in connections with the forthcoming maritime expansion of the Mongols in a Trans-Indian Ocean World.