Article

A Medieval Daoist Drug Geography: The *Jinye Shendan Jing* as a Novel View on the Circulation of Medical Knowledge in Asia

Michael Stanley-Baker [1,*], J. E. E. Pettit [2,*] and Dolly Yang [3]

[1] History and LKC School of Medicine, Nanyang Technological University, Singapore 639818, Singapore
[2] Department of Religions and Ancient Civilizations, University of Hawai'i at Mānoa, Honolulu, HI 96822, USA
[3] China Centre for Health and Humanity, University College London, London WC1E 6BT, UK; dollyyang@gmail.com
* Correspondence: msb@ntu.edu.sg (M.S.-B.); jeep@hawaii.edu (J.E.E.P.)

Abstract: This article studies the *Taiqing jinye shendan jing* 太清金液神丹經 (Grand Clarity Scripture of Divine Elixir Made from Liquid Gold, hereafter Scripture of Liquid Gold), attributed to Ge Hong 葛洪 (283–343 CE), to examine the intersection of religion, science and medicine in China. Passages from the *Scripture of Liquid Gold* describe the healing powers of drugs and highlight ways medieval writers imagined the transmission of medical knowledge, as well as the specific places producing potent substances. The text provides a view that contravenes standard narratives of foreign medical migration that vector into China via Buddhist channels. As such, we argue that it provides a novel view of medical migration in its time period. As one of the early sources on physical geography and trade goods from Southeast Asia, it is an important resource for early knowledge of the region and is one of the earliest examples of possible Daoist religio-technical continuities between the regions.

Keywords: alchemy; travelogue; Ge Hong; Daoism

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1. Introduction

Asian religions and medicines speak to multiple aspects of the ways we situate the world around us. This paper focuses on the intersection of healing and Daoism in mediaeval China. We use a travelogue attributed to fourth-century writer Ge Hong 葛洪 (283–343), but it was probably composed by an unnamed editor sometime in the sixth or seventh centuries, whom, for reasons described below, we refer to as "Pseudo Ge Hong."[1] Our analysis of this text underscores how knowledge of drugs circulated through local networks that were connected by personal relationships and oral or epistolary transmission, as well as through travel, trade and inter-ethnic encounters. These networks gave rise to multiple paths to salvation and methods of curing, resulting in differently patterned circulation of drugs. Geographic sources for drugs formed an important aspect of notions of their perceived effects from at least the 3rd century CE. The regions from which plants, animals and minerals were sourced formed important aspects of their efficacy, and succeeding editions of the pharmacological tradition (*Bencao* 本草) are characterised by debate about how drugs of similar types or similar names vary substantially depending on their origins (Liu 2021; Springer 2022; Stanley-Baker 2023b). Distance and difficulty of access formed an important factor for increasing the wonder and exotic appeal of alchemical products, especially the broad type of non-plant "excresence" known as *zhi* 芝 (Campany 2002, pp. 27–29; Stanley-Baker 2013, pp. 169–75).

It has recently come to light that a critical part of this access to drugs, and possibly a determining factor of which drugs were included in the herbal canon at all, was littoral trade (Bian 2020; Stanley-Baker 2023b). Only once the materia medica sources are mapped from above using GIS does it become clear that critical trade routes along the Yellow River formed important networks, with holy sites and major urban areas forming nodes along

it. Almost universally, the sources for drugs in the early layers of the *Bencao* are all placed along rivers, demonstrating a key relationship between economic commerce, expanded communication networks and the formation of the medical tradition that is only hinted at within the pages of the texts themselves. These sites of drug production were techno-social complexes which "translated" potent materials from "wild" or distant regions into domesticated, pharmacological purview. There is an observable increase in intertextual debate about geographic sources in succeeding editions of the *Bencao* through the Tang dynasty and beyond (Chen 2011; Liu 2021). As such, authors sought to identify correct identities for drugs and to disambiguate local variants and terminology. By the end of the fifth century, drug networks described in the pharmacological tradition extended as far as Northern Manchuria, Gansu, Vietnam and Phnom Pen, and further on to the "South Seas" (Nanhai 南海) (Stanley-Baker et al. 2020a). See Figure 1.

Figure 1. Extent of Chinese Pharmacological Network in Tao Hongjing's *Bencao jing jizhu*. (Stanley-Baker et al. 2020a).

Within Chinese medical historiography, there have been a number of approaches to medicine and religion which are sensitive to the problems of inserting a pre-modern "rationality" into early texts. Standard histories of Chinese medicine, pointing to the double role of early *wu* 巫 as healers and diviners, mark off the composition of the *Huangdi neijing* 黄帝内經 (*Inner Canon of the Yellow Emperor*) corpus as the point of separation between a rational medicine grounded in five agent theory, *yin-yang* and meteorological concepts and religious healing (Chen 1954; Wei and Nie 1994; Chen et al. 1999). Guided by a teleology of contemporary scientised Chinese medicine, or Traditional Chinese Medicine (TCM), these works foreground only its antecedents while minimising or neglecting to mention the spread and impact of religious medicine. Where any indication of the diversity of the medical market is given, such narratives refer simply to Daoism, characterising it as a post-Han outgrowth of *wu* medicine and taking the form of talismans and incantations (*fuzhou* 符咒).[2] Some narratives extend to the introduction of Buddhist medicine, Indian four elements theory, and conclude with their failure to penetrate Chinese medical thought (Unschuld [1985] 2010, pp. 132–88).

In recent years, a more nuanced perspective has emerged under the overarching research term "Buddhist Medicine" as a scholarly category (Salguero 2022). The lion's share of research on Buddhist Medicine in China depicts the migration of Buddhist or South Asian practices and concepts concerning bodily health into China, being locally adopted, translated and transformed in China, whether by ordained Buddhists or laity (Salguero 2014, 2017; Salguero and Macomber 2020). The extensive work of Chen Ming, but in particular his study of Western drug-sellers coming into China along the maritime and land Silk Roads, demonstrates the widespread interest in foreign drugs at all levels of society, both urban and rural (Chen 2013, 2022).

Daoists' search for potent materials was also a driving force during the Six Dynasties and Tang periods, but it took place through different vectors. While surviving literature shows occasional traces of interest in imported exotic medicines, foreign goods and foreign genres of medicine, in the main, they sought materials within the *imaginaire* of the Middle Kingdom and within the epistemic frame of medicinal and alchemical theory. Powerful exotics and knowledge about them were generally thought to be sourced from the fringes of civilisation, from figures who lived partially in the wild and translated materials into marketplaces and domestic circulatory networks, or from celestial realms, heavenly visions or encounters in dreams (Campany 2009). The very written form for those agents who translated those powerful materials from their distant realms into circulation within normal human domains, transcendents (*xian* 仙), is a combination of human and mountain, and invokes their boundary status across realms of the human, the wild and the divine. The realms where they resided, such as Penglai 蓬萊, Fangzhu 方諸 or Kunlun 崑崙, were considered beyond the realms of normal humans, yet served as models for their simulacra, mountain retreats of Daoist aspirants within China itself (Kirkova 2016; Wei 2019). While their materials and knowledge originated from "other" realms, their use and adaptation by humans in society were not contrary to indigenous knowledge forms, in the way that Buddhist medicine was, but extensions of them. In this way, they were unlike the practices and objects from foreign but all-too-human lands of South and Central Asia from whence Buddhist medical traffic originated.

2. Genres of Daoist Drug Texts

One of the dominant ways that Daoists explored healing techniques within and outside China was the circulation of information on materia medica and the various recipes in which they were used. Much of the foundation of recipe literature was developed centuries prior to religious Daoism in the Warring States and Han dynasties. Recent studies of excavated materials (texts and goods) have revealed different stories about changes in medical doctrine from the Warring States onward and the relationships between natural philosophy and occult thought (Harper 1985, 1994, 1998, 2010; Lo 2001a). These texts provide much more precision than received literature as to the periods and geographic regions in which five agents, *yin-yang* and *qi* theory, enter medical discourse as integrated ideas (Harper 1999; Lo 2001b). Apotropaic rituals, incantations and knowledge of demons and deities were well-dispersed throughout medical and other recipe (*fang* 方) texts excavated from Mawangdui 馬王堆 (186 BCE), Shuihudi 睡虎地 (217 BCE), Fangmatan 放馬灘 (230–220 BCE), Baoshan 包山 (323–292 BCE) and other sites (Lo and Gu 2022). *Fang* 方, or recipe literature, frequently appears in less organised manners than classical literature, which is often topically organised under chapter headings, and supported by a rich theoretical core. *Fang* literature is often technical rather than theoretical, with long lists of treatment methods rather than discursive analysis (Goldschmidt 2022).

Fourth and fifth-century CE Daoist sources reveal details that allow us to situate some recipes more precisely within personal circumstances and what conceptual frameworks were brought to bear on them. In the Upper Purity (Shangqing 上清) texts that arose in the 370s, for example, we find increasingly detailed ways of writing about the most effective minerals that were described as coming from the far reaches of northern and southern China (Stanley-Baker 2013, pp. 171–75). These prescriptions catered to an individual's spe-

cific physiological needs and varied with each clinical encounter. The recipes did not vary in the way that Zhang Zhongjing 張仲景 (150–219 CE), the author of the *Treatise on Cold Damage* (*Shanghan lun* 傷寒論), changed his recipes, for example, adding or subtracting elements from base formulæ, according to the physiological and aetiological profile presented in each case. The recipes were not modified to individual constitutions. They do, however, vary in transmission, as some recipes recorded in hagiographies are then slightly changed when discussed in the *Declarations of the Perfected* (*Zhen'gao* 真誥) (Stanley-Baker 2014). Different recipes were prescribed for different conditions; the basic approach is thus closer to early *fang* recipe literature, where little or no consideration for recipe alteration is included in the recipes.

In contrast to the relatively static nature of the recipes themselves, the contexts in which they were prescribed did vary and tell us a great deal about the situational thinking involved in giving prescriptions: considerations of the person's status within the sect, age, state of health and stage of cultivation. The recipes can be usefully divided up into two major categories, both adapted from Hsieh (2002, 2005) and Xiao (2005), but which Stanley-Baker (2013, pp. 186–210) terms "Progressions" and "Prescriptions." The former, "progressions," refers to recipes prescribed as part of a scaled set of practices like those discussed in the previous chapters on drugs and massage and were intended to advance Daoist practitioners in their self-cultivation. These progressions were idealised means to stratify the relative spiritual and social authority of practices and practitioners. They further organised empirical observations about relative states of health, the efficacy of different practices and ideas about best practices for combining them. Consequently, this preserved this knowledge across generations of practitioners. Their presence in hagiographies raises the question of their status as restricted formulas (*jinfang* 禁方) and the degree to which they circulated only within the circle of Upper Purity initiates or more broadly within the community.

The second category, prescriptions, refers to recipes prescribed outside of an explicit context of cultivation, which focuses specifically on curing disease. These were prescribed as a form of clinical response in which samples and compounds were chosen for their suitability to treat specific disease conditions. These prescriptive texts served people in their wider social network and addressed entirely pragmatic concerns. This network was not limited to initiates seeking spiritual transcendence but extended to the wider community, including friends, mothers and children.

These two categories are heuristic. Progression recipes were also effective against the disease, and their prescription accounted for individual conditions such as age, illness and physical stamina. The categories refer as much to the contexts in which they were transmitted as they do to the recipes and their functions. These contexts played an important role in determining what could and could not be transmitted and to whom. The progression implies a long-term relationship of mentorship, care and, importantly, initiation. Esoteric recipes did not circulate into the broader community. The power and authority of these recipes were bolstered by their secrecy. By contrast, prescriptions were dispersed as favours along social networks conditioned by a gift economy in a temporal arc which ended with the resolution of the disease.

3. The Drug Geography of the *Scripture of Liquid Gold*

One striking yet understudied example of a genre of drug writing in Daoism is found in the third fascicle of *Scripture of Liquid Gold* (DZ 882), a text preserved in the *Daoist Canon*. The first fascicle of this scripture is concerned with material practices for creating alchemical products; the second contains poems and metaphoric framings of the properties, value and origins of the drugs. The first two fascicles contain a preface attributed to Zhang Daoling 張道陵 (34–156 CE), the founder of the Celestial Masters (Tianshi 天師) sect. The last fascicle is a geographic treatise detailing the lands to the south and west of China. It provides rich detail of the geographic imagination of the far corners of the world (including Persia and Rome) from where the drugs came. The travelogue includes notes on the cul-

tural and physical features of roughly 30 states, the majority of which are located in Southeast Asia. There is a particular emphasis on the mineral and botanical specimens of these countries and the ways residents use them in healing potions and alchemical elixirs. The structure of this fascicle, preceded by two fascicles on technical and aesthetic elements of alchemical practice, leads us to consider this travelogue a "Drug Geography." It follows the first-person pattern of a travelogue, replete with personal transformation, self-reflection and the experience of revelation and wonder at new ethnic encounters, and has the regular structure and attention to detail of a gazetteer. It also shows intertextual borrowing from contemporary gazetteers, which reflects an intended audience looking for accounts on the various regions one might acquire material goods to construct alchemical recipes. As such, we consider this somewhat akin to the geography of sacred sites and numinous herbs around Mt. Mao 茅山, composed by Tao Hongjing (*Zhen'gao* DZ 1016 *j.* 14; Pettit 2019).

The *Scripture of Liquid Gold* is distinct from both early pharmacology and also Daoist alchemical works, offering an entirely different view on potent substances that transform individual health and stave off death. In constructing a narrative of Ge Hong travelling south past the standard limits of his travels to Lingnan 嶺南 and Mt. Luofu 羅浮山 (southern Guangdong and Guangxi), as described in hagiographies, court histories and his own biography (Wells 2003, 2011), the *Scripture of Liquid Gold* imagines him writing a travelogue that takes him further south into Vietnam and finally, Phnom Penh, where he engages many different kinds of travellers and wondrous jewels and goods from hitherto unimagined realms. The regions featured in the text are as follows.

4. Regions (In the Order They Appear in the Text)

Xianglin 象林 (MC[3] zjangX-lim. Viet. Tượng Lâm. Modern-day Thừa Thiên Huế province)[4]

Funan 扶南 (MC: bju-nom, Viet. Phù-Nam. Modern-day Cambodia)[5]

Dianxun 典遜 (MC tenX-swonH) (Tanintharyi Region, SE Myanmar)[6]

Dubo 杜薄 (MC duX-bak) (ancient Touboc, now Cotobato, Philippines)[7]

Wulun 無倫 (MC mju-lwin. Murunda kingdom, modern Odisha, India)[8]

Gouzhi 句稚 (MC: Kuw-drijH) (Takuapa, Thailand)[9]

Geying 歌營 (MC ka-yweng)[10]

Linyang 林楊 (MC lim-yang, Mon, Myanmar)[11]

Jiachen 加陳 (MC kae-drin)[12]

Shihan 師漢 (MC srij-xanH, Sri Lanka)[13]

Huli扈犁 (MC huX-lej) (Calcutta, W. Bengal)

Sitiao 斯調 (MC sje-dew)[14]

Yinzhang 隱章 (MC 'j+nX-tsyang)

Daqin 大秦 (MC daH-dzin) (Byzantium)[15]

Gunusitiao 古奴斯調 (MC kuX-nu- sje-dew)[16]

Chalao 察牢 (MC tsrheat-law)[17]

Yebo 葉波 (MC ngjaep-pa, Peshwar, Pakistan)[18]

Jibin罽賓 (MC kjejH-pjin, Gk. Kophen, Kashmir)[19]

Yuezhi 月支 (MC ngjwot-tsye, Tokhara, Kushan Empire)[20]

Anxi 安息 (MC 'an-sik) (Persia)

Youqian 優錢 (MC 'juw-dzjen, Odisha, India)[21]

Other Regions Mentioned

Dukun 都昆 (MC tu-kwon)

Bisong 比嵩 (MC pjijH-sjuwng)

Linyi 林邑 (MC li◎m 'ip. Viet. Lâm Ấp. Modern day central Vietnam)[22]

Xitu 西圖 (MC sej-du)[23]

Puluo 蒲羅 (MC bu-la)[24]

Yanzhou 炎洲 (MC hjem-tsyuw)

Fulin 拂林 (MC phjut-lim, Byzantium)[25]

The authorship of the "Drug Geography" in DZ 882 is unclear. The text includes a lengthy preface attributed to fourth-century polymath Ge Hong, though the claim is likely false. In the preface, the writer asserts that he had travelled to lands south of China (see below), which resonates with biographical accounts of Ge Hong readers who might have known. Those accounts assert that Ge lived in the mountains in the northeastern part of present-day Guangdong (Wells 2011, p. 358). Elsewhere, biographers claim that he had met the governor of Nanhai 南海,[26] Bao Jing 鮑靚, an individual also mentioned in "Drug Geography" (Wells 2012, p. 76). The author refers to himself in the first person as Hong 洪, which, while not a common convention for other 3rd and 4th-century prefaces in Daoist works, is consistent with Ge Hong's self-presentation in the autobiography appended to the *Baopuzi waipian* 抱朴子外篇 DZ 1187 (Ge Hong, 317b; Wells 2003).

There has been some discussion about when the text was produced. In general, the arguments waver between those who consider the work authentic to Ge Hong and those who feel it is a later attribution. Han () offers up a succinct summary of these positions and a few arguments in support of Ge Hong as the author.[27] As this work is the most recent statement on these positions, we rehearse them here and respond to them below.

A number of scholars argue that the work is by Ge Hong's hand, at least in part. Chen (1963, p. 377) takes the attribution at face value, Feng (1994) points out southeast Asian materials in the *Baopuzi* 抱朴子 as evidence Ge Hong made the trip himself and Hongwu Ding (2005) argues that he made the journey during his first trip to southern China, but only wrote it in later in life. Zeng (2006) also agrees Ge wrote the work but points to typical Celestial Master terminology in the text, such as "Propitiate the Great Way" (*feng dadao* 奉大道) as evidence of later corruption of the text, as it is well known Ge Hong did not encounter the sect during his lifetime.

Rao (1970) and Wang (2010) argue the text is a later work, as it is derivative of the *Nanzhou yiwu zhi* 南州異物志 (*Record of Exotica from Southern Realms* NZYWZ) by Wan Zhen 萬震 (fl. third century), and was likely compiled in the late Six Dynasties period. They also point out that the Tang Dynasty scholar Du You 杜佑 (735–812) states in his *Tongdian* 通典 (Comprehensive Statutes), that a number of placenames such as Dubo 杜薄 and Wulun 無倫 were not heard of in China before the Sui Dynasty (581–618), nor Dianxun 典遜 (written as Dunxun 頓遜 in the *Tongdian*) before Liang (see above).

Having rehearsed these, Han goes on to argue that Ge was the author and grounds his argument in three "facts" and two "mistakes" of previous scholarship. The first fact is that Ge Hong went to Southern China twice in his life, once while a younger man and then after he retired and took up residence in Mt. Luofu to pursue alchemical work. Second, cinnabar was hard to get hold of and suffered from irregular supply, as widely attested to in medical writings and esoteric biographies from the period. The third-century *Separate Records of Famous Physicians* (*Mingyi bielu* 名醫別錄) identifies Fuling 符陵 (near Chongqing) as a prime source for cinnabar, but by the fifth century, Tao Hongjing's *Collated Notes on the Materia Medica* (*Bencao jing jizhu* 本草經集注) says that supply there had dried up, and advises procuring Yue 越 cinnabar (Vietnam) through Linzhang 臨漳 in coastal Guangxi (Stanley-Baker et al. 2020b). The distribution of supply sources in this passage can be seen in Figure 1, highlighting Linzhang. The *Declarations of the Perfected* also describes aspirants moving from their retreat site in Mt. Heng 衡山 to Guangzhou because their supply of cinnabar was interrupted.[28] Ge Hong also described the lack of materials as a key obstacle to his own alchemical practice during his early life.[29] Third, Han points out a discrepancy between Ge Hong's preface in the *Baopuzi* and his autobiography in the *Jinshu* 晉書 (Book of Jin), which records different amounts of chapters in the text.[30]

The first "mistake" Han points to responds to Zeng Dahui's argument about "propitiating the great way" (*feng da dao*奉大道) by pointing to a number of places where Ge Hong mentions the "Great Way" (*dadao* 大道) in the "External Chapters" (Waipian 外). The second "mistake" Han points out is that the placename Dubo was not only encountered in

the Sui. The *Fayuan zhulin* 法苑珠林 (Forest of Gems in the Garden of the Dharma FYZL) produced in 668 by Daoshi 道世 (d. 683) cites the name from the third century NZYWZ by Wan Zhen.[31] Han also argues that the name Zhubo 諸薄is an alternate rendering for Dubo, citing a quotation from the third century in Kang Tai's 康泰 (fl. third century) *Wushi waiguo zhuan* 吳時外國傳 (Traditions of Foreign Countries, from the Wu period)[32] found in the 10th century *Taiping yulan* 太平御覽 (Imperial Readings of the Taiping Era, TPYL).[33] Finally, Han rehearses a number of classical allusions and historiolas, which he finds in common across the "Geography" and the *Baopuzi*.

These arguments notwithstanding, we do not consider the text to be from Ge's hand. First, the problem of variable cinnabar supply does point out an important general motivation for the southward gaze in the "Drug Geography," but the evidence Han presents does not mean Ge Hong had to go any further south than Guangzhou or Linzhang. It rather proves the point that he did *not* need to leave Mt. Luofu, as Yue cinnabar was traded in his backyard. Tao Hongjing describes not just Linzhang but also Guangzhou, where Luofushan is located, as noted points of supply (See Figure 2). It is also to Guangzhou that the transcendents in the *Declarations* travelled, not Linzhang. Furthermore, the spread of the pharmacological network in Tao Hongjing's *Bencao* (Figure 1) only reaches as far south as Funan 扶南, which is the starting point for the "Drug Geography."[34] None of the itemised locations listed in the "Drug Geography" appear in Tao's annotations. It is highly likely that Tao had access to everything Ge Hong wrote. The two writers were part of the same family network, and Tao held Ge's work in high regard. Tao, who was known for meticulousness, close textual filiation and manuscript collection, revised and edited Ge's *Zhouhou beiji fang* 肘後備急方 (Recipes to Keep Close at Hand for Emergencies) (Stanley-Baker 2021). To claim that Tao Hongjing would not have included Ge Hong's work on drug geography requires considerable justification.

Figure 2. Cinnabar productions sites in Bencao jing jizhu. (Stanley-Baker et al. 2020b).

With regard to language use, "Drug Geography" refers to religious practice in ways that do not appear in the *Baopuzi*. Han's examples from the *Baopuzi* are not equivalent to the Celestial Master term "propitiating the Great Way" (*feng da dao* 奉大道) mentioned by Zeng Dahui. His examples do not use the verb "propitiate" (*feng* 奉) and do not refer to anything like "religious worship." Where the "Drug Geography" uses *feng da dao* 奉大道 (3.9b, 3.10a,

3.14b), it clearly refers to the ritual practice in those regions, which is obviously Buddhism given the region, but without differentiating from Daoism. Where it simply uses the simple *da Dao* 大道 without *feng* 奉 (3.9b, 3.8a), it refers to broad roadways, a literal usage that does not appear in the *Baopuzi*. Additionally, the preface to the "Drug Geography" speaks of the different "faiths" (*xin* 信) present in the world. This meaning of *xin* as "faith" would only later come to refer to belief systems; in Ge Hong's time, the word meant "trust" or "conviction" rather than a reified system of practice, and all instances of the term in Ge Hong's autobiographies are restricted to this usage (*Baopuzi neipian j.* 20; *Baopuzi waipian j.* 51). As a further note, the "Geography" uses the term Zhanghai 漲海 for the South China Sea, whereas Ge Hong and Tao Hongjing both use Nanhai 南海. Finally, changing *juan* numbers in different editions is not necessarily an indicator of different content and can simply be due to different editions of the same content. Ge Hong's *Neipian* autobiography states the same number of chapters as in the edition used today, 20 for the *Neipian* and 50 for the *Waipian*.[35]

5. In a Stroke: The Maluka Islands, Cloves and Chinese Drug Lore

A novel argument emerges with reference to the country Dubo 杜薄, and the claim that Du You was mistaken, and the placename Dubo was "only heard of in the Sui" (*Sui shi wen yan*隋時聞焉).[36] We add an important piece of botanical evidence into the account. As noted above, the debate about the name Dubo has claimed it to be a corruption of the name Shebo 社薄 (also written Zhubo 諸薄[37] or Shepo 闍婆[38]), which is a transliteration of Java. Note the close similarity between the components 木 and 礻 which make up 杜 and 社. The compiler of the "Drug Geography" adds his opinion on this matter, commenting that Dubo was an alternate name for Shepo (闍婆國名也).[39]

However, it cannot be the case that Dubo referred to Java, as Dubo produced cloves (*jishexiang* 雞舌香), which until 1800 only grew in one place in the world. Multiple citations of Wan Zhen's 萬震NHYWZ cite Dubo as the site for clove production, as can be seen in Du You's *Tongdian* (801) and the seventh-century FYZL.[40]

One of the most important plants in the history of global trade, cloves (*Syzygium aromaticum* (L.) Merr. & L.M.Perry), historically only grew in one place in the world, the Maluku (or Molucca) Islands south of the Philippines and east of Borneo. As is well-known, they were the motivation for the European spice trade and the Dutch colonisation of the Indonesian archipelago, which led to the Age of Discovery, which in turn had a profound influence on the development of European sciences. It was not until the beginning of the 19th century, when the British captured the islands from the Dutch, that the species was transplanted to other locations. Thus, we agree with Moens and de Touche (1940), who argue that Dubo refers to the port of Toubouc, an ancient name found in the oldest Dutch maps, on what is now known as Cotabato City, the capital of the Maguindanao region of the southern Philippines. A protected harbour just north of the Malukus, Maguindanao commands a strategic position for controlling sea access between Funan, the South China Sea and the Malukus. It would have made an ideal site for trading the spice to local seafarers.

Notably, another place name for clove production appears in Kang Tai's *Wushi waiguo zhuan* 吳時外國傳, rendered in later citations as Mawuzhou 馬五洲 (MC maeXnguXtsyuw) and Wumazhou 五馬洲 (MC nguXmaeXtsyuw).[41] It is possible historical linguists may be able to link this name with Maguindanao or with Maluku/Molucca, but we leave this as a question for future research.

Cloves appear in the Chinese record under different names from the fifth century onward. First time occurrences (*chuchu* 出處) documented in the pharmacological tradition include *mudingxiang* 母丁香 (*Leigong paozhi lun* 雷公炮炙論, 5th Century), *dingzi xiang* 丁子香 (Jia Sixie's 賈思勰 *Qimin yaoshu* 齊民要術 544) and *dingxiang* 丁香 (Zhen Quan's 甄權 *Yaoxing lun* 藥性論, 618) (Stanley-Baker et al. 2023). It is clear that Dubo was well-known to early Chinese geographers, and the trade of its goods was established early on.

Thus, we agree with Han Jishao that Dubo was known in China before the Sui and further demonstrate that trade from there was well-established. However, we disagree

that references to Shebo are interchangeable with Dubo.[42] The compiler of the "Drug Geography" was clearly unaware of this and made a mistake by inserting Shepo 闍婆 as a phonetic alternate to Dubo. It is neither phonetically parallel, nor can they refer to the same place. The Shepo alternate is further helpful for dating, as this rendering for Java only came into use in Buddhist travelogues from the fifth century onwards and is not like earlier renderings described in third century travelogues.

Such evidence calls strongly into doubt that Ge Hong wrote the "Drug Geography." The text is derivative of early travelogues, as it copies certain wholesale sections and then adds alchemical reflections later on to the passages. As an author, Ge Hong was extremely transparent when using other sources in his work, as seen in the preface to the *Zhouhou beiji fang* 肘後備急方 (DZ 1306). His work is highly original, and as an author, he did not take other sources and represent them as his own with constructed narratives.

For these reasons, we refer to the author/compiler of DZ 882 as "Pseudo Ge Hong." This acknowledges the first-person narrative position taken by the hand in the text, and that the text is not quite a "forgery" but occupies a mediate position of authorship in a discursive realm where gods often "spoke" through humans, and that humans who received such communications were entirely aware that the kind of voice used, and the subjectivity, was not exactly identical to a living person. Whether the composition was intended to be read as a "true record" or as one that he "might have written" is ambiguous in the fluid genres of authorship that circulated knowledge in Daoist communities.

A full critical textual filiation is still in process while members of the reading group are preparing a translation, but we can state at this point that the present text contains many textual parallels to the *Record of Southern Foreign Objects* (*Nanfang yiwuzhi* 南方異物志), as well as passages in the *New Tang History* (*Xin tangshu* 新唐書), *Journey to the Four Barbarian Lands* (*Siyi lucheng* 四夷路程), *History of the Song* (*Songshi* 宋史), *Book of Liang* (*Liangshu* 梁書), *Taiping Yulan*, *Tongdian* and others.

6. A Tang Work?

State interest in Southeast Asia arose in the Sui Dynasty with an increase in travellers from abroad and Emperor Yangdi's 煬帝 (r. 605–617) call for increased contact with faraway regions (Schottenhammer 2012, p. 73). Records of trade between China and states in Southeast Asia seem to have begun in earnest in the late eighth or ninth centuries (So 2000, p. 22). While some goods, most notably iron and iron tools, were traded across Southeast Asia in the medieval period, there was no sustained attempt to export these goods from China until the Song dynasty or later (Tagliacozzo and Chang 2011, p. 22; Lin 2018).

This evidence suggests that the manuscript preserved in the 15th-century Daoist Canon was likely compiled much later than its attribution to Ge Hong suggests. At the very least, the genesis of the text was not a personal journey but a compilation of passages from one or more contemporary travel writings. Han (2022, p. 96) suggests that imperial permission to travel would require evidence from regional surveys. Foreign experts in alchemy are known to have been hosted at the Tang court in the seventh century (Chen 2018), the same time when Xuan Zang 玄奘 (602–664) made his famous suit to travel west to acquire scriptures. Could this document have been produced as part of an attempt to lobby the court for alchemical travel abroad? The ambiguous usage of "Great Way" (*dadao* 大道) to describe Buddhism in foreign countries offers a clue. It is likely that this work was compiled in the Tang, and given the waning interest in material alchemy at that time, no later than the Tang dynasty.

A Tang date is not insignificant when considering the history of external alchemy. In the first 40 years of the dynasty, powerful voices at court had expressed a strong antipathy towards alchemical practice. Whoever the composer of the Daoist section of the *Sui Dynasty Bibliographic Treatise* (*Suishu Jingjizhi* 隋書經籍志) was, by 656 CE, they had composed a vicious attack on alchemical practice in the brief history of Daoism that is presented at the end of the treatise.[43] First criticising Tao Hongjing for distracting his emperor's time and attention and Emperor Wu of Liang (Liang Wudi 梁武帝) for his excessive faith in

alchemy, the treatise concludes that alchemy was a wasteful indulgence that failed the test of time (*Suishu jingji zhi* 30.1093–94).[44] We can be sure that authors of alchemical works from this period would have felt themselves to be on the defensive in certain contexts, and this may be a feature of the novel composition in the "Drug Geography."

The preface provides some clues about the composition and formation of the text. In the preface, Pseudo Ge Hong writes that a similar treatise, the *Record on the Similarities and Differences of the Southern Regions* (*Nanfang zhi yitong ji* 南方之異同記), had been written by an unknown author before him. He finds the information in this earlier work fairly reliable in its accounts of the foreign regions but complains that it missed important details of the marvellous and exotic wonders of these distant lands. He also claims to have visited some of the lands he describes, writing that he often travelled to the mountain range in Jiao 交, which could refer to areas between present-day Guangzhou and Hanoi, which is consistent with the real Ge Hong's biographies.[45] However, the "Drug Geography" narrative goes beyond known biographies and describes Pseudo Ge Hong travelling as far as Pnomh Pen (Funan 扶南) and staying there for at least a year. During the midsummer of his stay, he is said to have met many travellers from Southeast Asia, India *Tianzhu* 天竺 and Kushan 月支, and even Byzantium (*Daqin* 大秦) who introduced him to all of the different smaller countries of the world. No other travels by Pseudo Ge Hong are mentioned in the preface, so readers are meant to imagine that the details included in the "Drug Geography" were gleaned from his conversations with these travellers passing through Pnomh Pen.

7. Evidence over Tradition

The travel narrative compiled in *juan* 3, and the text as a whole, oscillates between poles of religious aspirations to immortality and pragmatic, materially grounded reasoning. The author values "common sense," practical, pragmatic evidence of one's own eyes, over canonical myth. These arguments are located within discussions of specific issues, such as geographic theories or the alchemical utility of certain materials, but do not argue a self-conscious epistemological debate about the role of sensory evidence in the validation of knowledge. As such, these arguments do not participate in a self-conscious tradition of experimental theory such as those expressed by Ibn al Haytham (d. 1040) and Francis Bacon (1561–1626) or epistemological reflection such as David Hume (1711–1776).[46] The goal of this author's analysis is to clarify the issues at hand, but he is not at pains to belabour any "mode of knowing" beyond understanding the specific facts at hand.

One theme that runs throughout the preface is that people outside of China were unaware of the healing benefits of the minerals present in those lands. Cinnabar, a key component in elixirs, was treated by people in foreign countries as if it were merely roof tiles and stones lining refuse pits. Others used it as if it were ash and clay, by-products of pottery construction. So, while these countries had ample resources to concoct recipes for long life, these recipes were unknown, and the people piled up precious resources and tossed them into trash heaps. Pseduo-Ge Hong refers to the evidence of his eyes, the reports of far-off travellers and his physical encounter with wondrous materials. Against this, he contrasts the assertions of the mythical founder Yao and his claims to have traversed the entire world and divided them up into the nine continents. Surely, the authors muse, Yao's claims must have been limited to China, for the sages of classical China were not capable of comprehending the vast regions of the world. He writes:

> If even a sagely worthy, who lets his mind roam and performs far-viewing, cannot fully explore [these lands], how could a simple scholar not have doubts? As for what is said in the *Zouzi* 鄒子, that is limited and incorrect.[47] From what I've heard, this has already covered the various states of the 19 continents [of the *Zouzi*]. There were rumors of more, but these have not yet been described in detail. How can they be recounted? Vast and wide, how could their limits be known? So, he (Zouzi) limited those numbers and spoke only of eight. When the sage(s) of antiquity considered the divine provinces of the Central Realm, they only matched the nine provinces (of China) to the eight trigrams [of the *Book of*

> *Changes*]. They equated them with the starry firmament above and aligned them with the heart of earth below. Thus, the nine provinces are where they lie.
>
> The other lands, though vast, are not of this order. It is said that their mountains are wondrous and the seas extraordinary. They have weird types (of animals) and strange breeds, precious and beautiful objects, and wonderous anomalies and dazzling gemstones. These fill the ears and overwhelm the eyes, startle the mind and stagger the imagination. Seeing such things that one has not heard of before, that are so strange and out of the ordinary, makes it difficult to comprehend and record them in detail. These extravagant, decadent baubles are certainly not objects for nourishing life!
>
> 雖在聖賢遊心遠覽，猶不能究况乎俗儒而不有疑？至於鄒子所云，阨而非實。但余所聞，自彼諸國已什九州，其餘所傳聞而未詳者。豈可復量？浩汗蕩漫, 孰識其極？乃限其數云有八哉。但古聖人以中國神州，以九州配八卦。上當辰極下正地心。故九州在此耳。其餘雖廣非此列。云及其山奇海異、怪類殊種、珍寶麗物、卓譎瑰瑋，盈耳溢目，驚心愕意。既見而未聞者，詭哉不常，難可詳而載也。此皆奢侈之外玩，非養生之所求矣奚！ (DZ 882, 3.2a–b)

In this passage, the narrator argues with the limitations of classical cosmology, based on the evidence of his own eyes, as well as on the accounts of travellers who had been to these lands. He is cognizant of the limits of the scientific frameworks of the world from his time and place, and uses empirical evidence to negotiate these classical frameworks and establish a new descriptive paradigm. He argues not only with the myth of Yu's 禹 marking out of the nine continents but also with Zou Yan's later apologetic cosmology. As described in the *Shiji*, Zou argues that the Nine *Lands* (*jiuzhou* 九州) defined by Yu 禹 the Great were not continents, but subdivisions within the Central Realm, to which he gives the name Red Counties of the Divine Continent (*chixian shenzhou* 赤縣神州). In addition to the Central Realm, there were nine other continents, alike in kind to the Divine Continent, thus ten continents in all. This is the source for Pseudo Ge Hong's total figure of nineteen *zhou*; that is, ten continents and nine provinces.

There's a significant decentring of Chinese cosmology and scientific debate that takes place here, which is notable in the history of science and religion in China. The mirroring of Heaven and Earth to the nine provinces, a foundational image of cosmological harmony, completeness and order that is present in the myth of Yao and replicated in Zou Yan's continued use of the number nine, is unproblematically abandoned in Pseudo Ge Hong's argument. He is quite comfortable setting aside a nine- or ten-centred cosmology on the basis of material evidence and personal report and listing out the regions in his report without any overarching schematic.[48] Although he does comment about the problem of not having pre-existing frameworks of knowledge in order to interpret phenomena, he is not troubled by cosmological frames and universal harmonies of order. Rather, he is concerned with not having "heard of" the objects that he sees with his eyes and thus having no way to organise them. The exotic and anomalous qualities of these foreign places make them difficult to record and describe. He concludes, however, that the trinkets and exotica that have no use for nourishing life are inconsequential. Thus, he resolves this categorical anxiety by asserting a medical gaze as the overarching organisational principle for ordering this barrage of new information.

In this way, this Daoist account of foreign lands differs from Buddhist counterparts in that the geographic and macrobiotic knowledge of classical China were not replaced with or correlated to knowledge from foreign texts. Rather the systems of categorisation and organisation (the nine and the eight) were preserved and formed a core basis on which this larger geography became grafted. The text takes place in a very different vector of transmission than native Chinese medical texts, which interpret foreign goods and persons once migrated onto Chinese soil (such as the *Overseas Materia Medica* [*Haiyao bencao* 海藥本草] or [*Divine Husbandman's*] *Materia Medica, with Collected Annotations* [*Bencao jing jizhu* 本草經集注]), on the one hand, or on the other hand, foreign texts (usually Buddhist),

which bring foreign knowledge and networks into China, and replicate them anew in a new context and language.

In following the outward-looking pattern of geographic treatises (for a detailed study of which, see Yu Taishan (Yu 2013), Pseudo Ge Hong's text departs from these other medical narratives. It constitutes a moment of encounter and epistemic transformation, more comparable to those from the European Age of Discovery, which described an encounter with India and China, and how the discovery of these civilisations and technologies contributed to the shifting parameters for how to organise and evaluate new knowledge back at home in Europe, giving rise to humanism. The evidence of the senses are weighed against those of the book, the resort to and adaptation of familiar catalogues of knowledge to contain new foreign goods and the renewed sense of self, the excitement of new encounter and the desire to use familiar knowledge to capitalise on goods which locals do not know how to use, are familiar tropes from this genre of socio-technical encounter.

8. Healing Powers in Jibin

In an effort to illustrate how the descriptions of foreign lands in the "Drug Geography" graft information about foreign lands into classical Chinese modes of thinking, let us consider the example the country of Jibin 罽賓國, which the narrator identifies as northwest of Yuezhi 月支 or Kushan. It is true that this important location is often superficially identified with Kashmir (Kāśmīra), a kingdom in the medieval period nestled in the Kashmir Valley along the Jhelum River of present-day Jammu and Kashmir (Pulleyblank 1962). Yet, it appears to have included the broader region of Uḍḍiyāna, Gandhāra and Bactria (Willemen 2013). The beginning lines of the description focus on the temperament of Jibin's people (gentle and peaceful), as well as the many agricultural products of the kingdom, from grains to grapes. After this brief introduction, the narrator focuses on one of the most miraculous healing plants, *muxucao* 苜蓿草. He describes it as follows:

> The plant of *muxucao* is a divine treasure. It is said to resemble taro. When someone is sick with blindness, or when both of their eyes are completely empty, it is said one should drink the juice wrung out of its root, and lay its stems and leaves, which have been cooked over fire, inside the eye sockets to soften there. The pupils will grow back in seven or eight days, and be completely healed. People of antiquity passed on the story of a man who was afflicted by an illness of the eyes. He was summoned unexpectedly by the king who ruled at that time. When he was about to set off in obedience to the King's command, his eyes would not open, so he tried to take medicine [to no avail]. A holy man then commanded him to borrow one of his wife's eyes, so that he could use it. The man obeyed the priest. The [holy] man carved out the wife's eye with a blade. The man borrowed it for a night and then came home and returned it.
>
> 苜蓿草木神珍物也。云形如芋。人病盲兩目空盡，云絞其根汁而服，火煮其莖葉爲煎，傅空爛中。則七八日許，乃更生，珠瞳而都愈矣。古人相傳有一人病眼。卒被時主國王所召。當往到命，不展服藥。神師令借其婦一目，用之。乃聽師言。師以刃刻婦目。借行經宿乃反以還之。 (DZ 882, 3.15a–b)
>
> When the priest first took her eye out, he pounded juice from the root of the plant. After [she] drank it and soaked the eye, he then carved it out. While he was carving out the eye, she felt no pain. He then put the eye into the socket [of the man], and used the juice to unite it with the [eye socket]. As soon as the [eye and the socket] came together as one, it could be used to reflect and illuminate all things. When the eye was returned, they used the juice again, and the eye was restored. The miracle of this heavenly-bestowed numinous plant defies description. Thus, it is called *musu* (lit. one night eye) herb, because the eye was borrowed for one night.

師初取目時，乃擣草根汁。服并漬目，乃刻之。刻之不痛。著巳眶中，亦用此汁和之。便立爲其一體，上用以鑒照萬物也。當還時，人又用此汁，即復如初。此天縱靈草神妙不可得而言也。故名曰苜蓿草，由借目經宿也。 (DZ 882, 3.15b)

When I was young, I heard about the story, and thought that it must be a fabrication and didn't believe it. When I went to the southern frontier and asked people there, someone who knew about it said "*Muxucao* grows on a particular mountain in Jibin state, and it lives for more than a hundred years. It grows like the flowers of *changpu* 菖蒲 (*Acorus calamus* L.; Sweet Flag) in the Central Realm, which are hard to find, if you aren't precise and don't come up close, you can't see it.[49] This mountain is now called Muxu Mountain. It has many azure springs. When people of Jibin, young or old, contract an eye disorder, they go by palanquin to this mountain to bathe in its springs and sprinkle its water on themselves. There are none who aren't cured." If water like this can cure diseased eyes, how could this divine plant which lives for a hundred years not cure empty and rotten [eye sockets]?

余年少時，曾聞此語虛妄不信之定。至南徼問人士，有識者乃云「苜蓿草生在罽賔國別一山上，百餘年一生。生如中國菖蒲，華難得也，非精進弗可見也。此山今名苜蓿山。山有衆泉，水青色。罽賔國人老少有病目者，輒相檐輿詣此山泉澡灑之。無不愈也。」水猶能差疾病之目，况百年一生神草不以愈於空爛乎？ (DZ 882, 3.15b–16a)

There was a foreigner named Shi Yanzhang 石彥章, who lived in Funan for a long time and travelled back and forth to foreign countries. He said [to me]: "I once went to Jibin and saw Muxu Mountain. It cannot be considered very tall. The mountain does not grow anything else, only various assorted trees which resemble Chinese mulberry (*zhe* 柘, *Maclura tricuspidata Carrière* [Moraceae]).[50] Having felled these trees, and after 10 years, when the tables, stools, carriages, seats, houses and rooves [made from its wood] were used until they were broken, they were smashed up into bits, and the scraps and remainders were buried in the soil in different locations. Everything regrew, as planted willow [stalks] do. These are known as 'various assorted trees' (*zaqimu* 雜奇木)." He [went on to] say: "Moreover, if you plant it [*muxu*] in soil below Muxu Mountain, it does not grow in other lands."

外地人有石彦章者，久居扶南，數往來外國。云：「曾至罽賔，見苜蓿山。不能高大也。山不生他，唯雜奇木。形如柘。伐其木，經十餘年，破用作几橙車座屋宇，雜碎他物，後分別埋著土中。皆事事便生，如栽楊柳狀，名日雜奇木。」云：「還埋苜蓿山下土中，他地不生矣。」 (DZ 882, 3.16a)

I, Ge Hong, [consider that] based on this, the mountain must be a hill of everlasting life. Why should I say so? The grass that grows there, when applied to eyes that have decayed, brings back clear sight and succeeds in brightening the eyes. Trees that have been cut down and replanted after what seems a hundred years, grow again. So [I] think that the divine power of the mountain's minerals can sustain human essence, and that it is the nourishment contained in the flowing springs which allows rotten wood to come back to life. It appears that one can live there to nourish one's physical body, and that by aligning with the *qi* of the mountain, one can enjoy a life without death. How is it that the people of that country have not yet realized this?

洪按此，山必是長生之丘阜也。何以言之？其草出用令爛目反明而成光。伐木則猶百年而後植。乃將山石之神，能續人之精，泉流所育，使乃朽木復生。諒可處身以養形骸，以隨山氣，以享無傾。豈彼國之久未之悟耶？ (DZ 882, 3.16a–b)

This tale blends together a number of different associations. Firstly, the plant here, *muxucao*, should not be confused with alfalfa (*muxu* 苜蓿, *Medicago polymorpha* L.), a plant of Iranian origin, which was brought into Chinese cognisance in the second century BCE. It

was used by Greeks under the name *medicago* and by Iranians as *aspasti* or *aspastu*, but in Tibet as **bug-sug* and in ancient Ferghanian as *buksuk or *buxsux (Laufer 1919, pp. 208–19).[51] Ancient Greeks and Iranians used it both for horse forage and for its medicinal properties, but it did not enter the medical record in China until the third century CE, in the *Separate Records of Famous Physicians* (*Mingyi bielu* 名醫別錄) (陶弘景 Tao Hongjing 1994, 7.484). In his comments on this entry, Tao Hongjing distinguishes *muxu* (alfalfa) from *muxucao* by referring to the tale above about the miraculous healing power of the latter herb. Tao also observes that alfalfa grew in the meadows around Chang'an, making a marked contrast to the very limited propagation of *muxucao* in Pseudo Ge Hong's narrative. Just as Tao Hongjing had heard of the fabled powers of the herb, Pseudo Ge Hong mentions his "own" childhood contact with the tale. The rumours of *muxucao*'s fabulous power thus appear to have circulated long before this text was compiled, whether or not the authentic Ge Hong heard of it.

However, Pseduo-Ge Hong's tale adds a further twist. Taking into account Shi Yanzhang's descriptions of the local ecology, he argues that the efficacy of the plant is not in the botanical species itself but the mineral-infused waters which feed it. Since the various trees are regenerated even from scraps of wood, and people are healed simply by the waters from the mountain, he argues, it is not the plant which performs the healing, but rather the rare minerals in the water from deep underneath the mountain, that are so healing. Taken at face value, this may seem an extraordinary conclusion, but it is typical of many different entries within the "Drug Geography." Throughout the text, Pseudo Ge Hong frequently comments that rare, alchemical minerals are scattered in the soil, as common as roof tiles, and the locals do not treasure them or know how to use them. By the time the texts get to the entry on Jibin, this has become established as a standard trope. What is novel is that in this passage, the alchemical minerals are seen to be the hidden cause of *muxucao*'s medical efficacy. Local miraculous tales are not taken at face value but re-interpreted within an alchemical frame, slanting the author's assessment of local lore, geography, ecology and medical *terroir*. As such, the text exemplifies a decidedly Daoist interpretive lens on a variety of knowledge domains.

Looking beyond the internal associations of the text to consider the wider patterns of medical transmission, the image of gouging out the eye socket to produce clear vision bears distant parallels to actual practices imported from South and Central Asia into China. The practice of "couching," a procedure to remove cataracts widely practised in early civilisations from Egypt to India, appears in Chinese textual records from the sixth century onwards, imported via Buddhist healers and travellers from the "West" and South Asia (Fan 2005). In this practice, the clouded lens is displaced with a needle and pushed into the fluid within the eyeball, a procedure that only came to be recognised in the twentieth century as having an infrequent success rate, resulting in dangerous complications (Fan 2011). The tale of the overnight procedure in the "Drug Geography," a version of which was recorded by Tao Hongjing in 498, may be evidence of early folkloric renderings of the dramatic practice, transmitted orally into China prior to the transmission of actual technical descriptions, and their integration into Chinese-origin texts such as the *Arcane Essentials from the Imperial Library* (*Waitai miyao* 外台秘要). However, because of the wide differences between the tale and the actual practice, this is simply a possibility; actual evidence of this is impossible to provide.

9. Conclusions

The "Drug Geography" in DZ 882 complicates our picture of healing in medieval Daoism by showing how writers intertwined an alchemical treatise with tales of non-Chinese lands. It reflects a developed and complex Daoist *imaginaire* of the world and the materia medica. While the text might not be as old as its early fourth-century attribution, even a date many centuries after reflects a period of innovation within the Daoist healing tradition. Moreover, passages from "Drug Geography", such as the one from Jibin above, provide evidence of how knowledge of alchemical materials overlapped with accounts

of healing generally. Systems of healing developed in countries such as Jibin are framed as potentially useful for Chinese readers with similar ailments and rationalised within an overarching episteme of Chinese alchemy that purported to know the materials better than locals themselves.

In general, the view of this text is outside the two predominant perspectives in the current scholarship on medicinal geography for this period. The first is a gradually increasing domestic expansion within China and beyond, visible through *Bencao* literature, along littoral trade routes and coastal routes down into Vietnam and Cambodia (Stanley-Baker 2023b). The second focuses on the ingression of traders and monks from South, South East and Central Asia bringing foreign goods into China (Chen 2013, 2022; Salguero 2014). Rather than translating South Asian materials into China or gradually expanding local medical terroir to include near-Chinese border regions, this text looks out far across the known world.

As the text incorporates foreign knowledge, it abandons Chinese-origin mythic cosmology as an organising feature, preferring instead the evidence of the "author's" eyes and the testimony of people he meets as authoritative. In granting priority to material evidence and personal testimony, the text consciously and self-reflectively deprioritises indigenous mythic heritage. This new testimony and evidence, while at first overwhelming and dazzling, ultimately becomes organised within an alchemical framework, privileging the search for powerful and rare substances which promote longevity. This organisational concern supervenes even the foreign medical narratives and systems from the different regions, projects the authority of alchemical reasoning over local indigenous knowledge and takes alchemy as the ultimate interpretive stance to make maximal benefit from this knowledge of far-off lands.

We see here a fusion of earlier genres. The earlier tales of far-off transcendent exotica from divine lands such as Penglai and Fangzhu, realms inhabited by semi-divine figures, are here blended with the genre of travelogues, foreign reports and gazetteers, also exotic, but on an earthly human plane. Whereas in transcendent narratives, "other" knowledge is imported into the Sinitic social sphere by semi-divine humans with miraculous bodily powers, in this mixed genre, it is foreigners who travel into Chinese-peripheral regions and bring with them dazzling foreign goods. Whereas translations (or apocryphal compositions) of Buddhist medical literature maintain the authority of the foreign system, which is to be learned and complied with by the reader–practitioner, in the "Drug Geography", foreign knowledge and practice are not authoritative, but rather subject to re-evaluation by Chinese alchemical reasoning.

An important feature of this text for scholars today is that it subverts modernist notions of "science" and "religion" as somehow innately incommensurable and instead provides a glimpse of a situation where religion and medicine are mutually imbricated in highly nuanced ways (Stanley-Baker 2023a). Although the text is aimed at achieving a long paranormal life and magical powers through the ingestion of rare, hard-to-get minerals, the overarching approach is not one of faith or numinous experience but rather a determined emphasis on material evidence and logical reasoning.

Taking these above reflections into consideration, and the text's likely mid-Tang date, by which time powerful voices at court were already on record as antagonistic towards Daoist alchemy, it appears this text was composed as a retrospective imagination of the glorious heritage of the Six Dynasties period alchemical exploration. Re-casting Ge Hong's alchemy within the currents of heightened attention towards South and Central Asian medicinal and religious influxes, the text reframed Daoist alchemy as a fully cosmopolitan and quite this-worldly search for goods not beyond the human realm, but rather the geographic confines of China.

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Abbreviations

FYZL	*Fayuan zhulin* 法苑珠林
TPYL	*Taiping yulan* 太平御覽
WGZ	*Wushi waiguo zhuan* 吳時外國傳

Notes

1. When referring to the historical figure who is imagined as speaking in the text, we use "Ge Hong," but when referring to the compiler of the text, we use "Pseudo Ge Hong."
2. See Fushi Lin (2008, p. 208n8) for an extensive list of scholarship in this vein. See Stanley-Baker (2019) for an overview of major currents of scholarship on Daoism and medicine.
3. MC refers to Middle Chinese pronunciation, from Kroll et al. (2015).
4. GIS locations can be referred to here: https://authority.dila.edu.tw/place/?fromInner=PL000000055375, accessed on 12 April 2023.
5. https://authority.dila.edu.tw/place/?fromInner=PL000000048739, accessed on 12 April 2023.
6. This also appears in many sources as Dunxun頓遜 https://authority.dila.edu.tw/place/?fromInner=PL000000048739, accessed on 12 April 2023.
7. Debate about this term varies over whether it refers to Java, to the southwest in the Indonesian archipelago, or to Cotobato in the Philippines. Chengjun Feng (1984, p. 132), Zongyi Rao (1970, p. 254) and Chen et al. (1986, pp. 1074–75) argue that *du* 杜 is a mistranscription of *she* 社 (MC dzyaeX), and that the term refers to *shebo* 社薄 (MC dzyaeX- bak), a homonym for other acknowledged phonetic renderings for Java. Java is mentioned in the Ramayana as Yavadvipa, which is Sanskrit for an island (*dvipa*) of Yava. Other Sanskrit variants include Yavadvipa, Javadvipa, Javakadivpa. It also appears in Ptolemy's *Geographia* as Ibadiu, and there are multiple variants of this place name in Chinese and other languages (Bagchi 1944). See also https://authority.dila.edu.tw/place/?fromInner=PL000000048202, accessed on 2 April 2023. On the other hand, Moens and de Touche (1940) argue the name refers to Toubouc, an ancient name found in the oldest Dutch maps, referring to what is now Cotabato City, the capital of Maguindanao, in the Philippines. We agree that this name refers to Touboc, or Cotobato, for reasons described below.
8. Binghua Zhen (2014, p. 220).
9. (Chen et al. 1986; http://www.world10k.com/blog/index.php?s=句稚, accessed on 2 April 2023. This region may have been variously rendered as *ka-kuw-kla* 哥谷羅 in *Xin Tang shu* 新唐書 (150.6306) and the *Siyi lucheng* 四夷路程by Jia Dan 賈耽 (730–805); and as kat-kuX-kla 葛古羅 in *Songshi* 宋史 (255.14105).

10 Some argue it is written 加營 in other records. Historians not clear about the location more than somewhere between Malaysia, India and the Andaman/Nicobar Islands in the Bay of Bengal. (Chan 1995, p. 512 n. 53).

11 Zongyi Rao (1970, p. 264) cites sources to argue this is Rammanadesa, the ancient site of the Mon state of Myanmar.

12 Neither Chan nor Rao have identified Jiachen.

13 Zongyi Rao (1970, p. 265) and Kai-wing Chan (1995, p. 530).

14 Identity not clear. Some consider this on the basis of phonetics to be Java, or Sri Lanka. However, because it is referred to as a firey region 火州, it has also been posited to be Banten, or Gunung Merapi, or Tanjung islands in the East Indies (Chen et al. 1986, pp. 1074–75; Chan 1995, p. 511).

15 For the historiography on debates around Da Qin as the Roman Empire, see Taishan Yu (2013, pp. 28–41).

16 Zongyi Rao (1970, pp. 274–75) argues this is Kurndvipa.

17 Kai-wing Chan (1995, p. 530) notes the name in records dating from the Han Dynasty, and argues it might be in regions west of China, such as Central Asia, India or as far as Byzantium.

18 Zongyi Rao (1970, pp. 277–78) argues this was one of the kingdoms near Gandhara and Peshawar, in modern Pakistan.

19 Zongyi Rao (1970, pp. 278–79). Tarn ([1938] 2010) argues that whether or not it was Kasmir or Kapisa, it was a general term for the Kushan Empire.

20 The Yuezhi were a nomadic tribe who originated from the Gansu area, and moved towards Bactria from just before 200 BCE. Over a two-hundred-year period they migrated to Bactria and then down to the Hindu Kush, and became one of the dominant tribes of the Kushan Empire. By the time this text or its source was written, they would have been in Kushan.

21 Zongyi Rao (1970, pp. 281–82) argues this is a miscopy of 優鈸, which appears in other sources. He and Chan Kai-wing (Chan 1995, p. 530) both agree this is the east coast of India, Odisha (formerly Orissa).

22 https://authority.dila.edu.tw/place/?fromInner=PL000000055380 (accessed on 12 April 2023).

23 Chen et al. (1986) note that some consider this to refer to have been located near the modern city of Châu Đốc in Vietnam, on the Cambodian border. Considered an alternate form of 西屠, this region and ethnic group was also written as 西屠夷, 西圖夷, 西屠彝, and according to Chen et al., miswritten as西屬, 西國夷, and 西屑夷. http://www.world10k.com/blog/?p=1355 (accessed on 2 April 2023).

24 Balus, or Langbalus, now in the Nicobar Islands in the Bay of Bengal (Chen et al. 1986, pp. 903–13; Chan 1995, p. 529).

25 An alternate rendering, based on the phonetic Hrum (Thurin 2021).

26 Nanhai refers to the South Seas, and was also the name of a Han-era commandery in present day Guangzhou. Since Bao Jing was governor there, it seems clear the term refers in this case to the Guangzhou commandery.

27 We would like to thank the anonymous reviewer who referred us to this paper, responding to which has strengthened the arguments below.

28 *Zhengao* 14.8a-b.

29 *Baopuzi* 4.71, 16.283.

30 *Baopuzi* 序.18 and *Jinshu* 72.4908.

31 CBETA 2023.Q1, T53, no. 2122, p. 573b2-10.

32 The WSWGZ was referred by early writers under many different titles. The TPYL refers to it as *Kang Tai Funan tusu* 康泰扶南土俗. Du You's *Tongdian* called it *Funan zhuan* 扶南傳, *Funan tusu zhuan* 扶南土俗傳, and *Funan tusu* 扶南土俗. The FYZL uses *Wushi waiguo zhuan*.

33 *TPYL* 787.3b.

34 Indochinese locations are highlighted with black circles, and "Nanhai 南海," the South Seas, is represented by a dot in the ocean.

35 *Baopuzi* 序.18.

36 *Tongdian j.* 193.21b, 32a

37 TPYL 787.3b.

38 FYZL 56. (CBETA 2023.Q1, T53, no. 2122, p. 710c6)

39 "Geography" 3.8a. Notably the character 闍 is *du* when referring to it's meaning of a city gate tower. However, when transliterating Sanksrit, it is *she*.

40 *Tongdian* 193.31a, and FYZL 36, CBETA T53, no. 2122, p. 573b7-8.

41 TPYL 787.3b and FYZL 36 573b7-8. Notably Kang Tai's work was referred to by various numerous titles; in TPYL it is referred to as Kang Tai *Funan tusu* 康泰扶南土俗, in *FYZL* it is cited as *Wushi waiguo zhuan*.

42 Close reading of the TPYL chapter Han cites shows Wumazhou (787.3b) as the source of cloves, which it decribes as east of Shebo (written as 諸薄). Other sources describe Shebo as amidst an archipelago of firey mountains (火洲, 火山), whereas Dubo is described as east of Funan.

[43] The *Jingji zhi* is itself silent on who compiled which sections, and historical record notes a broad team of editors. Cao Shuwen 曹淑文 (Cao 1983) and Kōzen Hiroshi (Kōzen 1993) disagree on whether the Daoist section could have been Li Chunfeng 李淳風 (602–679), the director of the Astrological Service (*Taishi ling* 太史令), who also held the formal Daoist title "Transcendent of the Central Florescence" (*Zhonghua xianren* 中華仙人).

[44] Additionally, see the Japanese translation by Kōzen Hiroshi 興膳宏 and Kawai Kōzō 川合康三 (Kōzen and Kōzō 1995).

[45] https://maps.cga.harvard.edu/tgaz/placename/hvd_30280, accessed on 15 June 2023.

[46] On the absence of of debate about scientific theory in Chinese scientific praxis, in contrast early Greek philosophy of science, and, see Lloyd and Sivin (2002).

[47] The *Zouzi* is a Yin-yang text attributed to the Warring States Yin-yang master, Zou Yan 鄒衍, listed in the Master's section of the *Hanshu Yiwenzhi* 藝文志 (Ban Gu 班固 et al. 1962, p. 30.1733). Here, Pseudo Ge Hong refers to a discussion by Zou Yan, recorded in *Shiji* 史記 74.2344.

[48] We use "material" evidence rather than "empirical" here, as it avoids implying an explicit theoretical attention to empirical knowledge that one might expect from post-Baconian Europeans.

[49] Tao Hongjing describes how it is easy to mistake calamus for other plants (*Bencao jing jizhu* 本草經集注 3.菖蒲; Bokenkamp 2015). Calamus appears in the earliest layers of the *bencao* tradition and throughout Buddhist and Daoist literature. The longevity-prolonging powers were common knowledge, and recorded in the Han Dynasty *Fengsu tongyi* 風俗通義 (*Taiping yülan* 太平御覽, 99.6a).

[50] Stanley-Baker et al. 2023, https://kgraph.sg/polyglot/?drug=CDN17509, accessed on 1 June 2023.

[51] Notably, modern dictionaries list *muxucao* 苜蓿草 as an alternate name (*bieming* 別名) for *huamuxu* 花苜蓿 (Tibetan. bu su hang), identified as *Medicago ruthenica* (L.) Trautv. [Fabaceae]. https://kgraph.sg/polyglot/?drug=CDN05515.002, accessed on 7 April 2023.

References

Primary Sources

Baopuzi neipian 抱朴子內篇. DZ 1185. 317a. Ge Hong 葛洪.

Baopuzi waipian 抱朴子外篇. DZ 1187. 317b. Ge Hong葛洪.

Bencao jing jizhu 本草經集注. 498. Tao Hongjing 陶弘景 (456–536). Shang Zhijun 尚志鈞 and Shang Yuansheng 尚元勝 eds. 1994. *Bencao jing jizhu: jijiao ben* 本草經集注: 輯校本. Beijing: Renmin weisheng chubanshe.

Bencao jing jizhu 本草經集注. 498. Tao Hongjing陶弘景. Michael Stanley-Baker, et al. eds. 2020b. Taipei: DocuSky, DOI: NTUR-CDH/10.6681/NTURCDH.DB_DocuSkyBencaojing/Text.

(Stanley-Baker et al. 2020b) *Bencao jing jizhu* 本草經集注. 498. Tao Hongjing陶弘景. Michael Stanley-Baker, Xu Duoduo許多多, Chen Shi-pei陳詩沛, Zhang Duan張端, Tu Hsieh-chang杜協昌, Joey Hung 洪振洲, and Hung I-mei洪一梅eds. 2020b. Taipei: DocuSky. Ver. 2. Available online: https://www.polyglotasianmedicine.com/bencaojingjizhu (accessed on 3 June 2023). https://doi.org/10.6681/NTURCDH.DB_DocuSkyBencaojing/Text.

Chinese Buddhist Eelectronic Text Archive. 2023. Q1. Available online: https://cbetaonline.dila.edu.tw/ (accessed on 3 June 2023).

Hanshu 漢書. 111. Ban Gu 班固, et al. 1962. Beijing: Zhonghua shuju.

Fayuan zhulin 法苑珠林. 668. Daoshi 道世. *Taishō shinshū daizōkyō* 大正新修大藏經. 1924. Tokyo: Taisho shinshu daizokyo kanko kai. CBETA 2023.Q1, T53, no. 2122.

Kanseki Repository 漢リポ. Christian Wittern. et al. Available online: https://www.kanripo.org/ (accessed on 3 June 2023).

Shiji 史記 78. Sima Qian 司馬遷. Pei Yin 裴駰, et al. eds. 1981. *Xinjiaoben Shiji sanjia zhu bing fubian erzhong* 新校本史記三家注并附編二種. Taipei: Dingwen shuju

Siyi lucheng 四夷路程. Jia Dan 賈耽 (730–805).

Songshi 宋史. 1346. Toqto'a 脫脫. Yang Jialuo 楊家駱 ed. 1980. *Zhongguo xueshu leibian* 中國學術類編. Taipei: Dingwen shuju.

Suishu 隋書. 636. Wei Zheng 魏徵 (580–643). 楊家駱 Yang Jialuo ed. 1980. *Xin jiao ben Suishu fu suoyin* 新校本隋書附索引. Taipei: Ding wen shuju.

Taiping yülan 太平御覽. 983. Li Fang 李昉, et al. 1936. *Sibu congkan* 四部叢刊. Shanghai: Shangwu yinshuguan.

Tong dian 通典. 801. Du You 杜佑 (735–812). 1782. *Siku quanshu* 四庫全書.

Xin Tang shu 新唐書. 1060. Ouyang Xiu 歐陽修, and Song Qi 宋祈. Yang Jialuo 楊家駱 ed. 1981. *Zhongguo xue shu lei bian* 中國學術類編. Taipei: Dingwen shuju

Zhen'gao 真誥. DZ 1016. ca 500. Tao Hongjing 陶弘景 (456–536).

Secondary Sources

Bagchi, Prabodh Chandra. 1944. *India and China: A Thousand Years of Cultural Relations*. Bombay: Hind Kitab.

Bian, He. 2020. *Know Your Remedies: Pharmacy and Culture in Early Modern China*. Princeton: Princeton University Press.

Bokenkamp, Stephen R. 2015. The Herb Calamus and the Transcendent Han Zhong in Taoist Literature. *Studies in Chinese Religions* 1: 293–305. [CrossRef]

Campany, Robert Ford. 2002. *To Live as Long as Heaven and Earth: A Translation and Study of Ge Hong's Traditions of Divine Transcendents*. Berkeley: University of California Press.

Campany, Robert Ford. 2009. *Making Transcendents: Ascetics and Social Memory in Early Medieval China*. Honolulu: University of Hawai'i Press.

Cao, Shuwen 曹淑文. 1983. Tantan *Suishu Jinjizhi* de zuozhe wenti 谈谈《隋书·经籍志》的作者问题. *Tushuguan xue yanjiu* 图书馆学研究 4: 135–37.

Chan, Kai-wing 陳佳榮. 1995. South-East Asia in Chinese Records before the Sui Dynasty. Ph.D. thesis, University of Hong Kong, Hong Kong, China.

Chen, Bangxian 陳邦賢. 1954. *Zhongguo yixue shi* 中國醫學史. Shanghai: Shanghai Shudian.

Chen, Guofu 陳國符. 1963. *Daozang yuanliu kao* 道藏源流考. Edited by Chu Ban. Shanghai: Zhonghua Shuju.

Chen, Jiarong 陈佳荣, Xie Fang 谢方, and Lu Junling 陆峻岭. 1986. *Gudai Nanhai Diming Huishi* 古代南海地名汇释. Beijing: Zhonghua shuju.

Chen, Jinhua. 2018. A Chemical 'Explosion' Triggered by an Encounter between Indian and Chinese Medical Sciences: Another Look at the Significances of the Sinhalese Monk Śākyamitra's (567?–668+) Visit at Mount Wutai in 667. *Studies in Chinese Religions* 4: 261–76. [CrossRef]

Chen, Ming 陳明. 2013. *Zhonggu yiliao yu wailai wenhua* 中古医疗与外来文化. Beijing: Peking University Press.

Chen, Ming 陳明. 2022. Transmission of Persian Medicine into China across the Ages. In *Routledge Handbook of Chinese Medicine*. Edited by Vivienne Lo, Michael Stanley-Baker and Dolly Yang. London: Routledge, pp. 475–92.

Chen, Ping, Wang Zhenguo, and Xie Peiping. 1999. *History and Development of Traditional Chinese Medicine*. Advanced TCM Series; Beijing: Beijing Science Press, vol. 1.

Chen, Yuanpeng 陈元朋. 2011. *Bencao jing jizhu* suo zai '*Tao zhu*' zhong de zhishi leixing, yaochan fenbu yu beifang yaowu de shuru 《本草经集注》所载「陶注」中的知识类型、药产分布与北方药物的输入. *Zhongguo shehui lishi pinglun* 中国杜会历史评论 12: 184–212.

Ding, Hongwu 丁宏武. 2005. Ge Hong Funan zhi xing bu zheng 葛洪扶南之行补证. *Zongjiao xue yanjiu* 宗教学研究 4: 125–32.

Fan, Ka Wai. 2005. Couching for Cataract and Sino-Indian Medical Exchange from the Sixth to the Twelfth Century AD. *Clinical & Experimental Ophthalmology* 33: 188–90. [CrossRef]

Fan, Ka Wai. 2011. Couching for Cataract: Advanced Medical Achievements of China in 1976? *Adler Museum Bulletin* 37: 15–18. [PubMed]

Feng, Chengjun 馮承鈞. 1984. *Zhongguo nanyang jiaotong shi* 中國南洋交通史. Shanghai: Shanghai Shudian.

Feng, Hanyong 冯汉镛. 1994. Ge Hong zeng qu Yinzhi kao 葛洪曾去印支考. *Wenshi* 文史 39: 59–69.

Goldschmidt, Asaf Moshe. 2022. Pre-standardised Pharmacology: Han to Song. In *Routledge Handbook of Chinese Medicine*. Edited by Vivienne Lo, Michael Stanley-Baker and Dolly Yang. London: Routledge, pp. 133–45.

Han, Jishao 韩吉绍. 2022. Ge Hong Nanhai youji: Taiqing jinye shendanjing juanxia xinzheng 葛洪南海游记:《太清金液神丹经》卷下新证. *Sichuan daxue bao* 四川大学学报 241: 88–99.

Harper, Donald. 1985. A Chinese Demonography of the Third Century B. C. *Harvard Journal of Asiatic Studies* 45: 459–98. [CrossRef]

Harper, Donald. 1994. Resurrection in Warring States Popular Religion. *Taoist Resources* 5: 13–28.

Harper, Donald. 1998. *Early Chinese Medical Literature: The Mawangdui Medical Manuscripts*. London and New York: Kegan Paul.

Harper, Donald. 1999. Warring States: Natural Philosophy and Occult Thought. In *The Cambridge History of Ancient China: From the Origins of Civilization to 221 BC*. Edited by Michael Loewe and Edward L. Shaughnessy. Cambridge: Cambridge University Press, pp. 813–84.

Harper, Donald. 2010. The Textual Form of Knowledge: Occult Miscellanies in Ancient and Medieval Chinese Manuscripts, Fourth Century B.C. to Tenth Century A.D. In *Looking at It from Asia: The Processes That Shaped the Sources of History of Science*. Edited by Florence Bretelle-Establet. Dordrecht: Springer, pp. 37–80.

Hsieh, Tsung-Hui 謝聰輝. 2002. *Zhen'gao* yi shu suo fanying de Shangqing jing pai yaowu yiliao guan 《真誥》一書所反映的上清經派藥 物醫療觀. *Xing yu ming zazhi* 性與命雜誌 12.

Hsieh, Tsung-Hui 謝聰輝. 2005. *Zhen'gao de bencao yiliao guan yanjiu*. 《真誥》的本草醫療觀研究 Diyijie quanguo Daojiaoxue lunwen fabiaohui 第一屆全國道教學論文發表會. Hsinchu: Hsinchuang University.

Kirkova, Zornica. 2016. *Roaming into the Beyond: Representations of Xian Immortality in Early Medieval Chinese Verse*. Leiden: Brill.

Kōzen, Hiroshi 興膳宏. 1993. Zuisho keisekishi Dōkyō tsuide no Dōkyō kyōri: Tokuni mujō hi kaname to no kanren ni tsuite 隋書経籍志道経序の道教教理: 特に無上秘要との関連について. *Kyōto daigaku jinbun kagashi kenky* ūkyō 京都大學文學部研究紀要 32: 1–44.

Kōzen, Hiroshi 興膳宏, and Kawai Kōzō 川合康三. 1995. *Zuisho Keisekishi sh* ōkō 隋書經籍志詳攷, 初版. Edited by Shohan. Tōkyō: Kyūko Shoin.

Kroll, Paul W., William G. Boltz, David R. Knechtges, Y. Edmund Lien, Antje Richter, Matthias L. Richter, and Ding Xiang Warner. 2015. *A Student's Dictionary of Classical and Medieval Chinese*. Leiden: Brill.

Laufer, Berthold. 1919. *Sino-Iranica: Chinese Contributions to the History of Civilization in Ancient Iran, with Special Reference to the History of Cultivated Plants and Products*. Chicago: Field Museum of Natural History.

Lin, Fushi 林富士. 2008. Zhongguo zaoqi daoshi de yiliao huodong ji qi yiliao kaoshi: yi Han Wei Jin Nanbeichao shi de "zhuanji" ziliao weizhu de chubu tantao 中國早期道士的醫療活動及其醫術考釋：以漢魏晉南北朝時期的「傳記」資料為主的初步探討. In *Zhongguo zhonggu shiqi de zongjiao yu yiliao* 中國中古時期的宗教與醫療. Taipei: Lianjing, pp. 205–76.

Lin, Nung-yao 林農堯. 2018. *Zhu fanzhi dili zixun xitong* 《諸蕃志》 地理資訊系統. Taipei: Research Center for Digital Humanities, NTU. Available online: https://docusky.org.tw/DocuSky/docutools/docugis/index.html?s=ZhuFanZhi (accessed on 3 June 2023). [CrossRef]

Liu, Yan. 2021. *Healing with Poisons: Potent Medicines in Medieval China*. Seattle: University of Washington Press.

Lloyd, Geoffrey, and Nathan Sivin. 2002. *The Way and the Word: Science and Medicine in Early China and Greece*. New Haven: Yale University Press.

Lo, Vivienne. 2001a. *Huangdi Hama jing* (Yellow Emperor's Toad Canon). *Asia Major* XIV: 61–99.

Lo, Vivienne. 2001b. The Influences of Nurturing Life Culture on the Development of Western Han Acumoxa Therapy. In *Innovation in Chinese Medicine*. Edited by Elisabeth Hsu. Cambridge: Cambridge University Press, pp. 19–50.

Lo, Vivienne, and Man Gu 顾漫. 2022. Re-Envisioning Chinese Medicine: The View from Archaeology. In *Routledge Handbook of Chinese Medicine*. Edited by Vivienne Lo, Michael Stanley-Baker and Dolly Yang. London: Routledge, pp. 51–71.

Moens, Ir J. L., and R. J. de Touche. 1940. Srīvijaya, Yāva en Katāha. *Journal of the Malayan Branch of the Royal Asiatic Society* 17: 1–108.

Pettit, J. E. E. 2019. Tao Hongjing and the Reading of Daoist Geography. *East Asian Science Technology and Medicine* 50: 133–49. [CrossRef]

Pulleyblank, E. G. 1962. The Consonantal System of Old Chinese: Part II. *Asia Major* 9: 206–65.

Rao, Zongyi 饒宗頤. 1970. *Taiqing jinye shendan jing* juanxia yu nanhai dili 《太清金液神丹經》(卷下)與南海地理. *Zhongguo Wenhua Yanjiusuo Xuebao* 中國文化研究所學報 3: 31–76.

Salguero, C. Pierce. 2014. *Translating Buddhist Medicine in Medieval China*. Philadelphia: University of Pennsylvania Press.

Salguero, C. Pierce. 2017. *Buddhism and Medicine: An Anthology of Premodern Sources*. New York: Columbia University Press.

Salguero, C. Pierce. 2022. *A Global History of Buddhism and Medicine*. New York: Columbia University Press.

Salguero, C. Pierce, and Andrew Macomber. 2020. *Buddhist Healing in Medieval China and Japan*. Honolulu: University of Hawai'i Press.

Schottenhammer, Angela. 2012. The "China Seas" in world history: A general outline of the role of Chinese and East Asian maritime space from its origins to c. 1800. *Journal of Marine and Island Cultures* 1: 63–86. [CrossRef]

So, Billy K. L. 2000. *Prosperity, Region, and Institutions in Maritime China: The South Fukian Pattern*. Cambridge: Harvard University Press, pp. 946–1368.

Springer, Lena. 2022. Encounters with Linnaeus? Modernisation of Pharmacopoeia through Bernard Read and Zhao Yuhuang up to the Present. In *Routledge Handbook of Chinese Medicine*. Edited by Vivienne Lo, Michael Stanley-Baker and Dolly Yang. London: Routledge, pp. 669–86.

Stanley-Baker, Michael. 2013. Daoists and Doctors: The Role of Medicine in Six Dynasties Shangqing Daoism. Ph.D. thesis, University College London, London, UK.

Stanley-Baker, Michael. 2014. Drugs, Destiny, and Disease in Medieval China: Situating Knowledge in Context. *Daoism: Religion, History and Society* 6: 113–56.

Stanley-Baker, Michael. 2019. Daoing Medicine: Practice Theory for Considering Religion and Medicine in Early Imperial China. *East Asian Science Technology and Medicine* 50: 21–66. [CrossRef]

Stanley-Baker, Michael. 2021. Ge xianweng zhouhou beiji fang 葛仙翁肘後備急方. In *Daozang jiyao–Tiyao* 道藏輯要 提要. Edited by Lai Chi-tim 黎志添. Hong Kong: Chinese University of Hong Kong Press, pp. 809–19.

Stanley-Baker, Michael. 2023a. Introduction. In *Situating Medicine and Religion in Asia: Methodological Insights and Innovations*. Edited by Michael Stanley-Baker. Manchester: Manchester University Press.

Stanley-Baker, Michael. 2023b. Mapping the *Bencao* 本草: Laoguanshan 老官山 at the Far End of the Yellow River Corridor. *Asian Medicine*. *in press*.

Stanley-Baker, Michael, Christopher Soo Guan Khoo, Chen Jinju 陈金菊, Chen Shih-pei 陳詩沛, Michael W. Goodman, William Eng Keat Chong 張英杰, and Shaun Ang Qiao Rou. 2023. *Polyglot Medicine Knowledge Graph*. Singapore: Neo4j. Available online: https://ww.polyglotasianmedicine.com/drug-name-synonymy (accessed on 7 April 2023).

Stanley-Baker, Michael, Xu Duoduo 許多多, and William Eng Keat Chong. 2020a. *Bencaojing jizhu* 本草經集注 in Three Layers. Edited. Ver 2. DR-NTU (Data). Available online: https://www.polyglotasianmedicine.com/mapping-bencao (accessed on 3 June 2023).

Tagliacozzo, Eric, and Wen-Chin Chang. 2011. *Chinese Circulations: Capital, Commodities, and Networks in Southeast Asia*. Durham: Duke University Press.

Tarn, William Woodthorpe. 2010. Appendix 9: Ki-pin (Kophen) and 'Arachosia'. In *The Greeks in Bactria and India*, original ed. Edited by William Woodthorpe Tarn. Cambridge: Cambridge University Press, pp. 469–73. First published 1938.

Thurin, Romain. 2021. China and the Two Romes. The 1081 and 1091 "Fulin" Embassies to the Song Empire. *Journal of the Economic and Social History of the Orient* 64: 55–92. [CrossRef]

Unschuld, Paul U. 2010. *Medicine in China: A History of Ideas. Comparative Studies of Health Systems and Medical Care*. Berkeley: University of California Press. First published 1985.

Wang, Jiakui 王家葵. 2010. Taiqing jinye shendan jing juan xia yanjiu 《太清金液神丹经》卷下研究. In *Zhongguo Daojiao Kexue Jishu Shi: Nanbei Chao, Sui, Tang, Wudai Juan* 中国道教科学技术史: 南北朝隋唐五代卷. Edited by Jiang Sheng 姜生 and Tang Weixia 汤伟侠. Beijing: Kexue Chuban She, vol. 2, pp. 864–79.

Wei, Bin. 2019. A View of History from the Mountains: Daoist Hermitage in the Six Dynasties. Casey Lee trans. *Journal of Chinese Humanities* 4: 125–49. [CrossRef]

Wei, Zixiao 魏子孝, and Lifang Nie 聶莉芳. 1994. *Zhongyi zhongyao shi* 中醫中藥史. Taipei: Wenjin Chubanshe.

Wells, Matthew V. 2003. Self as Historical Artifact: Ge Hong and Early Chinese Autobiographical Writing. *Early Medieval China* 2003: 71–103. [CrossRef]

Wells, Matthew V. 2011. Ge Hong. In *Dictionary of Literary Biography: Classical Chinese Writers, Pre- Tang Era (–598)*. Edited by Curtis Dean Smith. Columbia: Bruccoli Clark Layman, pp. 47–55.

Wells, Matthew V. 2012. *To Die and Not Decay: Autobiography and the Pursuit of Immortality in Early China*. New York: Columbia University Press.

Willemen, Charles. 2013. Guṇabhadra and Bodhidharma: Remarks about Their School Affiliation. *Pacific World* 15: 33–52.

Xiao, Dengfu 萧登福. 2005. Tao Hongjing Zhen'gao zhong suojian xiuzhen zhibing yiyao ji zhongsong guizhu shuo. In 陶弘景《真誥》中所見修真治病藥方及塚訟鬼注說 *Guoji daoxue yu sixiang wenhua xueshu yantaohui* 国际道学与思想文化学术研讨会. Xiamen: Xiamen University.

Yu, Taishan. 2013. China and the Ancient Mediterranean World: A Survey of Ancient Chinese Sources. *Sino-Platonic Papers* 242: 1–268.

Zeng, Dahui 曾達輝. 2006. *Taiqing jinye shendan jing* yu *Majun zhuan* 《太清金液神丹經》與《馬君傳)》. *Qinghua xuebao* 清華學報 36: 1–29.

Zhen, Binghua 甄炳華. 2014. *Haishang silu: Nanhai gu guo xunzong mihang* 海上絲路: 南海古國尋踪迷航. Taipei: Taiwan shangwu yinshuguan gufen youxian gongsi.

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