

# *Chiwu shenzhen jing* Scrutinized: An Early Form of the Ebb-Flow Therapy from Dunhuang in Early Medieval China

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Received: May 12, 2020 • Accepted: April 15, 2021

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## ABSTRACT

Written in Dunhuang, *Chiwu shenzhen jing* (赤烏神針經) is a long lost medical work and its contents remain unknown. Based on Dunhuang manuscripts and Japanese collections of ancient Chinese medical classics, this research argues that *Chiwu shenzhen jing* concerns temporally sensitive needling treatment, which forms an early practice of the midnight-noon ebb-flow (the commonly-used translation of *Ziwu liuzhu* 子午流注) therapy, in fact, as early as the 3<sup>rd</sup> century CE. At the very end of this article, this research emphasizes the role of Dunhuang as a vehicle for promoting the ebb-flow theory through the Sino-Indian medical exchanges.

## KEYWORDS

History of Medicine, Dunhuang, Needling Treatment, Sino-India Exchanges, Early Medieval China

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## 1. INTRODUCTION

*Chiwu shenzhen jing* 赤烏神針經 is a long lost medical work in China and its contents remain unknown. It was attributed to Zhang Zicun 張子存, also known as Zhang Cun 張存.<sup>1</sup> Zhang Cun's biography could be found in *The Veritable Records of Dunhuang* (*Dunhuang shilu* 敦煌實錄, ca. 430 CE),<sup>2</sup> suggesting he was a native of Dunhuang 敦煌 in early medieval China. Also, as the works mentioned in *The History of Sui: Bibliography Treatises* (*Sui shu Jingji zhi* 隋書·經籍志) were generally listed by the date of publication/completion, we can infer that Zhang Cun lived in the similar period (fl. 250s CE) as the authors of *The Classics of Needling in Treasure Box* (*Yukui zhen jing* 玉匱針經, by Lü Guang 呂廣, fl. 240s CE) and *The Pulse Classics* (*Mai jing* 脈經, by Wang Shuhe 王叔和, 210–280 CE).<sup>3</sup>

The title of *Chiwu shenzhen jing* consists of two parts: *chiwu* 赤烏 and *shenzhen jing* 神針經. *Shenzhen jing*, literally 'classic text on the divine needle,' is easy to understand while the meaning of *chiwu* is debatable. This research aims to re-examine the meaning of *chiwu*, and thereby furthers our knowledge about the contents of *Chiwu shenzhen jing*. In addition, it will allow us to propose that the ebb-flow (*liuzhu* 流注) therapy has a longer history than generally assumed.

Emerging from the Tang Dynasty (618–907 CE) and then developed in the Song Dynasty (960–1279 CE) by He Ruoyu 何若愚 (fl. 1200s CE), the midnight-noon ebb-flow (*ziwu liuzhu* 子午流注) is a medical theory examining acupuncture loci- and time-specific energetics of needling treatment (between Midnight-Noon).<sup>4</sup> Based on Dunhuang manuscripts<sup>5</sup> and Japanese collections of ancient Chinese medical classics,<sup>6</sup> an early form of the ebb-flow has been found.

Some scholars classified this early form as a kind of *Renshen liuzhu* 人神流注.<sup>7</sup> According to this theory, the location of human spirit (*renshen* 人神) would change through different days during a lunar cycle. In ancient Chinese medicine, it was not reasonable to apply needling treatment on the location of human spirit. Therefore, this theory could provide guidance on the contra-indications of needling treatment. As proposed here, this early form may be translated

<sup>1</sup> According to the argument from medical historian Fan Xingzhun 范行準, omitting the second Chinese character of a medical expert's name was a common phenomenon in early medieval China. Typical examples include Hu Qia 胡洽 (also known as Hu Daoqia 胡道洽, fl. 450s CE) and Tao Jing 陶景 (also known as Tao Hongjing 陶弘景, ca. 456–536 CE). Therefore, Fan (1957: 33) believes 'Zhang Zicun' is another name of Zhang Cun.

<sup>2</sup> The contents of *Dunhuang shilu* 敦煌實錄 have also been lost, but a few sentences were cited by other works, see *Fahua jing xuanzan yaoji* 法華經玄贊要集, *Xinzuan xu zangjing* 新纂續藏經, 638.34: 878b6-7.

<sup>3</sup> *Suishu* 隋書 29.1040: 玉匱針經一卷, 赤烏神針經一卷, 岐伯經十卷, 脈經十卷。This text is also recorded in the *Jiu Tangshu* 舊唐書 27.2046 (cf. Tameto 1958: 232).

<sup>4</sup> Due to the supports from China government on the translations of ancient Chinese medicine texts, the academic publishers in China already delivered some English publications on the midnight-noon ebb-flow theory (Liu 1988) and its history (Wang et al. [eds.] 2000: 243). However, systematic historical studies on this medical theory are still lacking in the European and American academia, with only a few professional works treating this topic briefly (Lo and Yoeli-Tlalim 2018: 281–287; Ma 2019: 836; Despeux 2001: 157; Hanson 2008: 330; Unschuld and Zheng 2012: 1391 and 1893). A detailed study in Chinese literature can be found in Guo 1989: 224–229.

<sup>5</sup> A typical manuscript is P.3247. This manuscript examined the bi-hourly change of human spirit in a specific day, and hence was named by modern scholars as *The Ebb-Flow of the Human Spirit* (*Renshen liuzhu* / *Renshen riji* 人神流注/人神日忌). Another significant manuscript that would be mentioned in Section 4 is P.T. 1044, which described an ebb-flow theory by Tibetan. See Ma 2015: 825; Liu, Zhen and Yin 2019: 57–67.

<sup>6</sup> For example, *The Yellow Emperor's Toad Canon* (*Huangdi hama jing* 黃帝蝦蟆經) examined the daily change of human spirit based on the lunar cycle, and illustrated this change by the pictures of toads and birds, see Lo 2001: 61–99.

<sup>7</sup> Ma 2015: 825.



Table 1. Translation and Interpretation of *Renshen liuzhu* and Its Sub-types

Chinese	Pinyin	Literal Translation	Free Translation
流注	<i>liuzhu</i>	Ebb-Flow	Change / Movement
人神流注	<i>renshen liuzhu</i>	Ebb-Flow of Human Spirit	Change of Human Energetics
Type 1-子午流注	<i>ziwu liuzhu</i>	Midnight-Noon Ebb-Flow	Bi-Hourly Change (of Human Energetics)
Type 2-N/A	N/A	New-Full Moon Ebb-Flow	Daily Change (of Human Energetics)

as the new-full moon ebb-flow therapy, because it outlined the daily movement (ebb-flow) of human spirit/energetics during a lunar cycle (from new moon to full moon). (Table 1) There are still only a few cases about the early practice of the ebb-flow therapy, and its specific origins in time remain unclear.

Before further investigations, it is essential to consider the role of Dunhuang in medical history and in the Sino-Indian medical exchanges. Nearly half a century ago, Paul Unschuld noticed the Chinese reception of Indian medicine through the Silk Road and Dunhuang.<sup>8</sup> Since the twenty-first century, several case studies on the Sino-Indian medical exchanges in early medieval China have been conducted, covering herbalism, ophthalmology, and general religious medicines.<sup>9</sup> More systematically, the volume edited by Christopher Cullen and Vivienne Lo maps clearer pictures of Dunhuang in medical history.<sup>10</sup> Simultaneously, Kalinowski (2003) and Despeux (2010) worked over many years on primary source materials regarding science, technology and medicine in Dunhuang.<sup>11</sup> The following inquiry into the context and contents of *Chiwu shenzhen jing* is informed by the scholarly contribution of these scholars in this field.

## 2. PREVIOUS EXPLANATIONS ON THE MEANING OF CHIWU IN CHIWU SHENZHEN JING

In ancient Chinese culture, *chiwu* has different meanings including the red crow, the sun, a Chinese era name (*nianhao* 年號), two geographical place names, and a kind of medicinal plant that we know as *Aconitum brunneum* Hand.-Mazz. today. Traditional interpretations regarded *chiwu* in *Chiwu shenzhen jing* as a Chinese era name, while some modern scholars regarded it as a geographical place name. However, this research contends that these explanations are both mistaken because they did not take into account the biographical information on the location and period of Zhang Cun's life.

### 2.1 Chiwu as a Name of an Era

Some scholars regarded *chiwu* as a Chinese era name between 238 CE and 251 CE used by the Wu 吳 state.<sup>12</sup> However, a person from north-western China (like Zhang Cun) would hardly use a

<sup>8</sup> Paul 1979: 315–328.

<sup>9</sup> Chen 2007: 241–264; Fan 2005: 188–190; Salguero 2014.

<sup>10</sup> Cullen and Lo (eds.) 2005.

<sup>11</sup> Kalinowski (ed.) 2003; Despeux (ed.) 2010.

<sup>12</sup> Yan *et al.* 2004: 504.



Chinese era name established by a south-eastern state (like the Wu state). Chinese era names used by the Wu state did appear in a Dunhuang manuscript: in the colophon of *Taishang xuanyuan daode jing* 太上玄元道德經 kept at the Gest Library, the Chinese era name ‘Jianheng’ 建衡 (269–271 CE) of the Wu state was used. Nevertheless, this is the only case available now and the authenticity of this manuscript remains questionable.<sup>13</sup> Briefly, as a native of Dunhuang, Zhang Cun is unlikely to have used *chiwu* as a Chinese era name specific to the state of Wu.

## 2.2 Chiwu as A Geographical Place Name

Other modern scholars regarded *chiwu* in *Chiwu shenzhen jing* as a geographical place name.<sup>14</sup> There were two cities named *chiwu* in ancient China. One was located in Jiujiang 九江 area. According to the preface of the poem titled ‘The Barracks of Cheng Pu’ (Chengpu Tun 程普屯), this region was located in south-eastern China and its name had been changed into Ruichang 瑞昌 from 208 CE.<sup>15</sup>

Another one was located in Liangzhou 涼州 area, called Chiwu Zhen 赤烏鎮.<sup>16</sup> However, the name of Chiwu Zhen was not used until the Sui Dynasty (581–619 CE). In early medieval China, this city was called Hanyang 漢陽 (during 318–376 CE) or Chiquan 赤泉 (during 397–460 CE).<sup>17</sup>

Consequently, *chiwu* in Zhang Cun’s work could hardly refer to a geographical place name because of the basic contradictions in chronology and geography.

## 2.3 Summary

Therefore, *chiwu* in *Chiwu shenzhen jing* could not refer to an era name or a geographical name. The evidence from chronology, historical geography, and medical history makes us doubt the accuracy of the previous explanations on the meaning of *chiwu* in *Chiwu shenzhen jing*.

## 3. NEW LIGHT ON THE TITLE AND POSSIBLE CONTENTS OF *CHIWU SHENZHEN JING*

This research holds the view that *chiwu* in Zhang Cun’s manuscript refers to the red crow as well as the sun, and the scope of *Chiwu shenzhen jing* focuses on the ebb-flow theory. We will introduce this explanation based on three observations: (a) *Chiwu* was the symbol of the ebb-flow theory, (b) *Chiwu shenzhen jing* followed the ebb-flow theory, and (c) the popularity of the ebb-flow theory was rising in early medieval Dunhuang.

<sup>13</sup> Mote 1986: 34–44; Chen 2007: 241–264.

<sup>14</sup> Fan 1986: 114.

<sup>15</sup> *Xin'an wenxianzhi* 新安文獻志, vol. 55, 11a.

<sup>16</sup> *Yuanhe junxian tuzhi* 元和郡縣圖志, 1156.

<sup>17</sup> Wu and Tang (eds.) 2009: 58.



### 3.1 Chiwu is the Symbol of the Ebb-Flow Theory

In ancient Chinese culture, *chiwu* and toad were comparable. In *The Book of the Master of Huainan* (*Huainanzi* 淮南子), the moon was represented as a toad (*hama* 蝦蟆), while the sun as a crow with three claws (*sanzu zhi wu* 三足之鳥),<sup>18</sup> which was an alternative name of *chiwu*.<sup>19</sup>

The toad was a symbol of the ebb-flow theory in ancient Chinese medicine. Many medical classics following the ebb-flow theory used the word ‘toad’ in their titles, such as *The Toad’s Illustrations regarding Acupuncture Loci* (*Kongxue hama tu* 孔穴蝦蟆圖) and *The Yellow Emperor’s Toad Canon* (*Huangdi hama jing* 黃帝蝦蟆經).

As *chiwu* and toad were usually mentioned together in ancient Chinese medical culture, *chiwu* may also be a symbol of the ebb-flow theory. Further evidence comes from *The Yellow Emperor’s Toad Canon*,<sup>20</sup> which used the figures of *chiwu* and toad to describe the sun and the moon, respectively, for further illustrating the ebb-flow theory (Figures 1-2).<sup>21</sup>



Fig 1. Chiwu in The Yellow Emperor's Toad Canon

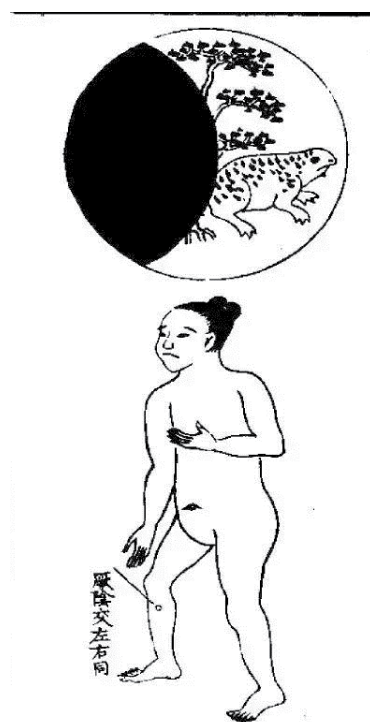


Fig 2. Toad in The Yellow Emperor's Toad Canon

<sup>18</sup> *Huainanzi* 淮南子, 45: 日為德而君於天下，辱於三足之鳥。月為刑而相佐，見食於蝦蟆；日中有踰鳥，而月中有蟾蜍。

<sup>19</sup> *Baopuzi* 抱樸子, Appendix (lost texts), 756: 古今注：所謂赤鳥者，朱鳥也。其所居高遠，日中三足鳥之精。

<sup>20</sup> Lo 2001: 61–99.

<sup>21</sup> *Huangdi hama jing* 黃帝蝦蟆經, 1b and 5a.



### 3.2 *Chiwu shenzhen jing* is Comparable with Other Ebb-Flow Classics

In *The Six Regulations of the Tang Dynasty* (*Tang liu dian* 唐六典), *Chiwu shenzhen jing* and *The Ebb-Flow in Supine & Lateral Positions* (*Liuzhu yance* 流注偃側) were listed in juxtaposition,<sup>22</sup> while in the *Suishu*, the *Liuzhu yance* was listed among other ebb-flow classics.<sup>23</sup> As the principles of the *Suishu* and the *Tang liu dian* were to list manuscripts similar in scope together, we may conclude that *Chiwu shenzhen jing* and other ebb-flow classics were comparable and shared similar methodology.

### 3.3 The Rising Popularity of the Ebb-Flow Theory in Zhang Cun's Life Time

According to the contributions of Marc Kalinowski, the notion of auspicious days permeated people's daily life and shaped their understanding of science (especially of cosmology).<sup>24</sup> The *Punishment and Virtue* (*Xingde* 刑德) texts from Mawangdui manuscripts (ca. 186–168 BCE) described a detailed system of selecting auspicious days for battles.<sup>25</sup> In medical history, *The Inner Classic of the Yellow Emperor: Su Wen* (*Huangdi nei jing Su wen* 黃帝內經素問) discussed the functions of medicine in different hours and seasons.<sup>26</sup> Moreover, *The Classic of the Eighty-One Difficult Issues of the Yellow Emperor* (*Huangdi bashiyi nan jing* 黃帝八十一難經) also recorded the preferred needling therapies in different seasons.<sup>27</sup> The above-mentioned medical classics were all created in the Han (206 BCE–220 CE) and the Jin dynasties (266 CE–420 CE).

The ebb-flow theory was increasingly popular in Dunhuang in the period of Zhang Cun, as gleaned from a series of related manuscripts such as the *Contra-Indications of Human Spirit* (P.3288, *Renshen jingji* 人神禁忌), *The Ebb-Flow of the Human Spirit* (P.3247, *Renshen liuzhu / Renshen riji* 人神流注/人神日忌), and the *Newly Collected Book for Emergency Treatment with Moxibustion* (P.2675, *Xinji beiji jiu jing* 新集備急灸經). According to Ma Jixing's initial analysis, the majority of these manuscripts were all written in early medieval China.<sup>28</sup>

In addition, the medical practice of Zhang Cun had some features similar to the ebb-flow theory and to the Dunhuang medicine. *The Veritable Records of Dunhuang* described Zhang Cun's medical practice as below:

<sup>22</sup> *Tang liu dian* 唐六典 14.411: 兼習流注偃側等圖、赤烏神針等經。

<sup>23</sup> *Suishu* 隋書 29.1047.

<sup>24</sup> Kalinowski 2004: 223–348; Kalinowski 1991; Harper and Kalinowski (eds.) 2017.

<sup>25</sup> Kalinowski 1998: 125–202.

<sup>26</sup> See *Huangdi nei jing: Su wen* 黃帝內經素問, 7–12, 139–143. These arguments can mainly be found in the Chapter 2 'Manipulation of Spirit in Accordance with the Four Seasons (*Siqi tiao shen da lun* 四氣調神大論)' and the Chapter 26 'On the Relationship between *Bazheng* 八正 (Sun, Moon, and Stars) and Spirits (*Bazheng shenming lun* 八正神明論)'. Both of these chapters mentioned the word 'spirit' (*Shen* 神), but it is still hard to see whether this phenomenon indicates their relationships with the word *shen* in *Chiwu shenzhen jing*. For an overview of *Huangdi nei jing: Su wen*, see Unschuld 2003.

<sup>27</sup> *Bashiyi nan jing jijie* 八十一難經集解, 126–128.

<sup>28</sup> Major Dunhuang medical manuscripts are accessible through the works by Ma Jixing with reliable notes (Ma 1988; Ma 2015). An English translation of Dunhuang medical manuscripts (abstracts only) selected by Ma Jixing can be reached through the International Dunhuang Project: 'Abstracts of the Medical Manuscripts from Dunhuang' ([http://idp.bl.uk/4DCGI/education/medicine\\_society/abstracts.a4d](http://idp.bl.uk/4DCGI/education/medicine_society/abstracts.a4d), accessed on 2020-11-25).



張存善針。存有奴，好逃亡。存宿，行針縮奴腳。欲使，則針解之。

Zhang Cun had an excellent command of needling treatment. The slaves of Zhang escaped frequently. Therefore, Zhang used needling to limit the movements of slaves' feet when they were sleeping, and used needling again to enable the movements of slaves' feet when he wanted slaves to work.<sup>29</sup>

Similarly, *The Yellow Emperor's Toad Canon* discussed the relationship between the ebb-flow and extremities' activity limitations.<sup>30</sup> A Dunhuang manuscript also recorded the usage of Pangguang Alarm Point (BL-28, Pangguang shu 膀胱俞) to limit the activities of extremities.<sup>31</sup> These clues connect Zhang Cun's medical practice with the ebb-flow theory and Dunhuang medicine.

This section concludes that *Chiwu shenzhen jing* is a needling classic following the ebb-flow therapy. Based on the specific rhythms of the lunar or/and the solar cycles, the aims of *Chiwu shenzhen jing* may be providing guidance on the most suitable time for treatment and optimizing the effectiveness of needling. Scholars usually treat the midnight-noon ebb-flow as a therapy that emerged during the Tang Dynasty. Therefore, most of the previous research on the relationship between auspicious days and medicine focused on the Tang Dynasty and after.<sup>32</sup> Actually, according to this investigation, an early form of the midnight-noon ebb-flow theory had been performed by Zhang Cun as early as the 3<sup>rd</sup> century CE in Dunhuang.

#### 4. THE EBB-FLOW THERAPY AND SINO-INDIAN MEDICAL EXCHANGES

Chen Zhutong 陳竺同 (1898–1955 CE) is the only medical historian arguing that Zhang Cun's medical thoughts were influenced by Indian medicine. Unfortunately, Chen misunderstood the historical materials and hence was criticized by later research.<sup>33</sup> However, the viewpoint of Chen may not be totally wrong. In fact, early medieval China witnessed an increasing transmission of Indian medicine to China. An Shigao 安世高 (fl. 200s CE) and Fa Kai 法開 (fl. 350s CE) were typical contributors to this exchange.<sup>34</sup> As Dunhuang played a vital role in the intellectual exchanges along the Silk Road, we should observe the ebb-flow theory in the broad context of the Sino-Indian medical exchanges in early medieval China.

A typical case regarding the Indian influence on the ebb-flow theory comes from the Dunhuang manuscript titled *The Therapy of Cupping and Moxibustion*, written in Tibetan,<sup>35</sup> (P.T.1044, [*Zan-gwen*] *Huojiu liaofa* [藏文]火灸療法). P.T.1044 came up with the concept of 'brla/bla' (which was translated into Chinese as *renshen* 人神), interpreting the semester-specific energetics of needling treatment. In line 52 of this text, P.T.1044 declares that 'this type of method comes from

<sup>29</sup> Goko jūrokukoku hashi huūitsu 五胡十六國霸史輯佚, 220.

<sup>30</sup> *Huangdi hama jing* 黃帝蝦蟆經, 16: 月生十四日…不得屈伸。

<sup>31</sup> Ma 1988: 436: 膀胱俞在十九椎兩廂，相去二寸三分。主…拘急不可屈伸。

<sup>32</sup> Despeux 2001: 121–166; Guo 1989: 224–229; Wang *et al.* (eds.) 2000: 243.

<sup>33</sup> Chen 1936: 59–127, esp. 80–81; Fan 1936: 463.

<sup>34</sup> Forte 1995.

<sup>35</sup> For an overview on the role of Tibetan manuscripts in medical history, see Lo and Yoeli-Tlalim 2018: 271–290; Yoeli-Tlalim 2013: 53–60.





a land of the/an Indian king'.<sup>36</sup> Moreover, this manuscript adopted Indian Buddhist terminology.<sup>37</sup> Therefore, the case of P.T.1044 exhibits the role of Dunhuang as a vehicle for promoting the ebb-flow theory through the Sino-Indian medical exchanges.

## 5. CONCLUSION

Based on Dunhuang manuscripts and Japanese collections of ancient Chinese medical classics, this research revisits *Chiwu shenzhen jing* by Zhang Cun and concludes that:

- (1) *Chiwu* in the title of Zhang Cun's work refers to the red crow as well as the sun. Traditionally, the red crow and the sun (together with the toad and the moon) were used to refer to the ebb-flow theory. Therefore, *Chiwu shenzhen jing* may have been a medical classic about the ebb-flow therapy, investigating the prohibition of needling treatment according to specific rhythms of the lunar or/and solar cycles.
- (2) Although the midnight-noon ebb-flow theory is generally considered to have emerged during the Tang Dynasty, then further developed in the Song Dynasty, this paper argues that its early form can be traced back to as early as the 3<sup>rd</sup> century CE. This early form can be called as new-full moon ebb-flow theory, because it may illustrate the daily change (ebb-flow) of human energetics from new moon to full moon. Accordingly, Zhang Cun, the author of *Chiwu shenzhen jing*, would be one of the precursors who explored the ebb-flow theory;
- (3) Previous researchers noted that the rising popularity of the ebb-flow theory was advanced by Indian medicine. Accordingly, the case of the ebb-flow theory strengthens our understanding of the role of Dunhuang in promoting medical advances through Sino-Indian exchanges.

However, there is a lack of direct evidence to support Fan Xingzhun's hypothesis about the Indian influence on *Chiwu shenzhen jing*. If new medical manuscripts regarding the ebb-flow therapy can be found in Dunhuang or elsewhere along the Silk Road, we may gain a clearer picture of the origin of *Chiwu shenzhen jing* as well as the ebb-flow theory.

## ACKNOWLEDGMENTS

The author particularly appreciates the encouragement from Prof. Sun Jinghao 孫競昊 and Prof. Zeng Dian 曾點. In addition, the author would like to express thanks for the insightful comments and helpful advices from the editor and the reviewers. Initial inspiration for this research was formed during the author's short research visit at Johns Hopkins University and the author should extend her earnest gratitude to Prof. Marta Hanson for this.

<sup>36</sup> Translation in Lo and Yoeli-Tlalim 2018: 283, cf. Yoeli-Tlalim 2013: 55. For the Tibetan text, see n. 48: rgya gar gi rgyal po'i yul nas byung ba'i dpyad nram gchlg las. A Chinese translation is also available as “出自印度王土的一種外治法” (a kind of external treatment originating from the area of the king of India), see Liu, Zhen and Yin 2019: 57–67.

<sup>37</sup> For the role of Buddhism on Sino-Indian medical exchanges, see Deshpande 2008: 41–58; Benn 2016: 181–195.





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