

ARTICLE

## Another character for the word “rice plant” in Old Chinese

Masaki Nohara 

Institute for Research in Humanities, Kyoto University, Kyoto, Japan  
Email: [noharam@zinbun.kyoto-u.ac.jp](mailto:noharam@zinbun.kyoto-u.ac.jp)

### Abstract

Two kinds of grain, “millet, 粟米 *sùmǐ*” and “husked rice, 稻 *dào*”, frequently appear in the *Liye Qin Slips*. Aside from these grains, another character seen in the *Liye Qin Slips*, 𪗇 *nǎo*, is thought to represent grain. It also represents the words for “brain, 腦 *nǎo*” in other excavated documents. Since the archaeological data show that rice cultivation was practised around the middle and lower Yangtze Valley, the homeland of Proto-Hmong Mien (formerly the state of Chu 楚地), the word for “rice plant, 稻 *dào*” seems to be a loanword from Proto-Hmong Mien \**mbləu*. The character 𪗇 *nǎo* is reconstructed as \**n̥uʔ*, which bears the same onset as the sound for “rice plant (or husked rice)” in North and East Hmongic languages *nu* (< \**mbləu*). Hence, we propose that the assimilation (\**mbl-* > \**n-*) in these languages could have occurred at the latest just before or after the Qin dynasty.

**Keywords:** Old Chinese; Excavated documents; *Liye Qin Slips*; Hmong-Mien; Proto-Min; Rice plant

### 1. Introduction

In July 2002, more than 37,000 bamboo and wooden slips were found in the old well in *Liye Gucheng* 里耶古城 in Longshan County 龍山, Xiangxi Tujia and Miao Autonomous Prefecture 湘西土家族苗族自治州, Hunan Province 湖南省 (see [Figure 1](#)).<sup>1</sup>

These slips belong to the so-called *Qin Slips* 秦簡 and are known as the *Liye Qin Slips* 里耶秦簡 (*Liye Qinjian*). They cover a wide range of topics, including legal documents, the administration of the commandery 郡 *jùn*, and the grain supply system before and after the *Qin* dynasty.<sup>2</sup> According to philologists who have studied the *Liye Qin Slips*, since *Liye* used to be within the state of *Chu* 楚地, some slips reflect the influence of the writing system of the *Chu* State in the Warring States period.<sup>3</sup> Regarding the scribes of the *Liye Qin Slips*, there must have been several writers.<sup>4</sup>

The *Liye Qin Slips* include references to several kinds of grain, including 粟米 *sùmǐ* “millet”, 稻 *dào* “rice (or rice plant)”, 需(糲)米 *nuòmǐ* “glutinous rice”, 秫 *shù* “glutinous millet”, and 麥 *mài* “wheat”. Note that among these grains, 粟米 *sùmǐ* “millet” appears

<sup>1</sup> The *Liye Gucheng* is thought to have been first built in the state of *Chu* during the late Warring States period. The slips are dated from the twenty-fifth year of King Zheng of Qin (222 BCE) to the second year of the Second Emperor (208 BCE); see Hunan Sheng Wenwu Kaogu Yanjiusuo 湖南省文物考古研究所 (2012).

<sup>2</sup> There are two types of slips regarding grain: “grain-supply slips 出粟記錄簡” and “grain-lending slips 出借記錄簡”. See Huang Haobo 2015: 117–39 and Miyake 2018: 51–85.

<sup>3</sup> See Hunan Sheng Wenwu Kaogu Yanjiusuo 湖南省文物考古研究所 2006: 179; and 2012: 1.

<sup>4</sup> There are some slips with the name of writers; for example, “感手 *Gan* wrote” (*Liye* 8-1540).

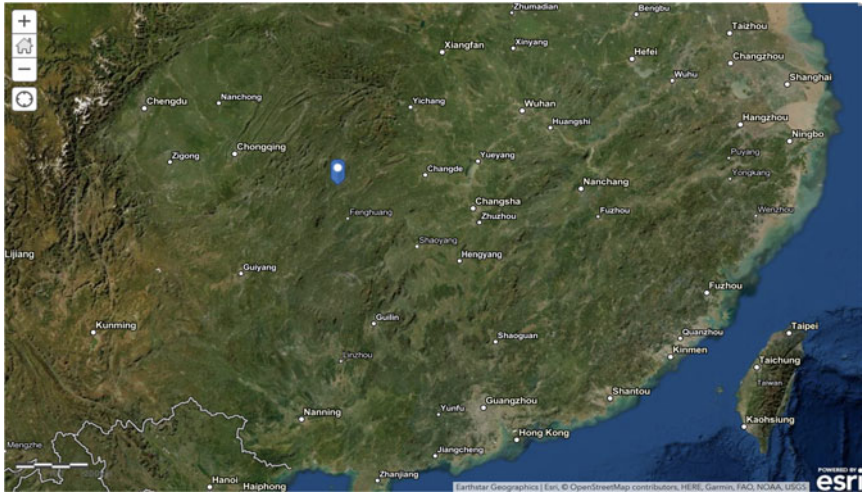


Figure 1. *Liye Gucheng* 里耶古城

most frequently, followed by 稻 *dào* “rice (or rice plant)”.<sup>5</sup> Other grains only appear a few times in the *Liye Qin Slips*. This distribution indicates that “millet” and “rice” were the main staples in the Liye district. Although the character 稻 *dào* refers to the rice plant in Classical Chinese texts, Chen Wei (2012: 30) noted that 稻 *dào* means “unhusked rice 稻穀”, while Huang Haobo (2015: 126) regarded it as “husked rice 稻米” based on the study of the conversion rate of 稻 *dào* in the *Liye Qin Slips*,<sup>6</sup> and this latter interpretation appears to be most likely.

Aside from these four types of grain, there are other characters representing grain: 𪎭 *nǎo* and 𪎮 *nǎo*. These characters appear once with a record of the amount on the slips (see Table 1).

The purpose of this article is to trace the history of the character 𪎭 *nǎo* and discuss the word for “rice” in Old Chinese (hereafter OC) and Hmongic before and after the Qin dynasty. As mentioned, “millet” and “rice” appear most frequently in the *Liye Qin Slips*, so the character 𪎭 *nǎo* probably represents one of them.

The following sections will mainly focus on the character 𪎭 *nǎo* and related characters seen in the *Liye Qin Slips* and seek to determine what the character 𪎭 *nǎo* represents.

## 2. The character 𪎭 *nǎo* in the *Liye Qin Slips*



### 2.1. The characters 𪎭 *nǎo* and 𪎮 *nǎo*

The characters 𪎭 *nǎo* and 𪎮 *nǎo* each appear once on the *Liye Qin Slips*; see (1) and (2) in Table 1.

<sup>5</sup> Although we regard 粟米 *sùmǐ* as “millet” in this paper, what the characters 粟米 *sùmǐ* actually represent is still unknown. 粟米 *Sùmǐ* in classical texts is a general term for grain. Chugoku kosansho Kennkyuukai 中國古算書研究會 (2016: 74–5), however, regarded 粟米 *sùmǐ* in the *Zhangjiashan Han Slips* 張家山漢簡 as “unhusked millet”.

<sup>6</sup> Notably, Huang Haobo (2015: 117–39) pointed out that rice tends to have been provided to officials and bond-servant infants (Lìchén Yīng’ér 隸臣嬰兒), while “millet” was supplied to other enslaved people or servants. In addition, see texts with the character 稻 *dào* in the Statutes on Granaries 35–6 倉律 in the *Shuihùdì Qin Slips* 睡虎地秦簡: as rice ripens after grain, rice is to be accounted for the next year. When the harvest is finished, the figures are to be reported, distinguishing between non-glutinous rice plants and glutinous rice plants (稻後禾孰(熟), 計稻後年。已獲上數, 別粳(秈)糯(糯)粘(黏)稻). Additionally, see Hulswé 1985: 40.

**Table 1.** 𪚩 nǎo and 𪚪 nǎo in the *Liye Qin Slips*

	Figure	Character	Sentence	Source
(1)		𪚩 (𪚩)	𪚩 (𪚩) 斗一升 nǎo 斗 yì shēng	<i>Liye</i> 8–860
(2)		𪚪 (𪚪)	𪚪 (𪚪) 一石五斗 nǎo yí dàn wǔ dòu	<i>Liye</i> 8–1145

**Table 2.** Reconstruction compared: 𪚩 nǎo, 粳 nuò, and 稻 dào

	Old Chinese		Middle Chinese		Mandarin	Meaning
𪚩	*nʰuʔ	>	nawX	>	nǎo	?
粳	*nʰorʔ	>	nwanX	>	-	glutinous rice
	*nʰorʔ-s	>	nwaH	>	nuò	
稻	*[l]ʰuʔ	>	dawX	>	dào	rice

The two figures in (1) and (2) were converted into the modern characters 𪚩 nǎo and 𪚪 nǎo, which are composed of 匕 bǐ, 止 zhǐ, and 山 shān (the latter is composed of 止 zhǐ and 山 shān). It is generally agreed that these two characters are variants of the characters 𪚩 nǎo and 𪚪 nǎo.

According to the annotator of the *Liye Qin Slips*, the character 𪚩 nǎo should be read as the word “glutinous rice, 粳 nuò” by phonetic loan, as the word 粳 nuò means “rice (or rice plant), 稻 dào” in the *Pei state* 沛國; therefore, the character 𪚩 nǎo here might represent the word “rice, 稻 dào”.<sup>7</sup>

However, the characters 𪚩 nǎo and 粳 nuò are not interchangeable by phonetic loan. 𪚩 nǎo came from \*u (or \*-aw) in OC, and 粳 nuò descended from \*-or (or \*-oj). Therefore, it is unlikely that the character 𪚩 nǎo represents the word 粳 nuò “glutinous rice” here; see [Table 2](#).<sup>8</sup>

While 𪚩 nǎo and 稻 dào bear the same vowel \*-uʔ with the same tone category, they do have different initials \*n- and \*l-. For this reason, 𪚩 nǎo in the *Liye Qin Slips* does not represent the word “rice, 稻 dào” directly.<sup>9</sup>



In addition, since the character 稻 dào itself appears in the *Liye Qin Slips*, it does not seem that 𪚩 nǎo and 稻 dào represent the same word, as seen in [Table 3](#).

<sup>7</sup> See Chen Wei (2012: 238). 校注：“𪚩，原釋文作”。此字與秦漢簡帛中數見，即“𪚩”，通作“腦”。簡文中為穀物名，疑當讀為“粳”（腦、粳為泥毋雙聲字）。說文“粳，沛國謂稻曰粳。從禾，奕聲。”《集韻·換韻》“粳，或作糯。” In addition, Guo Pu 郭璞 annotated that 稻 dào is called 秣 tú in *Pei state* in *Éryǎ* 爾雅。





<sup>8</sup> As for the relationships between 粳 nuò “glutinous rice” and 稻 dào “rice plant”, Xu Shen 許慎 in his famous dictionary *Shuōwén Jiězì* 說文解字, composed in the Han dynasty, included an annotation that 稻 dào is called 粳 nuò in the *Pei state* 沛國 as is mentioned above. Based on the study of OC phonology, however, 稻 dào cannot be read as 粳 nuò through phonetic loan; it might be read based on a semantic loan (e.g. 訓讀, 同義換讀). The word for 稻 dào descended from OC \*-u; see the reconstructed form in [Table 2](#).

<sup>9</sup> There might be another possibility of a Chinese internal development of \*lʰuʔ > \*nʰuʔ in the Chu dialect, but we do not have a parallel development in OC at present. In this case, we cannot explain why P-Min \*diu<sup>tone2</sup> has a semivowel \*-i-, see [Table 15](#).

**Table 3.** 稻 dào in the *Liye Qin Slips*

Figure	Modern character	Sentence	Source
	稻	稻一石九斗少半斗 dào yí dàn jiǔ dòu shǎo bàn dòu	<i>Liye</i> 8-275
	稻	稻一石二斗半斗 dào yí dàn èr dòu bàn dòu	<i>Liye</i> 8-1794

**Table 4.** Related characters

	Figure	Character	Sentence	Source <sup>10</sup>
(3)		𪗇	𪗇(腦)角出(頤)皆血出 bleeding from the brain, head, and cheekbones	<i>Shuihudi</i> 57
(4)		𪗈	𪗈(腦)與地瞻蟲相半 mix turtle's brain and dīzhānchóng	<i>Mawangdui</i> 247
(5)		𪗉	以免產𪗉(腦)塗之 apply raw rabbit brain	<i>Mawangdui</i> 432
(6)		𪗊	仁類𪗊(柔)而速(束) Rén is flexible, but it is bundled	<i>Guodian</i> 31-33

It is possible that 稻 dào is a standard form for “rice”, while 𪗇 nǎo is a substratum form (local languages).

In what follows, we will examine related characters to confirm the reconstructed form of 𪗇 (𪗇) nǎo.

## 2.2. Related characters in other excavated documents

In addition to the *Liye Qin Slips*, related texts with 𪗇 (𪗇) nǎo appeared in other excavated documents (see [Table 4](#)).

As seen in [Table 4](#), the characters 𪗇 nǎo and 𪗉 nǎo represent the word for “brain, 腦 nǎo” in (3), (4), and (5).<sup>11</sup> The character 𪗊 in (6) represents the word for “supple, soft, and flexible”. As 柔 rǒu unambiguously came from OC \*nuʔ according to rhyme evidence,<sup>12</sup> 𪗊 is \*nuʔ (or \*nʷuʔ) as well. As discussed below (§2.3), the bottom part of the character 𪗊, which is 𪗋, is the phonetic element. Note that the character 𪗇 nǎo is considered a variant of 𪗋 (see §2.3 for details). Based on these phonetic loans, the character 𪗇 nǎo and 腦 nǎo simultaneously can be reconstructed as \*nʷuʔ in OC.<sup>13</sup> See the reconstructed form in [Table 5](#).

<sup>10</sup> *Shuihudi*: 睡虎地秦簡《封診式》, 57 號簡, *Guodian*: 郭店楚簡《六德》, 31-33 號簡, *Mawangdui*: 馬王堆《五十二病方》, 247, 432.

<sup>11</sup> There is a character 𪗋 seen in the *Zhouli* 周禮 *Kaogongji* 考工記, *Gongren* 弓人, which is annotated as “𪗋: 乃老反, 本又作腦. The *Fan-qie* spelling is nojX-lawX. It is written as 腦 nǎo in other texts”. (*Jingdian Shiwen* 經典釋文).

<sup>12</sup> 柔 rǒu rhymes with 憂 yōu, 求 qiú, 劉 liú, and 休 xiū in the *Shijing* 詩經.

<sup>13</sup> The word for “brain, 腦” belongs to the -aw group 豪韻 in Middle Chinese (hereafter MC). Since the MC -aw group should have descended from both \*-u and \*-aw, it had been unclear to which OC rhyme group 腦 nǎo and (𪗇) nǎo belong.

**Table 5.** The reconstructions compared: 柔, 腦, and 𪗇(𪗇)

	Old Chinese		Middle Chinese		Mandarin	Meaning
柔	*nuʔ	>	nyuwX	>	rǒu	supple
腦	*nʰuʔ	>	nawX	>	nǎo	brain
𪗇𪗇	*nʰuʔ	>	nawX	>	nǎo	-

**Figure 2.** *Liang Ji Guan* 梁姬罐 (Tomb M2012 of Guo State 虢国墓地 M2012)**Table 6.** The character 𪗇 in the late Western Zhou bronze scripts

	Figure	Lading	Sentence	Source
(7)		𪗇	𪗇 (梁)姬乍(作) 𪗇盥 <i>Liang Ji made...</i>	<i>Liang Ji Guan</i> <sup>14</sup>

### 2.3. The development of the character 𪗇(𪗇) nǎo and its phonetic element

In addition to the *Liye Qin Slips*, Chen Jian (2008/2019) provided another document that records a character related to 𪗇 nǎo in the *Western Zhou* Bronze scripts (dated at the latest to the *late Western Zhou*);<sup>15</sup> see Figure 2 and Table 6.

The character in (7) is composed of the elements 米 mǐ, 艸 cǎo, and 刀 dāo. The original annotator of *Liang Ji Guan* pointed out that the right-hand element of the character (艸 cǎo and 刀 dāo) is a pictograph meaning the act of “cutting the grass with a knife”.<sup>16</sup> Notably, Chen Jian (2008/2019: 97–105) presented a hypothesis that the character 𪗇 in (7) is an antecedent of the character 𪗇 nǎo. The transformation of the shape from 𪗇 to 𪗇 nǎo is summarized in Table 7.







The middle part of the character 𪗇 in (8) has transformed to 𪗇 in (9) and to 𪗇 in (10), (11), and (12). These characters seem to have been transformed to 止 zhǐ or 山 shān in the Qin and the early Han dynasties. Finally, the character 𪗇 nǎo is transformed to 𪗇, as shown in (13); see Table 8.

<sup>14</sup> The *Liang Ji Guan* was unearthed in the Tomb M2012 of Guo State, but its origin is still unknown. It might have come from the *Liang* State 梁國.









<sup>15</sup> See Liu Shegang 2002: 61.

<sup>16</sup> Henan sheng Wenwu Kaogu Yanjiusuo 河南省文物考古研究所 (1999: 312): “象以刀斷草”.

**Table 7.** The transformation of the character 腦 nǎo

(8)	(9)	(10)	(11)	(12)	(13)
					
朶	藟	朶	朶	朶	腦
Liang Ji	Guodian <sup>17</sup>	Shuihudi <sup>18</sup>	Liye <sup>19</sup>	Mawangdui <sup>20</sup>	Dunhuang <sup>21</sup>

**Table 8.** The development of the parts of 朶 nǎo

(8)	(9)	(10)–(12)	(13)
			
			

In addition, the characters 刀 dāo in (8) and (9) are replaced by 匕 bǐ in (11) and (12); see Table 9.

Since the characters 朶 nǎo and 朶 nǎo almost always represent the word for “brain”, the semantic unit “肉 (月)” might have been added instead of “匕” as in (13).

As seen in the contexts in (1) and (2), it is generally agreed that 朶 nǎo represents a kind of grain; however, what kind of grain it stands for precisely remains unclear. The shapes of the characters might be key to determining their evolution. The character 朶 nǎo was regarded as a pictograph meaning the act of “cutting the grass with a knife”. If true, the character 朶 nǎo might originally have represented the word “cutting the rice plant” or the noun “rice plant” and then changed so that it could also represent “husked rice” and “unhusked rice” at the latest shortly before or after the Qin dynasty.

In contrast, the components of the character 稻 dào, as Sagart (2011: 128) has argued, have the meaning of “dehusked rice grains out of the mortar”.<sup>22</sup> Compare the characters shown in Table 10.

According to the components, the former probably initially meant “rice plant” and the latter “husked rice (or its process)”. The character 稻 dào initially referred to “husked rice” and changed so that it could also represent “rice plant” at a later stage.

In section 3, we examine the word “稻 dào” in OC and the Hmong-Mien languages (hereafter HM).

### 3. 稻 “Rice or rice plant” in Old Chinese and Hmong-Mien

#### 3.1. 稻 Dào in OC

稻 Dào is reconstructed as \*[l]ʰuʔ based on the rhyme evidence in the texts of the *Shijing* and *Xiéshēng* connections.<sup>23</sup>

<sup>17</sup> *Guodian Chu Slips* 郭店楚簡 *Liude* 六德 31–33.

<sup>18</sup> *Shuihudi Qin Slips* 睡虎地秦簡 *Fengzhenshi* 封診式 57.

<sup>19</sup> *Liye Qin Slips* 里耶秦簡 8-860.

<sup>20</sup> *Mawangdui* 馬王堆帛書 *Yangshengfang* 養生方 66.


<sup>21</sup> *Dunhuang Han Slips* 敦煌漢簡 667.

<sup>22</sup> The phonetic 舀 yǎo is a verb meaning “to scoop husked grain out of the mortar”.



<sup>23</sup> 稻 dào rhymes with 早 zǎo, 酒 jiǔ, and 壽 shòu bearing OC \*-u in the *Bīnfēng Qīyuè* 鬪風 七月. It is composed of a semantic component 禾 hé and phonetic component 舀 yào, which belongs to y- 以母 in MC.



**Table 9.** The change from 刀 *dāo* to 匕 *bǐ*

(8), (9)	>	(11), (12)
		

**Table 10.** 𪛗 *nǎo* and 稻 *dào*

𪛗 <i>nǎo</i>	稻 <i>dào</i>
	
<i>Liang Ji Guan</i>	曾伯霽簋 <sup>24</sup>

Previous studies considered the Chinese word for “rice (or rice plant), 稻 *dào*” to be a loan word from HM. For example, Haudricourt and Strecker (1991: 335–41) expected that agricultural words were borrowed from HM and that “husked rice” was one of them.<sup>25</sup> Haudricourt and Strecker regard these words as HM substrata in Chinese. Ratliff (2018: 131–2) adduced three reasons why rice is regarded as a loan from HM into Chinese: (1) “... the archeological record shows that rice cultivation occurred in the south before it was known to the ancient Chinese,<sup>26</sup> who cultivated millet, and that the ancestors of the Hmong-Mien people were in the right location to have been the first rice cultivators”;<sup>27</sup> (2) “... there is no evidence of an initial nasal in Old Chinese”; and (3) “... the word does not appear in Tibeto-Burman”. There is no internal evidence for rice (or rice plant) to reconstruct the prenasalized obstruent in Chinese. Hence, it is highly probable that the Chinese language adopted the word “rice (or rice plant)” from Proto-HM.<sup>28</sup> However, the tone is irregular; the OC *Shǎngshēng* (rising tone) tone typically corresponds to Tone B in HM.<sup>29</sup>

Table 12 shows the “rice plant” data for Hmongic languages.<sup>30</sup> As demonstrated, the proto-form of onsets for “rice plant” is reconstructed as \**mbl*- based on the data.<sup>31</sup> If “rice (or rice plant), 稻 *dào*” is a loanword from HM, it is assumed that the prenasalized obstruent was dropped and simplified to \*[l]ʔ- when the ancient Chinese people borrowed it (\**mbl*- > \*[l]ʔ-).

Notably, the word for “rice plant” in Proto-Min (hereafter P-Min) is reconstructed as \**diu*<sup>tone2</sup> 𪛗. P-Min Tone 2 corresponds with OC *Shǎngshēng*, with no problem with tonal correspondences. The problem is that the P-Min form has a semivowel -i-, whereas

<sup>24</sup> This bronze ware is estimated to date to the late Western Zhou.

<sup>25</sup> Baxter also considered the possibility that 稻 *dào* is a loanword from HM (quoted in Haudricourt and Strecker 1991: 339).

<sup>26</sup> Another study suggests that the earliest rice cultivation occurred in Henan; see Deng, Qin and Gao 2015.

<sup>27</sup> See Bellwood 2005: 90: “... the HM family is the one most likely to have originated closest to the central Yangzi early rice zone”. Additionally, see Sagart, Blench and Sanchez-Mazas (2005: 2–3) and van Driem (2012).

<sup>28</sup> Nevertheless, whether Chinese or Hmong-Mien is the donor language has been a controversial issue (see Sagart 1999: 181–2; 2011: 128). Sagart concluded that Chinese is the donor language based on the study of semantics.

<sup>29</sup> The same problems are seen in other words such as “egg”; OC *Shǎngshēng*: P-HM tone C.

<sup>30</sup> Some of the data in Hmongic do not distinguish “rice grain” and “rice plant”. In most Mienic languages, the onsets are bl- and bj-.

<sup>31</sup> Ostapirat (2014: 350) reconstructed it as \**m.l*-.

**Table 11.** Semantic changes

	Original meanings		Later meanings
𪗇	rice plants	>	husked and unhusked rice (+ rice plants)
稻	husked rice	>	rice plant (+ husked and unhusked rice)

**Table 12.** “Rice plant” data in Hmongic, from Ratliff 2010: 48<sup>32</sup>

	P-HM	1	2	3	4	5	6	7
Rice plant	*mbləu	na <sup>2</sup>	nuu <sup>2</sup>	mple <sup>2</sup>	mplæ <sup>2</sup>	-	mpla <sup>2</sup>	mjo <sup>2</sup>

the MC 稻 dào belongs to division 1, which does not reflect *-i-*. The semivowel *-i-* in Min might have come from \*dl- within certain stages of P-HM as follows: \*mbl- > \*ndl- > \*dl- > \*dj- (P-Min \*diu<sup>tone2</sup>).<sup>33</sup> The semivowel \**-i-* indicates that P-Min might have borrowed the word “rice plant” from a different stratum with OC and that the word for “rice (rice plant)” was borrowed from HM.

### 3.2. The distribution of “rice plant” among the Hmongic languages

The data from Table 12 are converted into Figure 3. This map shows minimal data only.<sup>34</sup>

In the southern parts (places 4 and 6), prenasalized clusters remain (\*mbl- > mpl-), while in East Hmongic and North Hmongic (places 1 and 2), the dental nasal \**n-* appears more often (\*mbl- > n-).<sup>35</sup> In addition to these data, other dialects have a prenasalized dental obstruent, such as ndl- and ntl-.<sup>36</sup> These data show that \*mbl- had assimilated to ndl- and ntl- before the lateral \**-l-*.

### 3.3. 𪗇 Nǎo in the Liye Qin Slips and “rice plant” in North Hmongic languages

In a fascinating detail, no. 0 in Figure 3 indicates the location of *Liye Gucheng* where the *Liye Qin Slips* were unearthed. It is obviously near no. 2 “Jiwei 吉衛 (North Hmongic)” with the dental nasal \**n-* for onsets. The straight-line distance between *Liye Gucheng* and Jiwei is only 50 km. Most of the data from the North Hmongic subgroups have the nasal *n-* for unhusked rice (or rice plants), as shown in Table 13.

Figure 4 shows the distribution of the data from North Hmongic (no. 0 indicates the location of *Liye Gucheng*).

<sup>32</sup> 1: East Hmongic (Qiandong 黔東) Yanghao 養蒿 (Kaili County, Guizhou); 2: North Hmongic (Xiangxi 湘西) Jiwei 吉衛 (Huayuan County, Hunan); 3: West Hmongic (Chuanqiandian) White Hmong (Laos and Thailand); 4: West Hmongic (Chuanqiandian 川黔滇) Zongdi 宗地 (Ziyun County, Guizhou); 5: West Hmongic (Chuanqiandian) Fuyuan 復員 (Fuyuan County, Yunnan); 6: Hmongic Jiongnai 長桐 (Jinxu County, Guangxi); 7: Hmongic Pa-Hng 巴哼 (Rongshui County, Guangxi).

<sup>33</sup> The sound change from \**-l-* to \**-i-* in the word for “rice plant” is also seen in both Hmongic and Mienic dialects; see Ratliff 2010: 48.

<sup>34</sup> For a more detailed map, please refer to Taguchi 2021. Taguchi (2021: 70) classifies the forms cognate with the proto-form \*mbləu into six types: A-1 mple, A-2 blau, A-3 plau, A-4 mjo, A-5 ndli, A-6 nu.

<sup>35</sup> Chen Qiguang (2012: 640) noted that the labial initial *m-* also appears in 小章 (Xiangxi, Luxi, Hunan) mu<sup>31</sup>; also see Yang Zaibiao (2004: 278) mu<sup>21</sup>.

<sup>36</sup> 石門坎 (Chuanqiandian, Weining, Guizhou) ndli<sup>24</sup>, 梅珠 (Bunu, Du’an, Guangxi) ntle<sup>12</sup>; see Li Yunbing 2018: 295.



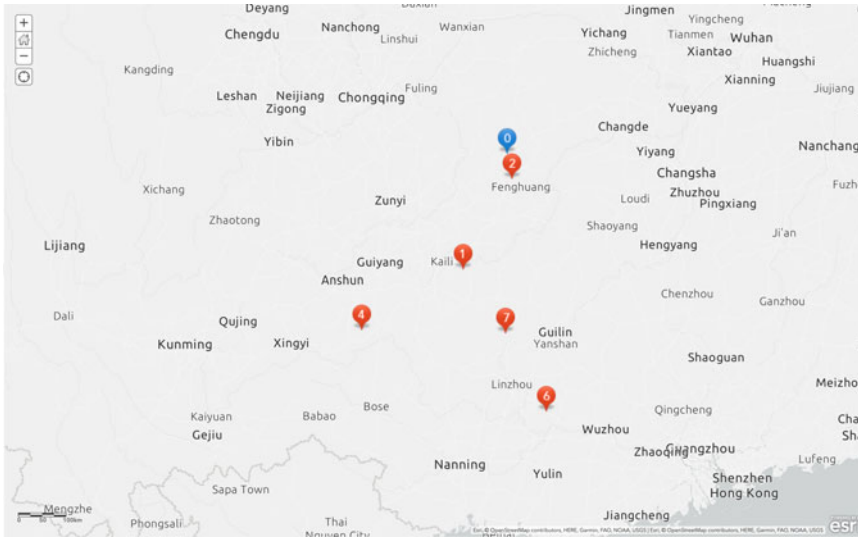


Figure 3. “Rice plant” in Hmongic

Table 13. Data from North Hmongic: unhusked rice<sup>37</sup>

N1	N2	N3	N4	N5	N6
nu <sup>42</sup>	nu <sup>31</sup>	nu <sup>35</sup>	mu <sup>21</sup>	nu <sup>31</sup> lei <sup>53</sup> ba <sup>55</sup>	lei <sup>54</sup> bo <sup>44</sup> no <sup>54</sup>

As mentioned in §2 above, the characters 𪗇𪗇 nǎo and 𪗇 nǎo are reconstructed as \*n<sup>h</sup>u<sup>?</sup>, and this intriguingly coincides with Jiwei [nu<sup>2</sup>], Yangmeng [nu<sup>31</sup>], and Zhongxin [nu<sup>35</sup>]. Hence, it is assumed that the character 𪗇𪗇 nǎo in the *Liye Qin Slips* represents the same word as “rice or rice plant” in these languages. Although it is difficult to determine whose word it was originally, if this assumption holds, we can deduce that OC borrowed at least two varieties of “rice plant”: \*mbləu in P-HM (or P-Hmongic) and \*nəu in “Proto-North Hmongic (provisional) or certain groups of North and East Hmongic speakers”.<sup>38</sup> The former dropped \*mb- when the Chinese borrowed it; the latter is a substratum word, and the word itself was lost in the ancestor of Middle Chinese and modern Chinese dialects (when the character 𪗇𪗇 nǎo became used for the word “brain 腦 nǎo” instead), as shown in Table 14.

As mentioned above, the P-Min “rice plant” is reconstructed as \*diu<sup>tone2</sup>. This could have come from the different HM dialects with OC, as shown in Table 15.

Since the characters 𪗇𪗇 nǎo and 𪗇 nǎo, which initially referred to “rice or rice plant”, represent the word for “brain, 腦 nǎo” bearing the onset \*n<sup>h</sup>- in the *Qin Slips* and the *Mawangdui silk manuscript*, we can estimate that the assimilation (\*mbl- > \*n-) must

<sup>37</sup> The data from Yang Zaibiao (2004: 278). N1: Jiwei 吉衛 (Huayuan county 花垣縣), N2: Yangmeng 陽孟 (Jishou city 吉首市), N3: Zhongxin 中心 (Baojing county 保靖縣), N4: Xiaozhang 小章 (Luxi county 瀘溪縣), N5: Danqing 丹青 (Jishou city 吉首市), N6: Dengshang 蹬上 (Longshan county 龍山縣).

<sup>38</sup> As Table 13 shows, a labial initial m- appears in Xiaozhang, and the P-North Hmongic might not have been a simple \*n-. We still do not know what Proto-North Hmongic looked like. Further studies are needed.



Figure 4. Rice in North Hmongic

Table 14. The direction of loanwords: OC

P-Hmongic	P-North Hm?	Borrowed by	Old Chinese	Middle Chinese	
*mbləu	-	→	*l'u?	dawX	稻
	> *nəu	→	*n'u?	-	𪛗
				nawX	腦

Table 15. The direction of loanwords: P-Min “rice plant”

P-HM	?	Borrowed by	P-Min	
*mbləu	*mbl- > *ndl- > *dl- > dj-	→	*diu <sup>tone2</sup>	糈

have taken place at the latest sometime before or after the Qin dynasty (approximately 200 BC) in East and North Hmongic. Proto-Hmong-Mien might be even older.<sup>39</sup>

#### 4. Conclusion

Two kinds of grain, “millet, 粟米 sù mǐ” and “husked rice, 稻 dào”, appear most frequently in the *Liye Qin Slips*. In addition to these grains, another character is seen in the *Liye Qin Slips*: 𪛗 nǎo. It represents the words for “brain, 腦 nǎo” and “supple, 柔 rǒu” in other

<sup>39</sup> The Proto-Hmong-Mien homeland was thought to be in the middle and lower Yangzi Valley (coinciding with the state of *Chu* 楚). Sagart et al. (2005: 2–3) date Proto-Hmong-Mien to approximately 2500 BP. The phonetic is descended from the character in the *Liang Ji Guan*, which was cast in the Western Zhou period (approximately 800 BCE). Therefore, the assimilation (\*mbl- > \*n-) might have taken place much earlier.

excavated documents. Since 柔 rǒu is reconstructed as \*n<sup>h</sup>uʔ based on the rhyme data, both 腦 nǎo and 𪛗 nǎo are thought to have had the same sound at the time.

The archaeological data suggest that rice cultivation occurred around the middle and lower Yangtze Valley, the homeland of Proto-HM (formerly the state of *Chu* 楚地). The word “rice or rice plant, 稻 dào” seems to be a loanword from HM into OC, and the “rice plant” proto-form in Hmongic is reconstructed as \*mbləu (OC \*l<sup>h</sup>uʔ).

What interests us is that the proto-form of 𪛗 nǎo, which is \*n<sup>h</sup>uʔ, bears the same onset as the sound of “rice plant” in North and East Hmongic (n- < \*mbləu). It is assumed that OC \*n<sup>h</sup>uʔ (𪛗) probably cognates with the word [nu] in these languages, and it represents the word “rice or rice plant” in the *Liye Qin Slips*.<sup>40</sup> Hence, we estimate that the assimilation (\*mbl- > \*n-) in certain groups of North and East Hmongic must have taken place at the latest just before or after the Qin dynasty (approximately 200 BCE).<sup>41</sup>

## References

- Baxter, William H. and Laurent Sagart. 2014. *Old Chinese: A New Reconstruction*. New York: Oxford University Press.
- Bellwood, Peter. 2005. “Examining the farming/language dispersal hypothesis in the East Asian context”, in Laurent Sagart, Roger Blench and Alicia Sanchez-Mazas (eds), *The Peopling of East Asia: Putting Together Archeology, Linguistics and Genetics*. London: Routledge Curzon.
- Chen, Wei 陳偉 (ed.). 2012. *Review and Annotation of Liye Qin Slips* 里耶秦簡牘校釋. Wuhan: Wuhan University Press 武漢大學出版社.
- Chen, Jian 陳劍. 2008/2019. “Description of the character 柔 rǒu written in the Liude, Gudian Chu slips 郭店簡《六德》用为“柔”之字考释”, *Essays on Bamboo Books of the Warring States Period* 战国竹书论集. Shanghai: Shanghai Classics Publishing House 上海古籍出版社.
- Chen, Qiguang 陳其光. 2012. *Miao and Yao Language* 苗瑶語文. Beijing: China Minzu University Press 北京: 中央民族大學出版社.
- Chugoku kosansho Kennkyukai 中國古算書研究會. 2016. *Gakuroku Shoinn zou Shinkan “Su” Yakuchu* 岳麓書院藏秦簡『数』詁注. Kyoto: Hoyu Shoten 朋友書店.
- Deng, Z.H., L. Qin and Y. Gao. 2015. “From early domesticated rice of the middle Yangtze basin to millet, rice and wheat agriculture: Archaeobotanical macro-remains from Baligang, Nanyang basin, central China (6700–500 BC)”, *PLoS ONE* 10: e0139885.
- Driem, George van. 2012. “Rice and the Austroasiatic and Hmong-Mien homelands”, in Nick J. Enfield (ed.), *Dynamics of Human Diversity: The Case of Mainland Southeast Asia*. Canberra: Pacific Linguistics, 361–89.
- Haudricourt, André G. and David Strecker. 1991. “Hmong-Mien (Miao-Yao) loans in Chinese”, *T’oung Pao*, 2nd Series, Vol. 77, 335–41.
- Henansheng Wenwu Kaogu Yanjiusuo and Sanmenxia shi Wenwu Gongzuodui 河南省文物考古研究所, 三门峡市文物工作队. 1999. *The Guo State Tombs in Sanmenxia 1*, 三门峡虢国墓(第一卷). Beijing: Wenwu Chubanshe 文物出版社.
- Hulsewé, A.F.P. 1985. *Remnants of Ch’in Law*. Leiden: Brill.
- Hunan Sheng Wenwu Kaogu Yanjiusuo 湖南省文物考古研究所. 2006. *Report on the Excavation of Liye* 里耶发掘报告. Changsha: Yuelu Publishing House 岳麓书社.
- Hunan Sheng Wenwu Kaogu Yanjiusuo 湖南省文物考古研究所. 2012. *Liye Qin Slip* 里耶秦簡. Beijing: Wenwu Chubanshe 文物出版社.
- Huang, Haobo. 黄浩波. 2015. “The records of grain supply in the Liye Qin slips” 《里耶秦簡(壹)》所見稟食記錄, *Jianbo* 簡帛 vol. 11. Shanghai: Shanghai Classics Publishing House 上海古籍出版社, 117–39.
- Li, Yunbing 李云兵. 2018. *A Comparative Study of Hmong-Mien Languages* 苗瑶语比较研究. Beijing: The Commercial Press 商务印书馆.
- Liu, Shegang 李社冈. 2002. “On issues related to the *Liang Ji Guan*”, 梁姬罐相关问题的思考, *Central China Cultural Relics* 中原文物, vol. 6, 60–62.

<sup>40</sup> In the official documents of the *Liye Qin Slips*, the character 稻 dào is officially used to refer to “rice or rice plant”, the substratum word \*n<sup>h</sup>uʔ (𪛗) just happened to appear only twice in the *Liye Qin Slips*.

<sup>41</sup> Considering the major split between Hmongic and Mienic, the assumed time (200 BCE) might be slightly early. Baxter and Sagart (2014: 246) estimate the borrowing time to be before the Wei-Jin period (third century) based on the rhyme evidence (note that they regard OC as the donor in this case). However, Baxter and Sagart (2014) cautioned that this is only a rough estimate.

- Miyake, Kiyoshi 宮宅潔. 2018. “Conquest to occupation: grain supply and a garrison” 征服から占領統治へ——里耶秦簡に見える穀物支給と駐屯軍, *Military Governance of a Multi-Ethnic Society: What the Excavated Documents Tell Us about Ancient China* 多民族社会の軍事統治——出土資料が語る中国古代. Kyoto: Kyoto University Press 京都大学学術出版会, 51–85.
- Ostapirat, Weera. 2014. “Issues in the reconstruction and affiliation of Proto-Miao-Yao”, *Papers at the 14th International Symposium on Chinese Languages and Linguistics (ISCLL-14)*. Taipei: Academia Sinica.
- Ratliff, Martha. 2010. *Hmong-Mien Language History*. (Studies in Language Change 8.) Canberra: Australian National University.
- Ratliff, Martha. 2018. “Against a regular epenthesis rule for Hmong-Mien”, *Papers in Historical Phonology. Volume 3*, 123–36. doi: 10.2218/pihph.3.2018.2877.
- Sagart, Laurent. 1999. *The Roots of Old Chinese*. Amsterdam and Philadelphia: John Benjamins Publishing.
- Sagart, Laurent. 2011. “How many independent rice vocabularies in Asia?”, *Rice* 4, 121–33. <https://doi.org/10.1007/s12284-011-9077-8>.
- Sagart, Laurent, Roger Blench and Alicia Sanchez-Mazas (eds). 2005. *The Peopling of East Asia: Putting Together Archaeology, Linguistics and Genetics*. London: Routledge Curzon.
- Taguchi, Yoshihisa. 2021. “‘Rice plant’ in Hmong-Mien”, in Endo Mitsuaki, Minegishi Makoyto, Shirai Satoko, Suzuki Hiroyuki, and Kurabe Keita (eds), *Linguistic Atlas of Asia*. Tokyo: Hituzi Shobo ひつじ書房, 70–71.
- Yang, Zaibiao 杨再彪. 2004. *Comparative Study of North Hmongic Dialects* 苗语东部方言土语比较. Beijing: Publishing House of Minority Nationalities 民族出版社.