

# From Daba script to Dongba script: A diachronic exploration of the history of Moso pictographic writings

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Research paper

## Abstract

*The comparison of the 28 lunar mansions of Daba and Dongba scripts revealed that Daba glyphs are single graphemes that are generally pictograms depicting the star atlases or related to the syllables of the stars names. Their counterparts in Dongba writing, conversely, are mostly ligatures consisting of several graphemes. They could be pictograms depicting the star atlases or the syllabic representations of the lunar mansions designations, or the combinations of both. Basing the analysis on the functions of the glyphs in writing down languages, the plausible path of development that can be highlighted from these two scripts have been reconstructed. Further on, the hypothesis is proposed according to which Daba script could be the initial stage of the Dongba writing system.*

**Key Words:** *Daba script, Dongba script, pictographic writing, grammatology, 28 lunar mansions, hemerology*

## Introduction

### The Moso ethnic group

*The Moso (Mósuō 麽些) ethnic group lives on the border of Yunnan and Sichuan Provinces in South-West China. “Moso” is the historic name. Currently, though, the Moso are recognized as various ethnic groups according to the geographical locations. The western branch (with a population of around 300,000, mainly spread in Lijiāng 丽江 area, Yunnan Province) is officially named Naxi,*

following their endonym [naɿciɿ] (Hé Jírén & Jiāng Zhúyí 1985: 2) during the national ethnic group recognition organized by the government of the People's Republic of China (PRC) in 1954 (Hé Zhiwǔ 1989: 3). The eastern branch has a population estimated at 47,000. Those in Yunnan Province have gained official recognition at the provincial level as a distinct group under the name of Moso. On the Sichuan side, they have the exonym Mongolian as one of the 56 officially admitted nationalities in People's Republic of China.

In fact, the branches of Moso share similar endonyms, both in formation and semantics aspects. They are composed of the syllable “na” followed by the word for “people”. The syllable “na” is homophonic to the word “black, big”. During my fieldwork trips, endonyms as [naɿ] (Wēnquán Village; Qiánsuǒ Village), [naɿziɿ] (Lìjiāzuǐ Village), [naɿhǐɿ] (Wūjiǎo Village), and [naɿzɿɿ] (Yóumǐ Village), were encountered.<sup>1</sup> In some of the recent publications, Romanized endonyms have been used for the designations of various branches and their languages/dialects. The western branch is called Naxi (ISO639-3: nxq) and the eastern branch is called Na (ISO639-3: nru). There is also an intermediate area between Na and Naxi, which could be transcribed as Ruke.<sup>2</sup> Ruke language/dialect, with a small number of speakers (estimated at 7,000 people), is undocumented at the current stage.

<sup>1</sup> Wēnquán 温泉 Village (hereafter WQ) is in Yǒngníng 永宁 Township, Nínglàng 宁蒗 County, Yunnan Province. Qiánsuǒ 前所 Village (hereafter QS) is in Qiánsuǒ 前所 Township, Yányuán 盐源 County, Sichuan Province. Lìjiāzuǐ 利家嘴 Village (hereafter LJZ) and Wūjiǎo 屋脚 Village (hereafter WJ) are in Wūjiǎo 屋脚 Township, Mùlǐ 木里 County, Sichuan Province. Yóumǐ 油米 Village (hereafter YM) is in Lābó 拉伯 Township, Nínglàng 宁蒗 County, Yunnan Province. The second syllable in [naɿzɿɿ] means “warm” and refers to the warm area at the river side. Therefore, the endonym of YM Na means “Na People at the river side”.

<sup>2</sup> The other commonly used Chinese transcriptions of Ruke include “Ruoka 若喀” (Lǐ Lín càn 1972: 125; Lǐ Lín càn 1984: 32), “Ruanke 阮可” (Hé Zhiwǔ & Guō Dàliè 1985: 40; Guō Dàliè & Hé Zhiwǔ 1999: 7), and “Rūkǎ 汝卡” (Zhōng Yàopíng 2010). In this paper, this language is called Ruke (Rūkě 汝可) according to the endonym [zɿɿqʰəɿ] in the dialect of my field work base YM. YM is one of the main villages of Ruke People. It is also mentioned in Lǐ Lín càn (1972: 125), being transcribed as “Yàomǐ 药咪” in Chinese. Besides [naɿzɿɿ], Na People in YM have another more frequently used endonym [zɿɿqʰəɿ].

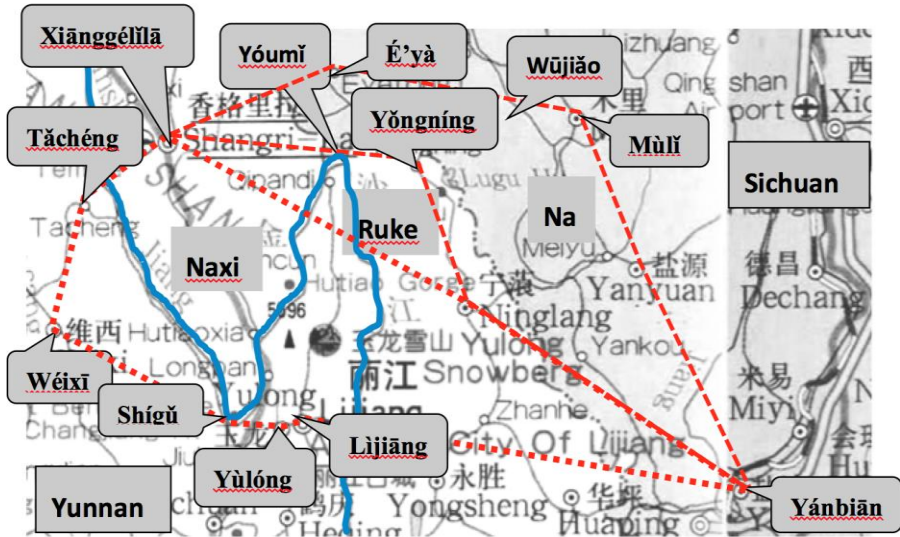


Figure 1. Map of Moso Branches/Dialects<sup>3</sup>

Figure 1 is a sketch map of Moso dialects. The important settlements are marked on a Chinese map with reference to Hé Jírén & Jiāng Zhúyí (1985: 104, 107). The white part is Sichuan Province and the grey part is Yunnan Province. The bolded line between the two provinces marks the main branch of the upper stream of Yangtze River, which is also called Jinsha River (Jīnshā Jiāng 金沙江, Gold Dust River). The three main dialect areas are circled by dot-lines. Naxi, the western branch, is centered in Lǐjiāng. The border could be marked by Xiānggélā 香格里拉 (belonging to Dídìng 迪庆 Prefecture), Wéixī 维西 County (belonging to Dídìng Prefecture) and Tǎchéng 塔城 Township (a township of Wéixī County), Yùlóng 玉龙 County and Shígǔ 石鼓 Township (a township of Yùlóng County), Nínglàng 宁蒗 County, Yunnan Province. Na, the eastern branch, mainly lives in Yǒngníng 永宁 Township (belonging to Nínglàng 宁蒗 County) and eastwards. The border could be marked by Mùlǐ 木里 County and Wūjiǎo Township (a township of Mùlǐ County), Yányuán 盐源 County, and Yánbiān 盐边 County, Sichuan Province. Ruke, the intermediate branch, is attested in the villages between Naxi and Na. Yóumǐ Village is located at the riverside of a bend of Jinsha River.

<sup>3</sup> The map is extrapolated from the website of "China Maps". URL: [www.chinamaps.info/images/Province/chinamap%20Yunnan.jpg](http://www.chinamaps.info/images/Province/chinamap%20Yunnan.jpg).

## The scripts

Moso People follow their local religion. They call their priests “Daba” (Na branch; e.g.: [daɫpʌɫ], WJ accent) or “Dongba” (Naxi and Ruke branches; e.g.: [toɫmbaɫ]), Lǐ Líncàn 1972: 143) according to the different dialects of their own language. As designations of religions (i.e. Buddhism, Daoism, and Shamanism), Dabaism and Dongbaism are used by them in order to call their local worships.

Dongbaism has been investigated since the mid Nineteenth century (from, at least, 1867, cf. Yáng Fúquán 1991: 55), when Christian missionaries first noticed the unique pictographic writing of the Dongba people, the Dongba Script. In Lǐ Líncàn (1972) and Fāng Guóyú (1981), around 1,500 Dongba glyphs<sup>4</sup> have been documented.

Dabaism lacks a relatively mature writing system as the one developed by Dongbaism. Daba hemerologies (or “day books”) are the only written texts of Dabaism discovered so far. They are called *Gelimu*, *Gemu*, or *Ge’ermu* according to Daba priests from different villages. These words literally mean “the book to look at the stars” in local language. The first segment *ge* means “star” and the last segment *mu* means “book”. In the form *Gelimu*, the second segment *li* means “to look”, and in the form *Ge’ermu* the second segment *er* is the grammatical word for plural form. Daba hemerologies tell the divination fortunes of days when certain lunar mansions appear. They establish the days for all kinds of rituals or activities, e.g.: wedding, funeral, business, building new houses, moving into new houses, etc. This kind of “day book” is widely attested among the ethnic cultures in South West China. *Shaba*, the priest of Ersu People, has “*Nomashida*” ([noɫmaɫʂɿɫaɫ], [noɫmaɫ] means “day, sun”. Cf. Sūn Hóngkāi 1982: 46). *Hangui*, the priest of Pumi People, has “*Zédájíjí* 泽达吉吉” (The author provided only Chinese transcription of the appellation. Cf. Sòng Zhàolín 2010: 34). *Sujowu*, the priests of Muya People, have “*Gaitsi*” (IPA: [kɛ<sup>55</sup>tsɿ<sup>55</sup>]. Gloss: “day book”. Cf. Liú Chūnlóng & Huáng Téngyǔ 2013: 12). Chén Jiǔjīn (1984: 295) has listed the divination meaning of 28 lunar mansions in *Bimo* (the priests of Yi People) scripture.<sup>5</sup>

<sup>4</sup> The glyphs collected in these dictionaries include both single graphemes and ligatures. Dongba script is a kind of pictographic writing system. One glyph, either a single grapheme or a ligature, can represent a word composed of one morpheme or several morphemes.

<sup>5</sup> They are similar to the ancient Chinese day books, \**Jih-shu* 日書 (cf. Poo 1993: 225). *Jih-shu* are also about the fortune and taboo of each day for popular activities, e.g.: the day book preserved in *Shui-hu-ti* (Shuihǔdì 睡虎地) scripture (cf. Loewe 1988).



The main part shared by all Daba hemerologies is composed of 28 glyphs representing the stars/asterisms chosen to mark the days.<sup>6</sup> They appear in a certain order repetitively to cover the whole year.<sup>7</sup> Basing the analysis on my field work data, as well as on the published studies, Daba glyphs are conventional religious symbols used to write down the lunar mansions (cf. *Исрпун* 1987: 77). Most of the locations of Daba and Dongba lunar mansions and their relationship with Chinese and European star names have been discovered by Lǐ Lǐncàn (1972), with cooperation of Dongba priests. Later on, Zhū Bǎotián (1985) has made complementary discoveries and observations for some of the non-identified stars on the basis of that previous work. More details can be found in Appendix B, Table 3: Daba / Dongba Lunar Mansions and the Corresponding Western Terminologies.

Besides their significance in the history of Daba and Dongba writing, they are the bearers of Na People's astronomical knowledge and taboos in daily activities related to the lunar mansions. The 28 lunar mansion systems have been attested in Chinese (Hsiu, "mansion"), Sanskrit (Nakṣatra, "asterism"), and Arabian traditions (Manāzil al-kamar, "mansions of the moon") (Yampolsky 1950: 62). Scholars hold various hypotheses of the common origin of the 28 lunar mansions. For example, Weber (1860) and Whitney (1874) believed that Hindu Nakṣatra was earlier than Chinese Hsiu. Hommel (1891) proposed that the lunar mansions can be traced back to Babylonian culture. However, Yampolsky (1950: 77) pointed out that the view of Babylonian origin could be the result of the confusion of the 28 lunar mansions and the 12 zodiac signs<sup>8</sup>. More scholars maintained that they were generated from China, e.g.: Saussure (1909), Shinzō Shinjō (1933: 257-286), Chu Coching (1947), and Chén Zūnguī (1982: 307-317).

The origin of Daba and Dongba lunar mansions is still an open discussion as well. Rock (1972: 513-517) considered Dongba lunar mansions produced under the influence of Bon Religion. Guō Dàliè (1991: 301) claimed that Dongba/Daba knowledge of lunar mansions came from the astronomical observation of their ancestors.

<sup>6</sup> Both Dongbaism and Dabaism use the 28 lunar mansions in order to mark the days.

<sup>7</sup> There are also additional symbols. Daba priests consider them borrowed symbols from Tibetan Buddhism. Moreover, their designations indicate their Tibetan origins. They assist to judge the auspicious or ominous days. According to the number of symbols applied to judge the fortune of each day, Daba hemerologies can be classified into three types, mono-symbolic / di-symbolic / tri-symbolic. Besides the basic 28 symbols, there are three kinds of possibly exotic ones in the di-symbolic or tri-symbolic versions: 1) two related to water and rain, 2) Qiyao (Qīyào 七曜, "the seven luminaries"), and 3) 20 icons representing the holy items.

<sup>8</sup> For a detailed illustration of Babylonian astronomy, the 36 stars carved on tablets, cf. Waerden (1949).

According to my comparative research, Daba/Dongba stars can be divided into several groups, which could be called “local constellations”. The ten constellations in both Dabaism and Dongbaism include: the “Human Being” Constellation, the “Horse”, the “Frog”, the “Six Stars”, the “Red Eye”, the “Three Stars”, the “Pheasant”, the “Hawk”, the “Pig”, and the “Mdzo”. “Tóu Xīng 头星” (the star of “head”) and “Wěi Xīng 尾星” (the star of “tail”) in Dabaism are named as “the higher star” and “the lower star” in Dongbaism.

Etymological reconstructions indicate plausible correspondences among some of the lunar mansions in different cultures (Tibetan<sup>9</sup> and Sanskrit, cf. Xu Duoduo 2015: 77-78). Nevertheless, there are also traces of the original naming process of the 28 lunar mansions in Daba/Dongba if compared with Chinese, Sanskrit, and European constellations. Similar cultural characteristic is spotted among ethnic groups in South West China. For example, Yi People and Pumi People also name the stars after animals (Chén Jiǔjīn 1984: 90; Chén Zōngxiáng 1992: 81). The onomastic variations reflect people’s different perspectives and imaginations about the stars. Moreover, studies on Moso People’s rites have revealed their connections to the ancient Bon Religion (Rock 1947: 409; Rock 1952: 198; Jackson 1979: 62).

One fact could indicate Daba and Dongba astronomy as the intermediate stage between Chinese and Sanskrit: the order of the 28 mansions. The order of the stars is similar in Dongbaism and Dabaism. A noticeable variation is the starting star: the Daba hemerology begins with the “Human Being” Constellation (Altair,  $\alpha$ -Aquila), which is located close to Chinese 角 (“horn”, Spica,  $\alpha$ -Virginis); and the Dongba hemerology begins with the “Six Stars” Constellation (Pleiades), which is close to Indian nakṣatra - kṛittikā (Electra,  $\eta$ -Tauri) (Yampolsky 1950: 63-67).

Daba glyphs are not suitable to represent the target language. In contrast, Dongba glyphs can indicate the syllables in the names of the lunar mansions.<sup>10</sup> Apart for the divination meanings written in sentences in Dongba scripture (Dōngbā Jīng 东巴经), Dongba lunar mansions have also ancestral figures. The examples of Daba Script (interpretation work of the author)<sup>11</sup>, Dongba scripture

<sup>9</sup> Tibetan lunar mansions are almost the same to the Sanskrit ones. Cf. Fù Qiānjí (2014: 81).

<sup>10</sup> In some cases, one glyph corresponds to a multi-syllabic word. In some other cases, several glyphs are used to write down a multi-syllabic word. These glyphs can be identical to the morphemes in the word, while they can also be homophones (not semantically related) to the word’s morphemes. Moreover, the syllabic structure of Na and Naxi languages is (C)(G)V(V).

<sup>11</sup> Some studies have been discontinuously conducted on this topic since the first report on Daba script in 1940s. Sòng Zhàolín (2003) and Yáng Xuézhèng (1994) are the relevant references presenting the authors’ own fieldwork data. However, some unclear and obscure points of Daba script need still to be investigated in depth: the stars’ names need to be

records, and Divination Figure (cited from other scholars' publications), are summarized in Xu Duoduo (2015: 62-64).

There are variations among Dongba glyphs for the lunar mansions. In *Lǐ Lǐncàn* (1972: 7-9), small circles are written around the pictograms representing syllables of the mansions names to ensure that they are glyphs for astronomy. For example: 猪嘴星 [boJk'ɔ] "Zhūzuǐ Xīng 猪嘴星" ("the mouth of the pig"), 猪腰星 [boJt'ɔ] "Zhūyāo Xīng 猪腰星" ("the waist of the pig"), and 猪油星 [boJma] "Zhūyóu Xīng 猪油星" ("the fat of the pig"). However, in the Divination Figure collected by *Lǐ Guówén* (2006), the small circles utilized as determinatives are not used in the corresponding stars: 猪 [bu<sup>21</sup>k'ɔ<sup>33</sup>], 猪 [bu<sup>21</sup>do<sup>21</sup>], and 猪 [bu<sup>21</sup>ma<sup>55</sup>].<sup>12</sup>

Comparing pictograms in Daba and Dongba hemerologies, it is possible to notice that Dongba script provides more precise records for the segments in the stars names, since it has developed the function of syllabic transcription. A plausible path of development is inferable among Daba glyphs and different versions of Dongba glyphs of the 28 lunar mansions. This evolutionary process indicates that Daba script could be the initial stage of Dongba writing system, while the variations of Dongba pictograms represent a kind of diachronic spectrum of this progress. This hypothesis is going to be discussed in the following sections.

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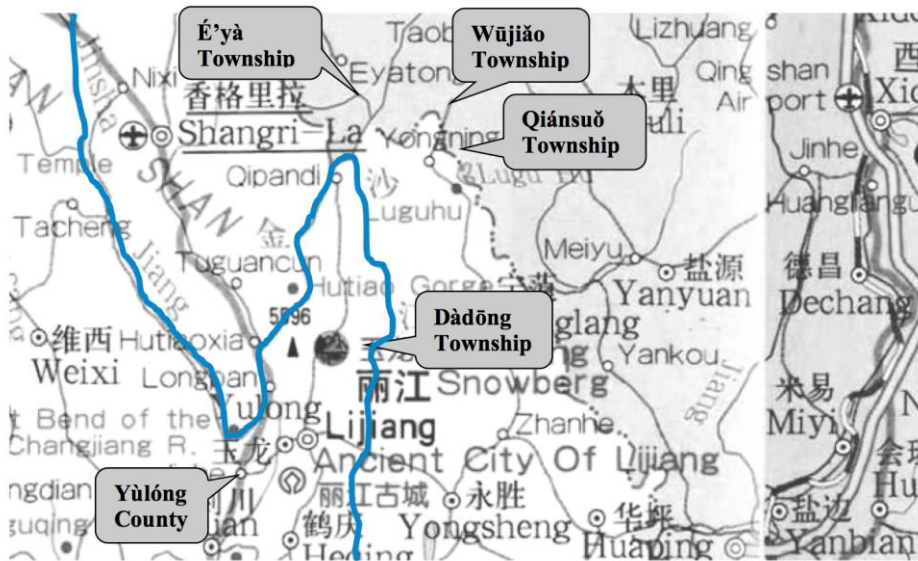
transcribed through IPA instead of Chinese characters, the total number of the stars was not known, as well as the meanings of their names. The fieldwork of the author was conducted and accomplished for that specific purpose.

<sup>12</sup> Scholars of Naxi studies could have used different IPA symbols to mark the tones. But they correspond to the same tonal categories in Naxi language. Despite the difference among the dialects mentioned in the current study, there are four tonemes in Naxi language: low, mid-level, high-level, low-rising. In Naxi pinyin, they are represented by: q, no mark, l, f. In *Lǐ Lǐncàn* (1972), the four tones are: ↓, ↑, ʌ, ʌ. They correspond to the superscript number 1-4 in *Rock* (1963; 1972). In *Zhōu Rūchéng* (1958), the tonal symbols include: ↓ (↓), ↑, ʌ. In *Zhū Bǎotián* (1985), they are written as: ↓, ↑, ʌ, (not attested). In *Lǐ Guówén* (2006), they are marked by: <sup>21</sup>, <sup>33</sup>, <sup>55</sup>, (not attested). Even though the fourth tone syllables are not attested in *Zhū Bǎotián* (1985) and *Lǐ Guówén* (2006), the former three tonal symbols are identical to the tonal system documented in *Fāng Guóyú* (1981), where the symbols applied are: ↓, ↑, ʌ, ʌ. They are equivalent to the numeral marks: <sup>21</sup>, <sup>33</sup>, <sup>55</sup>, <sup>24</sup>. The notion "tone letters" or "five-point scale" was designed by Chao Yuen-Ren for Chinese (Chao Yuen-Ren, 1930: 24-27) and taken up in the IPA as one of two competing set of symbols for tone, the other being the system originally used by specialists of Sub-Saharan tone systems. They are symbols used to represent the stylized time course of F0 over a syllable.

## Sources

In this work, Daba glyphs are compared with Dongba glyphs for the 28 lunar mansions. Daba script data include those elicited from three versions of Daba hemerologies from WJ, LJZ, and QS, which are located in the boundary region of Sichuan Province adjacent to Yunnan Province. Materials of Dongba writing are cited from the documentation in Lǐ Líncàn (1972: 7-9), Rock (1972: 513-517), Zhū Bǎotián (1985: 314-315), and Lǐ Guówén (2006: 108-113).

Here is a brief summary of their different field works. Data about the 28 lunar mansions in Lǐ Líncàn (1972) were collected from Lǔdiàn 鲁甸 Township, Yùlóng 玉龙 County, Yunnan Province. The first-hand materials in Zhū Bǎotián (1985) were collected in their fieldwork in É'yà 俄亚 Village, É'yà 俄亚 Township, Mùlǐ 木里 County, Sichuan Province, with the cooperation of three Dongba priests in 1981.<sup>13</sup> The Divination Figure interpreted in Lǐ Guówén (2006) was discovered from É'lùòjǔ 俄洛举 Village, Dàdōng 大东 Township, Lǐjiāng 丽江, Yunnan Province. Rock (1963) and Rock (1972) was based in the villages located to the north-west of Lǐjiāng area in the Yangtze Valley (Rock 1963: XXVI-XXVII).



<sup>13</sup> The information about their fieldwork has been documented in Zhōu Yín (2012: 36).

Figure 2. Map of Field Work Bases <sup>14</sup>

*Lǐ Líncàn (1972) is a dictionary aimed at tracing back the origin of all Dongba hieroglyphs (cf. Lǐ Líncàn 1984: 2). Therefore, it is possible to find out the literal meaning of each unit in one glyph. Rock (1972) did not present the literal meaning of each lunar mansion. Hence, when figuring out the compositions of the stars' glyphs, the first definition of each component listed among all its homophonic words was chosen, which could be the basic meaning when the pictogram was created. The division of star groups and the order of the stars in this paper are accordant with the Daba calendar, which has fewer variations among different versions.*

## Composition of Daba and Dongba scripts of lunar mansions

### (1) The “Human Being” Constellation (Altair from Aquila)



*In Daba calendar, two lunar mansions are interpreted as belonging to the “Human Being” Constellation (“Rén Xīng 人星”) and both are pictograms. The star “Pami” ([p<sup>h</sup>æ˧˥mi˧˥]) is written as a human face in QS (𠄎), while in a more abstract way as 𠄎 in WJ and LJZ.<sup>15</sup> The other one called “Nizhi” ([ni˧˥dʑi˧˥]) is written as 𠄎 (WJ; LJZ) or 𠄎 (QS).<sup>16</sup>*


*The related Dongba lunar mansion is 𠄎 [pY˧˥bo˧˥] (Lǐ Líncàn 1972, No. 88) and has been translated as “Háozhū Xīng” (the star of the “porcupine”) in Zhū Bǎotián (1985). The left part of the glyph is 𠄎 “liter” and is read as [pY˧˥] in Naxi language. The right part could be 𠄎 “pig”, read as [bo˧˥] in Naxi language. It*





<sup>14</sup> In this map, four townships and one county involved in the fieldworks are marked. Lǐjiāzǔ 利家嘴 Village (hereafter LJZ) and Wūjiǎo 屋脚 Village both belong to Wūjiǎo 屋脚 Township, Mùlǐ 木里 County, Sichuan Province. Rock’s field work places, “the villages located to the north-west of Lǐjiāng area in the Yangtze Valley”, could be in the region documented in Lǐ Guówén (2006), where they are marked by “Dàdōng 大东 Township”.






<sup>15</sup> This could be derived from the image of the man member of the legendary couple (Niúláng and Zhīnǚ “Deneb and Vega” in English) carrying the two children on his shoulder. In Chinese legend, they were punished by the gods to live on either side of the silver river and to meet only once per year. The same symbol (identical both in shape and pronunciation) is attested in Yáng Xuézhèng (1994: 32-24), where it is interpreted as “vagina”.

<sup>16</sup> The star “Nizhi” is considered related to “penis” in Sòng Zhàolín (2003: 86-88).

could also be  “porcupine”, read as [pɣɿ]. In addition, the symbol  identifies the meaning of the glyph as a star’s name.<sup>17</sup>



The No. 22 star in the calendar documented by Zhū Bǎotián (1985) is written as  [pyɿbuɿ]. The upper unit of the whole glyph similar to a comb should be the phonetic marker, while the three circles under it are the determinatives of the pictogram meaning star (Lǐ Lín càn 1972: 6, No. 59).

According to Lǐ Guówén (2006), two stars from the “Human Being” Constellation are chosen in the local Divination Figure. They are  [py<sup>33</sup>bu<sup>21</sup>kv<sup>33</sup>] and  [py<sup>33</sup>bu<sup>21</sup>mæ<sup>33</sup>]. The first two syllables in the names, [py<sup>33</sup>bu<sup>21</sup>], are the same as the word “porcupine” in the other two versions of Dongba hemerologies. The third syllables, [kv<sup>33</sup>] and [mæ<sup>33</sup>], meaning “head” and “tail” respectively, are represented by their homophones in Naxi:  [kvɿ] “garlic” and  [mæɿ] “tail”.<sup>18</sup>

The situation is the same in Rock (1972). The No. 22 and No. 23 stars,  [ʔbpö-<sup>1</sup>bö-<sup>2</sup>gkv] and  [ʔbpö-<sup>1</sup>bö-<sup>2</sup>man] are composed of: (○), a phonetic marker for [ʔbpö];  [ʔbö] “flour”;  [ʔgkv] “head”; and  [ʔman] “tail”.<sup>19</sup>

## (2) The “Horse” Constellation (Hugua from Delphinus)





The names of “Mǎ Xīng 马星”, literally meaning “the constellation of horse”, start with the word for “horse” in Na and Naxi languages. It is called [zɿwæɿkuɿ] in Daba hemerologies, [zuaɿmoɿtseɿkuɿ] (Lǐ Lín càn 1972: 9, No. 89) or [zua<sup>33</sup>tse<sup>33</sup>] (Lǐ Guówén 2006) in Dongba hemerologies.

In the Daba hemerologies, “Mǎ Xīng” is composed of four circles. It is written as  in WJ and LJZ, or with lines connecting the four circles as  in QS. Among Dongba glyphs, the pictogram for “horse” is used in order to write down

<sup>17</sup> The translations of the four pictograms are cited from Lǐ Lín càn (1972): 91, No. 1142; 69, No. 845; 64, No. 777; 119, No. 1550. “Liter” is called “shēng 升” in Chinese. It is the container to measure the volume of one liter.











<sup>18</sup> The translations of the two pictograms are cited from Lǐ Lín càn (1972): 84, No. 1039; 73, No. 882.


<sup>19</sup> Pictograms and related translations are cited from Rock (1963): 32, 25, 134, and 249, respectively. The symbol ○ ○ ○ on the upper part of all the 28 ligatures in Rock (1972) is a unified symbol indicating they are members of the 28 lunar mansions.

the star name. All the animal images,  in Lǐ Líncàn (1972),  Zhū Bǎotián (1985),  Lǐ Guówén (2006), and  Rock (1972), depict horses.<sup>20</sup>










### (3) The “Frog” Constellation (Great Square of Pegasus, Legs, Bond, and Stomach from Aries)







The “Frog” Constellation (“Wā Xīng 蛙星”) includes several stars/asterisms representing various body parts of a frog. The stars’ names include the root of “frog” with body parts in the local language. For example: “Wāzǔ Xīng 蛙嘴星” (Markab and Scheat from Pegasus) is [pʌ+kʰwʌʈ] in Daba hemerology, [pʌʈ] is “frog” and [kʰwʌʈ] is “mouth”. The name of the star literally means “the mouth of frog”. In Naxi area, the word for “frog” is [paʈ]. And the names of the three stars from this constellation all start with the syllable [paʈ].

In Dabaism, there are four days marked by stars from the “Frog” Constellation. The first star “Wāzǔ Xīng 蛙嘴星” is a pictogram imitating the mouth of a frog. It is written as  in QS Daba’s hemerology. However, in the other three versions, the symbols are more abstract, similar to  (LJZ). The second star [pʌʈdzʉwʈ] “Wāniào Xīng 蛙尿星” (“the urine of the frog”) is written as two connected circles, like  (LJZ), or as a tadpole (a circle with a tail), like  (QS). The third star is called [dzʉwʈkwʈ] “Shuǐ Xīng 水星” (“the star of water”), with the structure “water + star”. Its location remains unknown. Its symbol is close to the star “Wāniào Xīng 蛙尿星”, while the direction of the tail could be either horizontal or vertical. In LJZ and QS Daba hemerologies, a smaller circle is added inside the circle with a tail, in order to distinguish  (“the star of water”) and  (“the tail of the pig”),  (“the star of water”) and  (“the urine of the frog”). The fourth star is [pʌʈkwʈpʰwʈ] “Báiwā Xīng 白蛙星”, which means “a white star of the ‘Frog’ Constellation”. It is written as a circle, like  (WJ and LJZ), or as concentric circles, like  (QS).


<sup>20</sup> The syllable [tseʌ] in Lǐ Líncàn (1972) could be a homophone of a ghost name. The ghost is written as  [tseʌ] (Lǐ Líncàn 1972: 138, No. 1812), the same as the pictogram used in Lǐ Guówén (2006). Therefore, the morphological analysis of [zʉʌʈmoʈtseʌʈkwʈ] (the name of the “Horse” Constellation) could be “horse - bull - ghost Tse - star”, which literally means “the star of the horse and bull ghost”. Similarly, its designation as [zʉʌʈtseʌʈ] in Lǐ Guówén (2006) can be analyzed as “horse - ghost Tse”, which literally means “the horse ghost”.

In Dongbaism, the “Frog” Constellation could contain four or five mansions. They include “Wāzǔi Xīng 蛙嘴星” (“the mouth of the frog”), “Wāzhī Xīng 蛙肢星” (“the limb of the frog”), “Wāwěi Xīng 蛙尾星” (“the tail of the frog”), “Wāwěijiān Xīng 蛙尾尖星” (“the tail-peak of the frog”), and “Shíwěi Xīng 时尾星” (“the tail of time”).

The glyphs of the first three contain the “frog” pictogram (written as , , , and  in the four versions of Dongba 28 lunar mansions documented by Rock, Lǐ Líncàn, Zhū Bǎotián, and Lǐ Guówén). It represents the syllable for “frog”, [paɫ]. The other syllables in the stars names find their roots from the body parts of the frog, including:  [k‘oɫ], “door” (homophone for “mouth”);  [bɣɫ], “strong” (homophone for “limb”);  [mæɫ], “tail”.<sup>21</sup> Additionally, in Lǐ Líncàn (1972), the first two mansions from the “Frog” Constellation have the star symbol (consisting of three circles) in their transcriptions marking the glyph as an asterism’s designation:  and . This format is similar to the one in Rock (1972).

The annotation of the fourth star [naɫŋgvɫ] in Lǐ Líncàn (1972) explains the structure of the glyph  as “a spear poking towards a black point”. In the ligature of this lunar mansion in Zhū Bǎotián (1985), the left unit, , means “black”.<sup>22</sup> The right component of this star in Lǐ Guówén (2006), , also uses a dot in order to mark the syllable for “black”.<sup>23</sup> This asterism is written as  in Rock (1972). The two units involved are  [ɫna], “phonetic marker”, and  [ɫŋgvɫ], “thunder”.<sup>24</sup> In other words, the appellation [naɫŋgvɫ] is written through two pictograms in all the four versions of Dongba mansions. These ligatures could be phonetic equivalents to “nam gru” in Tibetan (མ་གུ, Huáng Míngxìn 2002: 52), which literally means “the boat from heaven” (“Tiān Zhōu 天舟”, cf. Chén Zōngxiáng 1992: 81). Its meaning in Dongba context, “Wāwěijiān Xīng 蛙尾尖星” (“the tail-peak of the frog”), is not related to the pictograms.

The next star in the sequence, called [t‘aɫkwɫ] “Shíwěi Xīng 时尾星”, could also be borrowed from Tibetan “tha skar” (ཐ་སྐར, Huáng Míngxìn 2002: 52)<sup>25</sup>. Its

<sup>21</sup> The three entries cited here are from Lǐ Líncàn (1972): 91, No. 1148; 54, No. 666; 73, No. 882. The grapheme  [1bö] “flour” used in Rock (1972) should be homophone of “limb”. Cf. Rock (1963): 25.







<sup>22</sup> Cf. Lǐ Líncàn (1972): 122, No. 1595, No. 1597.

<sup>23</sup> Cf. Lǐ Líncàn (1972): 53, No. 646.




<sup>24</sup> Cf. Rock (1963): 298, 338.




<sup>25</sup> In Tibetan, སྐར (Latin transcription: skar) means “star”.




interpretation in Dongba context<sup>26</sup>, “the tail of time” is unrelated to its Tibetan form that means “small stick” (“Xiǎo Gùn 小棍”, Chén Zōngxiáng 1992: 81). The glyph of “pagoda” (𡇗 [t‘a])<sup>27</sup> is used in order to represent the first syllable in its related Dongba ligature, e.g.:  (Rock 1972),  (Lǐ Líncàn 1972),   (Zhū Bǎotián 1985), and   (Lǐ Guówén 2006). In Rock (1972) and Lǐ Guówén (2006), the glyph of “hawk” has been used in order to indicate the second syllable “star”.

#### (4) The “Six Stars” Constellation (Pleiades from Taurus)

The “Six Stars” Constellation (“Liù Xīng 六星”) refers to the Pleiades. The two mansions are  [q<sup>h</sup>.ɿ]tʂæ]q<sup>h</sup>.ɿ] and  (written as  in QS) [q<sup>h</sup>.ɿ]tʂæ]gɣ+mi+] in Daba hemerologies. WJ Daba explained the previous one as “throat” of the “Kezha” (Romanized transcription of the first two syllables in the star name), while the latter one is just a name without specific meaning. QS Daba interpreted them as the “throat” and the “body” of the constellation. Daba from LJZ considered them just names without meaning.











However, according to the perspective of phonetics, the third syllable in [q<sup>h</sup>.ɿ]tʂæ]q<sup>h</sup>.ɿ] means “horn” in Na language, while the last two syllables in [q<sup>h</sup>.ɿ]tʂæ]gɣ+mi+] are equivalent to the word for “body”. Considering its graphical shape, the asterism  also shares similarities with the pictogram for the word “horn” in Dongba star  “Zhīnǚ Jiǎo” (“the horn of the mdzo”). Moreover, the first syllable of both stars, being the same as the word “six”, coincides with the number of circles in the symbol for the asterism . The counterparts of these two stars in Dongba astronomy are [tʂ‘ua]ts‘ʌ]k‘a] “Liùxīng Jiǎo 六星角” (“the horn of the six stars”) and [tʂ‘ua]ts‘ʌ]go+mo+] “Liùxīng Shēn 六星身” (“the body of the six stars”). Basing our reasoning on this consideration, as well as on the resemblance in the words pronunciations, it is reasonable to reconstruct the meaning of the two stars in Daba hemerologies as, respectively, the horn and the body of the “six stars”.

Dongba designation of the “Six Stars” Constellation is [tʂ‘wa]ts‘ʌ]. It literally means “sixty” (the first syllable means “six” and the second “ten”).<sup>28</sup> According to Lǐ Líncàn (1972), it is used in order to mark only one day and is written as . In


<sup>26</sup> It is not attested in Daba hemerologies.


<sup>27</sup> Cf. Lǐ Líncàn (1972): 118, No. 1534.



<sup>28</sup> Cf. Lǐ Líncàn (1972): 118, No. 1540; 119, No. 1548.

the materials collected by Rock, Zhū Bǎotián, and Lǐ Guówén, two stars from this constellation are selected for the calendar: the horn of the “six stars” and its body. In Zhū Bǎotián (1985) they are written as  (with the addition of the indication for “horn” on the top of the star atlas of “six stars”) and . In Lǐ Guówén (2006), the pictograms for “horn” and “bear” are used for the syllabic transcription of [kʰo<sup>33</sup>] “horn” and [kv<sup>33</sup>] “body”. In practice,  and  are inserted on the right of the star’s symbol .<sup>29</sup> That happens also to the lunar mansions in Rock (1972):  “horn” and  “egg” (Rock 1963: 199, 147) serve as phonetic equivalents to the segments in the names of  and , respectively. Moreover, the number  “sixty”, which is homophonic with the word [βchʷua-<sup>1</sup>tsʻər] in the asterisms names, has been used in place of the pictogram of “six stars” attested in the other databases.



### (5) The “Red Eye” Constellation (Aldebaran from Taurus)

The “Red Eye” Constellation (“Hóngyǎn Xīng 红眼星”) is called [n̥jæ̃lh̥ỹt] in Daba hemerology, meaning literally “red eye” (the first syllable for “eye” and the second for “red”). The Daba glyph for it is in the shape of a conch, e.g.:  (LJZ). However, “conch”, in their vocabulary, is [b̥w̥lq̥h̥t] and it is not related to the star name. One Daba priest from LJZ translated the star name as “Huǒ Shén 火神” (“the god of the fireplace”), since it looks similar to the fireplace god in Daba culture.<sup>30</sup> It is possible that the red color of fire is at the origin of the connection between “Zanbala” and the “Red Eye”.





This constellation is called [mi̯lh̥ỹt] in Dongbaism, and it is written as the combination of “eye” and “fire”, i.e.:  (Zhū Bǎotián 1985). The pronunciation of “eye” is [mi̯lh̥ỹt] in Naxi language, indicating the first syllable of the star name. The pictogram “fire” is extended in its meaning to represent the “red” color, and



<sup>29</sup> The translations of the two entries here are quoted from Lǐ Líncàn (1972). (1) The pictogram  in Lǐ Guówén (2006) includes the ears below the horns, if compared with the glyph in Lǐ Líncàn (1972): 72, No. 857. (2) The pictogram , [gv̥], “bear”, appears with the distinguishable feature of the ears in Lǐ Líncàn (1972): 65, No. 781.





<sup>30</sup> The “fireplace god” is called “Zanbala” [zã̃lp̥ãtã̃t] in the Na language. It is ideally located in the shrine behind the fireplace. When the owner of the house receives some gifts, he dedicates them to “Zanbala” before using them. “Zanbala” is considered the god of fire that keeps warm of a family. It could be a figure derived from “Jambhala” (ཇམ་བཤ་ལ།, Latin transcription: dzam-bha-la; “the god of wealth”) in Tibetan Buddhism (Chandra 1999: 1500-1514).



its pronunciation is [hɻ] as the second syllable in the star designation.<sup>31</sup> In Lǐ Guówén (2006), it is transcribed as , with the addition of the symbol consisting of three circles as the mark of star's name, similar to  in Rock (1972).



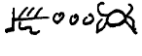
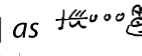




### (6) The “Three Stars” Constellation (Orion’s Belt and Orion’s Broadsword, Sirius from Canis Major, and Procyon from Canis Minor)











The “Three Stars” Constellation (“Sān Xīng 三星”) in Dabaism includes asterisms consisting (possibly each) of three stars:  [soJt<sup>h</sup>a+ɬo+] “Sānxīng Tóu 三星头” (“the head of the three stars”; Orion’s Belt),  [soJt<sup>h</sup>a+lo] “Sānxīng Shǒu 三星手” (“the hand of the three stars”; Orion’s Broadsword),  [soJt<sup>h</sup>a+ts<sup>h</sup>wΛ+mi+] “Sānxīng Chuōmī 三星 ‘戳咪’” (“the ‘Chuomi’ of the three stars”, its identification is unclear), and  [soJt<sup>h</sup>a+kwa+p<sup>h</sup>w] “Sānxīng Báixīng 三星白星” (“a white star from the three stars”, possibly an asterism associating Sirius with Procyon).










The constellation itself is called [soJt<sup>h</sup>a+]. In this name, the first syllable means “three”. In the stars denominations, the syllable [ɬo+] means “head” and [lo] means “hand”. The meaning of the word [ts<sup>h</sup>wΛ+mi+] is still unclear. The last two syllables in the name of the fourth star mean “star” and “white”, respectively. The four symbols listed above are from LJZ (the same as in WJ), while the symbols from QS are more “pictographic”: “Sānxīng Tóu 三星头” is written as  and “Sānxīng Shǒu 三星手” is .

In Dongbaism, there are also four stars from the “Three Stars” Constellation. In Lǐ Líncàn (1972), the first two are  [su+ɬ‘o] “Sānxīng Jiǎo 三星角” (“the horn of the three stars”) and  [su+ɬ‘o]la] “Sānxīng Shǒu 三星手” (“the hand of the three stars”). The pictogram for “hand” has been added into the second glyph in order to distinguish it from the first one. According to the annotation,  has a variant: , with the pictogram for “horn”. In the other two versions of Dongba lunar mansions, the two stars from the “Three Stars” Constellation are



<sup>31</sup> Lǐ Líncàn (1972): (1) No. 576: , [miΛ], eyes” (p. 49); (2) No. 1357: , [mi+], fire, often can be read as [hɻ] and stands for ‘red’ or ‘low’. Possibly it is because the fire is red, so this glyph is also used for the word ‘red’. Further on, it is also borrowed for the word ‘low’, which is homophone of ‘red.’” (p. 105)





[su-t' oŋk'aŋ] (“the horn of the three stars”) and [su-t' oŋgoŋmoŋ] (“the body of the three stars”), according to Zhū Bǎotián’s transcription. The pictograms in the collection of Zhū Bǎotián are  and . The symbol for “horn” has been added on the top of the pictogram (or of the star atlas) of “Sān Xīng” that consists of three circles. The glyphs in Lǐ Guówén (2006) are written through pictograms representing the syllables of the stars names: [sɿ<sup>33</sup>t' o<sup>21</sup>k' o<sup>33</sup>] is written as  and [sɿ<sup>33</sup>t' o<sup>21</sup>kv<sup>33</sup>] as . It is the same in Rock (1972): the glyph for [ʔsso-1't'o-2'k'o] is  and the one for [ʔsso-1't'o-2'gv] is . The pictograms used for the words “horn” and “body” are identical to the ones utilized in the mansions from the “Six Stars” Constellation. The name of the constellation, “Three Stars”, is transcribed through  [ʔsso] “the rustling noise at high altitude” and  [t'o] “to lean; the original meaning could be ‘sword hilt’<sup>32</sup>, as in Rock (1972).








The latter two asterism names correspond to the word “water”. According to Lǐ Líncàn (1972) and Lǐ Guówén (2006), they are called “Shuǐtóu Xīng 水头星” (“the head of the water” - Sirius) and “Shuǐwěi Xīng 水尾星” (“the tail of the water” - Procyon). They correspond to the Daba star  [soŋtʰaŋkuŋpʰuŋ] and their similar names are strong evidence of it. In Lǐ Líncàn (1972),  [kuŋp'urŋdzʌŋkvŋ] “Shuǐtóu Xīng 水头星” is a combination of three units: , , and . The first syllable of its name means “star” and is written through the pictogram  “star”. The second syllable for the word “white” is written through the pictogram of its homophone  “to untie, to unfasten”. The third syllable is written through the pictogram  that means “weight”.<sup>33</sup> The Dongba glyph for the following star  [kuŋp'urŋdzʌŋmæŋ] “Shuǐwěi Xīng 水尾星” lacks of the first two pictograms representing the first two syllables in the star “Shuǐtóu Xīng 水头星” (while keeping the pictogram  for the third syllable)








<sup>32</sup> The graphemes are cited from Rock (1963: 408, 444). The first one has its possible counterpart in Lǐ Líncàn (1972): No. 1177  [soŋ] “big scale” at p. 93, which has also variants written as: , , or . The pictogram  in Lǐ Guówén (2006) could be derived from these glyphs. For the second syllable, the meaning “to lean” represents a homophonic word of this pictogram. The verb “to lean” has more pictographic forms in Lǐ Líncàn (1972: 31): No. 368  and No.369  [t'oŋ] “to lean on”. According to the analysis of the shape, a pictogram comparable to  is findable in Lǐ Líncàn (1972: 121): No. 1588,  [t'oŋ] “to mold”.

<sup>33</sup> Translations of the three pictograms are cited from Lǐ Líncàn (1972): 6, No. 59; 123, No. 1610; 94, No. 1181.

and uses the pictogram  “tail” for the fourth syllable. The circle in the upper part of the glyph is the symbol used in order to identify a star’s name. However, in Daba script, the asterism with such a denomination, [so<sup>h</sup>l<sup>h</sup>a<sup>h</sup>ku<sup>h</sup>l<sup>h</sup>u<sup>h</sup>], is written as , which has no separate units corresponding to each syllable.

These two mansions in Li Guówén (2006) are written through pictograms representing the syllables. The first one, called [ku<sup>21</sup>p<sup>‘</sup>ə<sup>21</sup>dzi<sup>21</sup>k<sup>‘</sup>o<sup>33</sup>] in the local dialect of Naxi, is symbolized by . The first pictogram corresponds to the syllable [p<sup>‘</sup>ə<sup>21</sup>] and the second one refers to [ku<sup>21</sup>], while the third and fourth ones represent the last two syllables. The meanings of the four syllables are “star”, “white”, “water”, and “horn”, in sequence, while the meanings of the four pictograms are “to untie”, “star”, “water”, and “door”, respectively. The star [ku<sup>21</sup>p<sup>‘</sup>ə<sup>21</sup>dzi<sup>21</sup>mæ<sup>33</sup>] is written as . Since the two stars are neighbors in the Divination Figure, the pictogram  “water” for the third syllable has been omitted. The fourth syllable is represented by the pictogram  “tail”.



In Zhū Bǎotián (1985), the two stars names are shortened in two syllables:  [dzi<sup>h</sup>ku<sup>h</sup>] and   [dzi<sup>h</sup>lmæ<sup>h</sup>]. Here, the pictogram  represents the syllable [dzi<sup>h</sup>] “water”, while the other units mean “head” and “tail”, respectively, in the two glyphs. In , the upper part has two graphemes:  [mu<sup>h</sup>] “sky” and  [mɛ<sup>h</sup>] “female”, which is an euphemistic term for “head”.<sup>34</sup>












Rock (1972) did not explain the meanings of the components in each lunar mansion’s glyph, but these two shows to be a syllable-to-syllable transcription of their names. The No. 6 star  [gkü-<sup>1</sup>p<sup>‘</sup>ər-<sup>2</sup>gyi-<sup>2</sup>gkv] includes  [g<sup>h</sup>gv] “egg”,  [p<sup>‘</sup>ər] “white”,  [g<sup>h</sup>yi] “water”, and  [g<sup>h</sup>kv] “head”. The No. 7 asterism  [gkü-<sup>1</sup>p<sup>‘</sup>ər-<sup>2</sup>man] changes the last syllable into [man], which is written through a homophonic word  “tail”.<sup>35</sup>

<sup>34</sup> The translations of graphemes are cited from Li Lincàn (1972): 1, No.1; 54, No. 673. In Naxi language, the morpheme [mɛ<sup>h</sup>] has the meaning of “big”, when it appears as a suffix (cf. Pinson 2012: 263). Therefore, the ligature combined with the graphemes of “sky” and “female” means “big sky”, a respectful way to tell “sky”, as well as a metaphoric expression for “head”.






<sup>35</sup> These five pictograms are cited from Rock (1963): 147, 377, 152, 134, and 249, respectively.

### (7) The “Pheasant” Constellation (Beehive Cluster from Cancer)




In *Daba calendar*,  [hu+kɰ+] “Yějī Xīng 野鸡星” (the “Pheasant” Constellation) corresponds to the Beehive Cluster in Western astronomy. The crest of the pheasant is used as the distinguishing feature in the pictogram representing this bird, compared to the next lunar mansion,  [kʌkɰ+] “Yīng Xīng 鹰星” (the “Hawk” Constellation), in which the beak is emphasized.

On the Dongba side, the glyph is written as  [fv+kɰ] in Zhū Bǎotián’s materials. In Lǐ Líncàn (1972), “Beehive Cluster” is  [tʂ‘ɣ]k‘o+] “Guǐ Xiù 鬼宿” (the “Ghost” Mansion in the Chinese constellations). The upper part of it, written as  ([bɣ]) “flour”. 102: No. 1308), is the imitation of the star atlas as the image of flour thrown towards the sky. The lower part of it shows two pictograms transcribing its name:  [tʂ‘ɣ+] “glass water/gall” (20: No. 210) and  [k‘o+] “door” (91: No. 1148).<sup>36</sup> In Rock (1972), it is written as  [ʼtsu-<sup>2</sup>k‘u], and in Lǐ Guówén (2006),   [tʂ‘u<sup>2</sup>1k‘o<sup>33</sup>]. The pictogram  in Rock’s dictionary is defined as “spring”, with the meaning of “fountain”. It depicts the image of water bubbling through sand (Rock 1963: 460). The middle part of it, , which is more similar to  in Lǐ Guówén (2006), is noted as a “phonetic marker” (Rock 1963: 458).







### (8) The “Hawk” Constellation (Denebola from Ursa Major)







As mentioned above, the “Hawk” Constellation in Dabaism is  [kʌkɰ+]. It is written as  in Zhū Bǎotián (1985). In Lǐ Líncàn (1972), “Denebola” is referred to as  [fv+lɛ+kʌkɰ], which contains the words for both “pheasant” [fv+] and “hawk” [kʌ] (58: No. 712; 59, No. 722). The Divination Figure documented in Lǐ Guówén (2006) is similar to this one. There, it is possible to find a star written as  [fv<sup>55</sup>kə<sup>55</sup>]. The two syllables are represented by the two pictograms for “pheasant” and “hawk”. The counterpart in Rock (1972),  [ʼffü-<sup>2</sup>llü-<sup>3</sup>gko], has one additional grapheme used in order to transcribe its

<sup>36</sup> The translations of words are mainly cited from Lǐ Líncàn (1972). In order to be concise in quotation, a simplified format for quotation is used: (page number: the number of the entry). It is the same hereafter if there are no other annotations.

name: the head part of  [ʔffü] “the stone pheasant”,  [βlü] “tick”, and the reversed image of  [βgko] “hawk”<sup>37</sup>

### (9) The “Pig” Constellation (Regulus, Algieba, Two among σ, ι, θ, and δ Leo)


In *Daba hemerologies* from WJ and QS, three mansions are from the “Pig” Constellation:  [boJk<sup>h</sup>waɿ] “Zhūzuǐ Xīng 猪嘴星” (“the mouth of the pig”),  [boJdziɿ] “Zhūniào Xīng 猪尿星” (“the urine of the pig”),  [boJmaɿ] “Zhūyóu Xīng 猪油星” (“the fat of the pig”). In QS, the pictogram for “Zhūzuǐ Xīng 猪嘴星” is different from the ones from the other villages. It resembles the head of a pig: .<sup>38</sup> In LJZ, there is a fourth star from the “Pig” Constellation written as . *Daba* priests explained it as [boJmaɿ] “Zhūyóu Xīng 猪油星”, while he interpreted the one before it, , as [boJmæɿ] “Zhūwěi Xīng 猪尾星” (“the tail of the pig”).<sup>39</sup>

*Dongba* lunar mansions contain three asterisms from the “Pig” Constellation: “Zhūzuǐ Xīng 猪嘴星” (“the mouth of the pig”; Regulus), “Zhūyāo Xīng 猪腰星” (“the waist of the pig”; Algieba), and “Zhūyóu Xīng 猪油星” (“the fat of the pig”; two among σ, ι, θ, and δ Leo). According to the version from Lǐ Líncàn (1972), they are written in sequence as:  [boJk<sup>h</sup>oɿ],  [boJtoɿ], and  [boJmaɿ]. The pictograms used in order to present the segments of body parts in the names are:  [k<sup>h</sup>oɿ], “door”,  [toɿ] “plank”, and  [maɿ] “butter”<sup>40</sup>

The structures of the glyphs for the “Pig” Constellation are quite concordant among the four versions of *Dongba* stars. They all are represented by the compound “pig + body part”. The determinatives of the stars names consist of two circles in the upper part of the glyphs, as shown in Lǐ Líncàn (1972), while the circles are three in Rock (1972). Those symbols do not appear in the *Divination*

<sup>37</sup> The translations of the three words are quoted from Rock (1963): 109, 230, and 126, respectively.

<sup>38</sup> The first three glyphs in this paragraph are from LJZ. Those in WJ and the latter two in QS are the same.



<sup>39</sup> There is, indeed, one glyph similar to  in the three stars from the “Pig” Constellation in both versions of *hemerologies* from WJ and QS. However, *Daba* priests from these two villages explained it as a star from the “Mdzo” Constellation. In reality, the calendar from LJZ contains one star less in the following constellation of “mdzo”.








<sup>40</sup> Cf. Lǐ Líncàn (1972): 91 No. 1148; 90, No. 1128; 102: No. 1310.




Figure provided by Lǐ Guówén (2006). In Zhū Bǎotián (1985), only the star called “Zhūzuǐ Xīng 猪嘴星” shows the symbol composed of four circles.<sup>41</sup>




### (10) The “Mdzo” Constellation (the Area of Scorpius)














This series of stars form different parts of the “Mdzo” Constellation (Piānniú Xīng 犏牛星). The first one is written as  (WJ) or  (QS). Daba from WJ explained it as [zɿ˩zɿ˩], which means “the whole body of the mdzo”. In QS, Daba priests interpreted it as [zɿ˩zɿ˩qʰ˩], which means “the horns on the four sides of the mdzo”; the syllable [zɿ˩] means “four” in the local language.<sup>42</sup>

The other four stars in this series are quite similar among all the Daba hemerologies, including:  [zɿ˩qʰ˩] “Piānniú Jiǎo 犏牛角” (“the horn of the mdzo”);  [zɿ˩i˩] “Piānniú Ěr 犏牛耳” (“the ear of the mdzo”);  [zɿ˩ŋjæ˩] “Piānniú Yǎn 犏牛眼” (“the eye of the mdzo”);  [zɿ˩gɿ˩] “Piānniú Shēn 犏牛身” (“the body of the mdzo”)<sup>43</sup>. These pictograms imitate the shape of horn, ear, and eye, with the exception of the fourth one. The glyphs  from WJ,  from LJZ, and  from QS, do not have a clear graphic connection with the items they try to depict.



In the 28 lunar mansions of Dongbaism, this group of stars occupies nine positions. Zhū Bǎotián (1985: 323) pointed out that they are mainly located in the area covered by Scorpius. “Mdzo” is translated as the original symbol  in Lǐ Líncàn (1972), as “Zhīnǚ 织女” (“weaver girl”) in Zhū Bǎotián (1985), and as the Chinese transliteration “Ruǐ 蕊” in Lǐ Guówén (2006).

The collection of the stars from this constellation in Lǐ Líncàn (1972) includes:
















  [zy˩nv˩] “ Zuǐ 嘴” (the mouth of the ) ,  [zy˩hɛ˩] “










<sup>41</sup> The three stars are written in sequence as:   [bu<sup>21</sup>k'o<sup>33</sup>],   [bu<sup>21</sup>do<sup>21</sup>],   [bu<sup>21</sup>ma<sup>55</sup>] (Lǐ Guówén 2006);  [bu˩k'u˩],  [bu˩tɔ˩],   [bu˩ma˩] (Zhū Bǎotián 1985);  [bu<sup>21</sup>k'u˩];  [bu<sup>21</sup>dto˩];  [bu<sup>21</sup>ma] (Rock 1972).











<sup>42</sup> As mentioned above, it is considered a star from the “Pig” Constellation in LJZ.

<sup>43</sup> The glyph analyzed here is from LJZ. In QS, it is written as . In WJ, the star [zɿ˩gɿ˩] is represented by  and explained as “Piānniú Zhǎng 犏牛掌” (“the foot sole of the mdzo”). However, the syllable [gɿ˩] indicates that the literal meaning of this designation is “the body of the mdzo”. In Na language, the word for “body” is [gɿ˩mi˩], while “foot sole” is [bɿ˩].





Ēr 耳” (the ear of the ) ,  [zy]miΛ] “ Yǎn 眼” (the eye of the ) ,  [zy]ts‘i] “ Jiān 肩” (the shoulder of the ) ,  [zy]ba] “ Yīn 阴” (the vagina of the ) ,  [zy]dv] “ Wèi 胃” (the stomach of the ) ,  [zy]t‘u] “ Yāo 腰” (the waist of the )<sup>44</sup> ,  [zy]bΛ+] “ Jiǎozhǎng 脚掌” (the foot sole of the ) , and  [zy]mæ+] “ Wěi 尾” (the tail of the ) .



There are also glyphs not listed in this dictionary, but documented in other versions of Dongba lunar mansions. For example,  [zy<sup>21</sup>k‘o<sup>33</sup>] “ Piānniú Jiǎo Xīng 犏牛角星” (the horn of the )<sup>45</sup> appears in Rock (1972), Zhū Bǎotián (1985), and Lǐ Guówén (2006). The neck of the “mdzo”,  [zy<sup>21</sup>tə<sup>33</sup>] , is also witnessed in these three sets of data. However, the glyph in Zhū Bǎotián’s documentation, written as  , is quite similar to the one representing the star  called “ Jiān 肩” in Lǐ Líncàn (1972) and  [‘zü-<sup>2</sup>ds’i] in Rock (1972). Moreover, there is also the mansion  [zy]gu+] “Zhinǚ Shēn 织女身” (“the body of Zhinǚ 织女”) in Zhū Bǎotián (1985) and Rock (1972). The star  [zy<sup>21</sup>kv<sup>33</sup>ly<sup>33</sup>] “Zhinǚ Tóu 织女头” (“the head of Zhinǚ 织女”) has been documented only in Lǐ Guówén (2006). A possible counterpart of it could be  [‘zü-<sup>3</sup>lv-<sup>2</sup>gkv] in Rock (1972), which is also the first star of the “Mdzo” Constellation. Despite these variations, the different hemerologies choose nine stars from the “Mdzo” Constellation in order to mark the days.



















The ligatures for these lunar mansions are all combinations of the symbols for “mdzo” (e.g.:  in Lǐ Líncàn 1972) plus the pictograms for body parts. Most of them are pictograms, indeed, including:  [nv] “mouth” (50: No. 593);  [hε+] “ear” (49: No. 588);  [miΛ] “eye” (49: No. 576);  [ts‘i] “shoulder” (72: No. 872);  [ho] “stomach” (53: No. 643);  [t‘u] “waist” (53: No. 650);  [mæ+] “tail” (73: No. 882);  [bΛ+] “foot sole” (55: No. 675). In addition, it is possible to list also  [k‘wa+] “horn” (71: No. 857),





<sup>44</sup> According to the annotation of this entry, it could also be read as [zy]zy]gv+] , which means the body of “mdzo”.

<sup>45</sup> This glyph is cited from Lǐ Guówén (2006).

which is not spotted in Lǐ Líncàn’s collection of lunar mansions, but is included in the other databases. The pictogram  [ma] “butter” (102: No. 1310) is used for the syllable [ma<sup>21</sup>] “fat” in the star  [zy<sup>21</sup>ma<sup>21</sup>] “Ruǐyóu Xīng 蕊油星” (“the fat of the mdzo”, Lǐ Guówén 2006).







In this context, metaphor in naming the stars can be noticed. For instance, “vagina” ( [mɛ]. 54, No. 673), being a taboo in Moso culture, is expressed through the word “flower” ( [ba]. 81, No. 993) in Lǐ Líncàn (1972), Rock (1972), Zhū Bǎotián (1985), and Lǐ Guówén (2006).<sup>46</sup>

The usage of homophonic pictograms are also spotted. In Zhū Bǎotián (1985), the star “Zhīnǚ Zuǐ 织女嘴” is written as  , using the word  [nv] “soy” for the transcription of the homophone for “mouth” (Lǐ Líncàn 1972: 83, No. 1031). Rock (1972) uses three pictograms in order to record this star’s name, written as  or . Besides the symbol of [zū] , the single pictograms are:  [lv] “stone”,  [gkv] “head”, and  [nun] “yellow pea”.<sup>47</sup> According to Rock (1972: 515), the choice between  [lv] and  [nun] depends on the two alternative ways of reading the star name. Such a polyphonic background has possibly aroused the misinterpretation of the name of   in Lǐ Guówén (2006). With the pictogram  indicating the body part of  [zū], Dongba priests read it as [zy<sup>21</sup>kv<sup>33</sup>ly<sup>33</sup>]. The meaning of [zū-<sup>3</sup>nun-<sup>2</sup>gkv]/[zū-<sup>3</sup>lv-<sup>2</sup>gkv] “the mouth of the mdzo”, therefore, has been changed into “the head of the mdzo”. Nevertheless, this mis-transmission does not change the fact that the pictogram  [y] “spear” (Lǐ Líncàn 1972: 114, No. 1473) functions as a phonetic marker in the glyph  .



Moreover, the syllable [gu] for “body” in the star “Zhīnǚ Shēn 织女身” ( ) Zhū Bǎotián 1985;  Rock 1972) is represented by the word “egg”,  [kv] (Lǐ Líncàn 1972: 62, No. 751), which has similar pronunciation.


<sup>46</sup> Flower as a metaphoric image of vagina is widely attested in various cultures all over the world. Cf. Goody 1993: 77; Holm 2004: 21-22; Frownfelter 2010: 21-52.


<sup>47</sup> The translations of the three words are quoted from Rock (1963): 242, 134, and 349, respectively.

In *Lǐ Guówén* (2006), the star 鬼 矣 “Ruǐwěi Xīng 蕊尾星” (“the stomach of the mdzo”) uses the glyph of a ghost’s name for the syllable “stomach”: , [dv˥] (*Lǐ Líncàn* 1972: 138, No. 1809). In *Naxi dictionary*, the word “stomach” is [ho˥] (*Lǐ Líncàn* 1972: 53, No. 643) / [hu˥<sup>55</sup>] (*Pinson* 2012: 183). Since it is different from the syllable in the star name,  is used for a more precise recording of its name. Besides the examples above mentioned, the pictograms utilized as homophonic transcriptions in *Rock* (1972) include also:  [ʔtgkye] “oil lamp”,  [ʔtgkye] “phonetic marker”<sup>48</sup>,  [ʔdsʔ̃] “goat”, and  [ʔboa], “sole of the foot”<sup>49</sup>

**(11) Two Local Stars in Dabaism: “Hǔzuǐ Xīng 虎嘴星” & “Ròushí Xīng 肉食星”**

These two stars are only attested in *Daba hemerologies*. The star “Hǔzuǐ Xīng 虎嘴星” is called [la˥hũ˥-q˥hwa˥]. In the local language, [la˥hũ˥-] means “tiger”<sup>50</sup> and [q˥hwa˥] means “mouth”. The name is written as the pictogram of “tiger”, for example:  (LJZ). The glyph in WJ is relatively more abstract: , which could resemble the claw of a tiger.





The latter star is called [ʂa˥dʒi˥dy˥] “Shezidu” in the local language. Its etymological meaning remains unclear. The designation, passed down from generation to generation, has lost, among speakers, its original meaning and the memory of its naming process. Even *Daba* priests are no more able to exactly explain the star name. WJ *Daba* interpreted “Shezidu” as “the star of those carnivores”. According to my knowledge of the language, the first syllable could mean “meat” (whose pronunciation in modern Na is [ʂi˥]) and the second one could indicate “to eat”. As far as the third segment, it is obscure. If we follow the explanation “the star of those carnivores”, it could represent “bobcat”, “stomach”, “ghost”, etc. It is written as a triangle with grids, e.g.:  (LJZ).







<sup>48</sup> However, a similar pictogram in *Lǐ Líncàn* (1972: 51, No. 617),  [ke˥] “neck”, has a recognized meaning.

<sup>49</sup> The translations of the four words are from *Rock* (1963): 431, 431, 72, and 23, respectively.

<sup>50</sup> The word [la˥hũ˥] could be a recent loan from Chinese. The word “tiger” in Na and Naxi is [la˥] (*Lǐ Líncàn* (1972: 63, No.761).

## (12) “Tóu Xīng 头星” (Winnowing Basket) & “Wěi Xīng 尾星” (Dipper)

“Tóu Xīng 头星” literally means “the star of the head”, and “Wěi Xīng 尾星” means “the star of the tail”. They are written as  [ʃwætq<sup>h</sup>wΛt] and  [mæ:ɔq<sup>h</sup>wΛt] (LJZ & WJ), while in QS they are transcribed as  and . In both versions the parts of head and tail have been emphasized in the pictograms.

In published Dongba materials, similar mansions are only recorded in (Lǐ Líncàn 1972):  [ʃwaɔk'waɔ] and  [hyɔk'waɔ]. These two asterisms are represented by ligatures, with two units per each writing the syllables of their names and determinatives marking the star identification. The pictogram  [ʃwaɔ] means “high” (95: No. 1190) and  [mi] indicates “fire”. The meaning of  can be extended to “low”<sup>51</sup> (105: No. 1357). The pictogram  [k'waɔ] literally means “horn” (71: No. 857).

## Grammatological classification of Daba and Dongba lunar mansions

According to the traditional linguistic perspective, writing is the transcription of speech (cf. Aristotle 1938: 115; Saussure 1916: 23-24; Bloomfield 1933: 21). Gelb (1952: 6-7) traced back the etymology of the verb “to write” (that originally related to “carve”) and pointed out that writing, as a system of signs, aims at communicating ideas. Baron (1981: 21, 77) claimed that writing, speech, and sign, are all languages, “means of social interaction”. With the consideration of visual signs that are not restrictly connected to language or words, scholars modified the description of writing as a “graphic representation of speech” (Trager 1974: 377; Serruys 1982: 455; Harris 1986: 76-121; Olson 1993: 1).

The decisive factor in judging the elaboration of a writing system is how its functional and unambiguous representation is (Gaur: 1987; Harris: 1986). The types of scripts depend on the relationship of graphs with words, which can be analyzed through phonetic and semantic aspects (Boltz 1994: 18-20). Four categories under such framework are: [-P, -S], non-writing; [-P, +S], visual sign (non-writing); [+P, +S]; [+P, -S]. Semantography, an attempt of designing

<sup>51</sup> Cf. footnote 31.

“non-alphabetical symbol writing”, should be of the second category (Bliss 1949). Two sophisticated terms proposed by Whittaker (2009: 54), “morphogram” and “phonogram”, could correspond to the latter two categories, respectively.

*Daba and Dongba scripts are pictographic writing. Their glyphs correspond to a certain word in Na and Naxi languages. In the case of lunar mansions, each glyph (regardless of whether it is a single glyph or a ligature) expresses one meaning: the name of the star. In other words, they have phonetic value and semantic value. Dongba glyphs have also developed the syntactic function according to which they can represent speech (Olson 1993: 6-7), e.g.: Dongba scripture and secular documents.<sup>52</sup> These characteristics distinguish Daba and Dongba scripts from marking systems that are used non-textually (Haring & Kaper 2009; Pim et al. 2010: 431-442), or from logograms that represent a notion through an image, e.g.: Nahuatl script.<sup>53</sup> In this section, Daba and Dongba glyphs will be categorized according to their relationships with syllables (phonetic aspect) and morphemes (semantic aspect).*

### Daba script classifications


*The 28 Daba glyphs are all single graphemes, while the names of the stars vary from two to four syllables.<sup>54</sup> Basing the cataloguing on the glyphs listed in the relatively more ancient versions from LJZ and WJ, the Daba script for 28 lunar mansions can be divided into three categories:*

#### (1) Pictograms depicting star atlases (8/28)



[z<sub>w</sub>æ˧k<sub>w</sub>˧], the “horse” (Hugua);



(LJZ & WJ) /  (QS), [p<sub>ʌ</sub>˧k<sub>w</sub>˧p<sup>h</sup>˧], “a white star from the frog”(Bond);



[q<sup>h</sup>˧˧t<sub>s</sub>æ˧˧g<sub>y</sub>˧˧m<sub>i</sub>˧˧], “the body of the six stars” (Pleiades);





[so˧˧t<sup>h</sup>˧˧a˧˧ɬo˧˧], “the head of the three stars” (Orion’s Belt);


<sup>52</sup> Dongba scripture contains all aspects of Dongba culture. Most of them are composed of formulaic verses, apart the ones about divination, which are prose. Secular documents refer to letters and contracts of property. Cf. Yù Suishēng (2008): 124-250.



<sup>53</sup> Nahuatl script is a pictographic writing system of Aztec People from Mesoamerica. “Tonalpohualli” is a kind of calendrical code in Nahuatl documents. Each image in the calendar indicates a specific notion, such as “the hill heart speaks to the feathered serpent” (Bolinger 2013: 21).

<sup>54</sup> The gloss of each morpheme can be found in Appendix A - Table 1.


 [so]t<sup>h</sup>a+llo], “the hand of the three stars” (Orion’s Broadsword);


 [so]t<sup>h</sup>a+ts<sup>h</sup>wΛ+mi+], “the ‘chuomi’ of the three stars” (unknown);



 [so]t<sup>h</sup>a/kw+ph<sup>h</sup>w], “a white star from the three stars” (Sirius);


 [zi]z<sub>y</sub>+], (WJ), “the whole body of the mdzo” /  [zi]z<sub>y</sub>+q<sup>h</sup>.t+], (QS), “the horns on four sides of the mdzo” (asterism in the area covered by Scorpius).


## (2) Pictograms related to the star designations (16/28)


 [pΛ+k<sup>h</sup>wΛ+], (LJZ & WJ), the mouth of the “frog” (Markab and Scheat);


 [pΛ+dzw+], the urine of the “frog” (Algenib and Sirrah);


 (LJZ) /  (QS), [dzw+kw+], the star of “water” (Legs);


 [q<sup>h</sup>.t]tsæ]q<sup>h</sup>.t+], the horn of the “six stars” (Pleiades);


 [hu+kw+], the “pheasant” (Beehive Cluster);


 [kΛ]kw+], the “hawk” (Denebola);


 [bo]k<sup>h</sup>wΛ+], the mouth of the “pig” (Regulus);




 [bo]dzi+], the urine of the “pig” (Algieba);


 [bo]ma+], the fat of the “pig” (2 among σ Leo, ι Leo, θ Leo, & δ Leo);


 [zi]q<sup>h</sup>.t+], the horn of the “mdzo” (asterism in the area covered by Scorpius);


 [zi]ḷiḷiḷ, the ear of the “mdzo” (asterism in the area covered by Scorpius);

 [zi]ḷn̄jæḷ, the eye of the “mdzo” (asterism in the area covered by Scorpius);


 [zi]ḷgyḷ, the back of the “mdzo” (LJZ) /  [zi]ḷgyḷ, the foot sole of the “mdzo” (WJ) /  [zi]ḷgyḷ, the body of the “mdzo” (QS) (asterism in the area covered by Scorpius);


 [la]ḷhūḷqḷwḷḷ, the mouth of the “tiger” (unknwon);

 [ḷwæḷqḷwḷḷ], the star of the “head” (Winnowing Basket);


 [mæḷqḷwḷḷ], the star of the “tail” (Dipper).



### (3) Pictograms between the two categories, difficult to be defined (4/28)


 [pḷæḷmiḷ], “Pami” (Altair);

 [niḷdḷiḷ], “Nizhi” (Altair);

 [niḷæḷhḷyḷ], the star of “red eye” (Aldebaran);

 [ḷḷḷdḷiḷdḷyḷ], “Shezidu” (unknwon).

The glyphs in the QS hemerologies are more pictographic if compared with those in the versions from WJ and LJZ. For example, “Wāzuī Xīng 蛙嘴星” (“the mouth of the frog”) is written as , imitating the head of a frog. Moreover,  [pḷæḷmiḷ] “Pami”, the glyph classified into category (3) from the hemerologies in

WJ and LJZ, is written as  in QS. It could be a pictogram for the head of a man. Therefore, it should belong to category (2).<sup>55</sup>





The pictograms in the first list could be considered as the stars atlases, sort of imaginative representation of asteroid clusters by Daba priests. The glyphs in the second category are less linked to the need of a graphical representation of the stars atlases. They show an evolution connected with the phonetic aim of indicating the pronunciation of lunar mansion names. The four glyphs in the third category are unclear: Daba priests have not been able to explain the meaning of them, nor to suggest the shape of what they represent. Only for the “red eye”, there are some hints: Daba uses the pictogram for “conch”, the symbol for the “fireplace god” (“Huǒ Shén 火神”), to refer to the “Red Eye” Constellation.

Daba hemerologies are used by the priests, as mentioned, in selecting auspicious days for rituals. During the field work aimed at deciphering these complex symbols, it was noticeable that Daba priests recite by heart the 28 lunar mansions names, rather than reading them one by one. In other words, they depend more on their memory of the star system than on the written texts.

## Dongba script classifications

In Dongba writing system, the stars names are mostly ligatures, complex glyphs consisting of several units. These units generally work as syllabic transcriptions of the stars names. According to the glyphs structures, these ligatures could be interpreted as three groups with four subgroups. In the following part, the classification and the criteria used in distinguishing the writings are going to be explained in detail.

### (1) Pictograms depicting star atlases

These Dongba glyphs are similar to the first category of Daba script. Some examples in this group include: , the “six stars” (Pleiades) (Lǐ Líncàn 1972); , “the horn of the ‘three stars’” (Orion’s Belt) (Lǐ Líncàn 1972); , “the body of the ‘six stars’” (Pleiades) (Zhū Bǎotián 1985); and  “the body of the ‘three stars’” (Orion’s Broadsword) (Zhū Bǎotián 1985).

### (2) Pictograms depicting star atlases + pictograms representing syllables of the star designations



<sup>55</sup> The word “young man” in Na is [p<sup>h</sup>æ-tɕiŋ]. The first syllable is homophonous to the first segment in the star name.






This group contains the glyphs for stars that are combinations of star atlases (composed of circles) and single graphemes representing the syllables of the star names. Basing the analysis on the different functions of the pictogram depicting star atlases, it is possible to distinguish two subgroups: (2A) and (2B).

## (2A) Pictograms depicting star atlases indicate syllables in the star designations

In this subgroup, the pictograms depicting star atlases are the main part of the ligatures representing the constellations. They indicate some of the syllables in the stars names.

The other pictograms as components of ligatures represent the syllables of the stars names, while some of them have the same meaning of the morphemes in the stars designations. For instance, the No. 69 star  [sɯ-t'ɔŋaŋ] “the hand of the ‘three stars’” (Orion’s Broadsword) in *Lǐ Lǐncàn* (1972) uses the pictogram for “hand” associated with the star atlas symbol (if compared to No. 68) in order to represent the syllable [ŋaŋ] for “hand” in its name. Another example: the star  [tɕ'ua<sup>55</sup>ts'ə<sup>21</sup>k'ɔ<sup>33</sup>] “the horn of the ‘six stars’” (Pleiades) utilizes the pictogram for “horn” beside the pictogram for the atlas of the “Six Stars” Constellation in order to constitute the syllable [k'ɔ<sup>33</sup>] “horn”. Furthermore, eight out nine of the “Mdzo” Constellation in the *Lǐ Lǐncàn* (1972) are written with the addition of pictograms representing body parts in their names, connected with the abstract symbol of the “Mdzo” Constellation. The only one not containing the corresponding pictogram of body part is a metaphor: the word “flower” is used to refer to “vagina”. This indirect appellation has also been written by the pictogram of “flower”.


A few of the graphemes used in order to represent syllables are homophones of the words in the lunar mansion designations. For example, the right part of the star  “the body of the ‘six stars’” in *Lǐ Guówén* (2006) represents a bear. It has been utilized for the syllable for “body”, since “bear” and “body” are homophones in Naxi. Another example is given by the star  “the mouth of the weaver girl” in *Zhū Bǎotián* (1985). The pictogram  “soy” has been used in order to mark the syllable for “mouth”.


In some glyphs, the component pictograms express their meanings according to their positions. This function could be analogous with “Zhìshì 指事” in Chinese grammatological categories.<sup>56</sup> In *Zhū Bǎotián* (1985), for example, the star









<sup>56</sup> “Lìu Shū 六书” theory is a traditional philological theoretical framework aimed at the analysis of the composition of Chinese characters proposed by Xū Shèn (58-147 AD), a scholar



“the horn of the ‘six stars’” is written with the addition of the mark on the




top of the star atlas symbol of the “Six Stars” Constellation (  ). The mark could be considered as the pictogram itself of “horn”, while its position in the ligature is relevant in expressing the meaning. A similar case is findable in the star




 “the horn of the ‘three stars’”, in which the mark/pictogram of “horn” has been added on the top of the star atlas symbol of the constellation “three stars”.

Furthermore,  “the horn of the weaver girl”,  “the ear of the weaver girl”, and  “the eye of the weaver girl”, all apply this strategy in writing the lunar mansions. Other examples include  “the horn of  ” and  “the ear of  ” in Rock (1972), and  “the ear of Ruǐ” in Lǐ Guówén (2006).

## (2B) Pictograms depicting star atlases as determinatives (identifying the glyphs as star names)



In this subgroup, besides the pictograms corresponding to the syllables of the star names, the star atlases composed of circles operate as determinatives for the glyphs indicating stars’ names. But they do not represent syllables as they do in subgroup (2A).





For example, the glyph for  [py-ɬbo:] “the star of the porcupine” (Altair) is composed of the two syllables of “porcupine”:  [py-ɬ] “litter, the container for measuring one liter” and  [bo:] “pig”. A circle has been written on the top in order to identify this glyph as a word for the star.




Other samples are findable among the glyphs for the “Frog” Constellation. In the stars  [pa-ɬk' o-ɬ] “the mouth of the ‘frog’” and  [pa-ɬby-ɬ] “the limb of the ‘frog’” (these two together constitute the “Great Square of Pegasus”), 




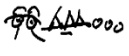



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
from Han Dynasty (206 BC-220 AD). According to this theory, Chinese characters can be divided into six categories based on the six manners they were created: Zhìshì 指事 (“simple indicatives”), Xiàngxíng 象形 (“pictograms”), Xíngshēng 形声 (“phono-semantic compound characters”), Huìyì 会意 (“compound indicatives”), Jiǎjiè 假借 (“phonetic loan”), and Zhuǎnzhù 转注 (“derived characters”). Cf. Xū Shèn (2001: 314); Boltz (1993: 432-433). Chinese “Liù Shū 六书” theory can be used to describe the manners applied in creating Dongba glyphs (cf. Zhōu Yǒuguāng 1998: 167; Yù Suìshēng 2008: 12-37).

[pa+] “frog”,  [k' o+] “door”, and  [by+] “strong” stand for syllables of the designations, while three circles are added in order to mark their identities as stars names.

Furthermore, the glyph of star  [tʂ'ɣ+k' o+] “the pheasant” (Beehive Cluster) shows three units: , in the upper part, represents the star atlas of the constellation;  [tʂ'ɣ+] and  [k' o+], in the lower part, indicate the name.



The three stars of the “Pig” Constellation in *Lǐ Líncàn* (1972),  [bo.]k' o+] “the mouth of the ‘pig’” (Regulus),  [bo.]to] “the waist of the ‘pig’” (Algieba), and  [bo.]ma.] “the fat of the ‘pig’” (two among σ Leo, ι Leo, θ Leo, and δ Leo), are all composed of two pictograms representing the two syllables in the names and the star atlas symbol consisting of two circles identifying the glyphs as stars names.

More examples can be found in stars like  “the star of ‘porcupine’” (Altair),  “the horse” (Hugua),  “the mouth of the ‘pig’” (Regulus) (Zhū Bǎotián 1985), and in asterisms like  [miə<sup>21</sup>hy<sup>21</sup>no<sup>55</sup>kə<sup>21</sup>] “the red eye”,  [s<sub>1</sub><sup>33</sup>t' o<sup>21</sup>k' o<sup>33</sup>] “the horn of the three stars”,  [s<sub>1</sub><sup>33</sup>t' o<sup>21</sup>kv<sup>33</sup>] “the body of the three stars”, and  [fv<sup>55</sup>kə<sup>55</sup>] “the star of the hawk” (Lǐ Guówén 2006).

Rock (1972) also includes the pictogram  [l'gkü] “star” (Rock 1963: 132), marking the glyph as a designation of lunar mansion. However, it is a unified component on the upper part of all the 28 ligatures, not as the ones in group (2B) that varied from one to another. Therefore, my classification among the ligatures of the 28 stars in Rock (1972) is established according to the body part of each glyph.

### (3) Glyphs corresponding to syllables of the star designations

The glyphs in this category are all combinations of pictograms representing the syllables of the lunar mansions names. The component pictograms can have the same meaning of the syllables or can be homophones of the morphemes.

Take the star called [t' a]kwu.] “the tail of time” (“Stomach”), for instance. It is written as  in Lǐ Guówén (2006). Its counterpart in Lǐ Líncàn (1972) is .

The graphemes on the left are the same, 𠄎 [tʰaŋ] “pagoda” (Lǐ Líncàn 1972: 118, No. 1534), homophonic to the syllable [tʰaŋ] in the star’s designation. The right components represent the syllable [kɯŋ] “star”. The pictograms used in these two sources are “hawk” and “star”, respectively.

Some of the Dongba glyphs do not have a one-to-one correspondence with the syllables of the stars names. Conversely, they just represent some of the morphemes.<sup>57</sup> For example, the star called [kɯ<sup>21</sup>pʰə<sup>21</sup>dzi<sup>21</sup>kʰo<sup>33</sup>] “the head of water” (Sirius) is written as 𠄎𠄎𠄎, and four graphemes are used to write down the four syllables; however, in the ligature for the star 𠄎𠄎 [kɯ<sup>21</sup>pʰə<sup>21</sup>dzi<sup>21</sup>mæ<sup>33</sup>] “the tail of water” (Procyon), the pictogram for the third syllable is omitted, while it is written as 𠄎 in the former star.

The star 𠄎 [gəŋkɯŋ] “Yīng Xīng 鷹星” (the “Hawk” Constellation) is another specific case needing to be clarified. It is written only through a single grapheme, the pictogram for hawk, which marks the first syllable of the star name. Its function, therefore, is similar to the second category of Daba script: pictograms related to the star names.





An additional point in differentiating the ligatures under each subgroup is represented by the question asking whether the component graphemes are identical or homophonic to the morphemes in the lunar mansions designations. These two secondary subgroups have been tried to be distinguished in Table 1, in which the classifications of Dongba glyphs under the criteria explained in this section are displayed. However, there are several situations that need to be clarified.



A number of Dongba graphemes have gained extended meanings besides their original ones. In other words, additional/frequently used expressions could have been fixed, over time, in certain graphemes.









For example, the symbol 𠄎 [miŋ] was the imitation of “fire”. During the long history of the usage of this glyph, it has assumed the meaning of “red” and “low” (read as [hɯŋ]), since it has been often utilized to indicate these two words (Lǐ Líncàn 1972, 105: No. 1357).

𠄎 [ʔgkv] means “head” in Rock (1963: 134), while it is explained as an image of “garlic” in Lǐ Líncàn (1972: 84, No. 1039).






<sup>57</sup> The omission of glyphs representing words happens randomly in Dongba scripture. It is a kind of convention passed down through generations of Dongba priests (Lǐ Jīngshèng 2003b: 200–201; Zhōng Yàopíng 2010: 106). The words written down are generally content words, while those not represented through glyphs are function words (Wáng Yuánlù 1998: 124).

Moreover, the pictogram , representing the syllable “limb” in , is a ligature in itself:  ([bɿɿ]) “flour”) and  ([tʂʌrɿ] “joint”).

The glyph  has a phonetic function according to Rock (1963: 431), while through its resemblance to , it maintains its original meaning of “neck” in Lǐ Líncàn (1972: 51, No. 617).











Some of the lunar mansions’ etymologies remain still unclear. We know that the star  is used as a metaphoric way to indicate the “vagina of the ‘mdzo” using the grapheme “flower”, while  is also a ligature based on the euphemistic interpretation of “the head of water”. However, there are others glyphs showing an obscure naming process. For example, the star called [tʂʰɿɿkʰoɿ]<sup>58</sup> is written as  (Lǐ Líncàn 1972),  (Rock 1972), or   (Lǐ Guówén 2006). The graphemes used for representing the name’s syllables are  “grass water/gall” or  “spring” with that of “door”. It is translated as “Guǐ Xiù 鬼宿” (the Chinese “Ghost” Mansion) in Lǐ Líncàn (1972), and no other literal meanings of this asterism are given. Therefore, it is difficult to judge if the different units are semantic components or just phonetic transcriptions.

Moreover, some ligatures are partly composed of phonetic markers and semantic equivalents. For example, a number of the lunar mansions named after the animals body parts are represented through the pictogram of the animal with (homophonic) pictograms related to

the body parts ( , , , , , etc.).

<sup>58</sup> Its counterpart is  [fvɿkuɿ] “Yějī Xīng 野鸡星” (the “Pheasant” Constellation) in Zhū Bǎotián (1985).

**Table 1. Classification of Dongba Glyphs for the 28 Lunar Mansions** <sup>59</sup>

Pictograms for Star Atlases				Pictograms for Star Atlases + Pictograms Representing Syllables								Pictograms Representing Syllables				Gloss	
				Pictograms for Star Atlases Corresponding to Syllables in the Stars Designations <sup>60</sup>				Pictograms for Star Atlases Operating as Determinatives									
ZD	EY	E L J	L J	ZD	EY	ELJ	LJ	ZD	EY	ELJ	L J	ZD	EY	ELJ	LJ		
LLC	ZBT	L G W	R J	LLC	ZBT	LGW	RJ	LLC	ZBT	LGW	R J	LLC	ZBT	LGW	RJ		
																the porcupine's tail	
																	the horse
																	the frog's tail
																	the six stars
																	the six stars' horn
																	the six stars' body
																	the three stars

<sup>59</sup> In this table, ZD, EY, ELJ, and LJ are abbreviations for the field work places where the glyphs were collected: Zhōngdiàn County, É'yà Village, É'lùòjǔ Village, and Lìjiāng area, respectively. LLC, ZBT, LGW, and RJ are abbreviations for the corresponding sources: Lǐ Lín'àn (1972), Zhū Bǎotián (1985), Lǐ Guówén (2006), and Rock (1972). The last row shows the number of stars of each column. The numbers in brackets list the number of glyphs as variants.



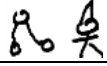




<sup>60</sup> The ligatures in parentheses are variants documented in dictionaries.








														the tail of time
														the body of the six stars
														the red eye
														the horn of the three stars
														the body of the three stars
														the head of the water
														the tail of the water
														the pheasant
														the hawk
														the pig's mouth
														the pig's waist
														the pig's fat
														the mdzo's head / mouth

																the mdzo's neck	
																the mdzo's shoulder	
																the mdzo's stomach	
																the mdzo's body	
																	the higher star
																the lower star	
2	2	0	0	10 (1)	11	11	9 (1)	10	3	4	0	6	12	13	19	Total	

<sup>62</sup> This is a variant of the star  [ˈz̥i-˨˨ds̥ʰ] “the shoulder of the mdzo”.

## 5. Reconstruction of the developmental path from Daba to Dongba script

As mentioned in Section 4, according to the correspondence between writing and language, Daba glyphs can be classified into three categories: (1) pictograms depicting star atlases; (2) pictograms related to the lunar mansions designations; (3) pictograms between these two categories and difficult to be defined.

Conversely, Dongba glyphs can be classified into three groups with four subgroups: (1) pictograms depicting star atlases; (2) pictograms depicting star atlases + pictograms representing syllables of the star designations; (3) glyphs that correspond to syllables of the star designations. The second group could be divided into two subgroups: (2A) pictograms for star atlases correspond to syllables in the stars designations; (2B) pictograms depicting star atlases as determinatives (identifying the glyphs as star names). Among the ligatures, pictograms used for writing down the syllables are classifiable as: i) identical to the syllable (phonetically and semantically); ii) homophonic to the morpheme expressed by the syllable. However, there is an intermediate, transitional zone between them.

Both the first categories of Daba and Dongba glyphs consist of pictograms (generally composed of small circles) possibly depicting the stars atlases. The second category of Daba script is similar to the third group of Dongba writing. However, Daba glyphs are all single graphemes. Even if there are some pictograms corresponding to syllables in the stars names, they are conventional religious symbols spread among a small number of users, the Daba priests. Moreover, some of the Daba glyphs are difficult to be explained for which item they are trying to describe. Therefore, the function of this kind of pictograms, indicating the stars names, is different from those in Dongba writing system representing syllables. Dongba glyphs for 28 lunar mansions contain units for representing the syllables. Most of their components are pictograms, with a few used as indicatives. They could have the same meaning or be homophonic to the morphemes in the stars names.

Basing the work on the analysis of the functions of the pictograms depicting stars atlases and on the investigation of the emergence of the syllabic representation among Dongba glyphs, a general path for the possible development of Dongba script have been reconstructed. It could be: (1)→(2A)→(3)→(2B). In other words, the stars atlases pictograms would have been created at the earliest stage of writing, in which the glyphs in graphically indicating the pronunciations were weaker; later on, speakers would have established ligatures, complex glyphs with combinations of pictograms representing stars atlases and pictograms representing the stars designations' morphemes. The third stage highlights the invention of single graphemes widely used in order to write down the syllables. With the enrichment of the vocabulary, some determinatives would have been added in order to distinguish the meaning of words.<sup>63</sup>

Dongba glyphs for the stars names collected from Lǐ Guówén (2006) and Rock (1972) are all ligatures, without single pictograms. Noticing this fact, another interesting point could be established: the complexity of the lunar mansion glyphs and their geographic locations are connected. Dongba glyphs for stars interpreted by Zhū Bǎotián, Lǐ Líncàn, Rock, and Lǐ Guówén are from É'yà 俄亚 in Mùlǐ 木里 County in Sichuan province, Lǔdiàn 鲁甸 Township, Yùlóng 玉龙 County in Yunnan province, villages located North-West of Lǐjiāng 丽江 area in Yangtze Valley, Dàdōng 大东 Township in Lǐjiāng 丽江 City in Yunnan Province, respectively. These areas are geographically extended from North to South, starting from a remote mountainous region and arriving to a border land characterized by more contacts with the contemporary world.







<sup>63</sup> In this meaning, the glyphs of 28 lunar mansions in Rock (1972) should be all classified into category (2B), since they are all marked with the grapheme of "star" in the upper part of each glyph. Nevertheless, that could be considered as a kind of determinative. In order to distinguish the different categories of the componental graphemes among these glyphs, their structures were analyzed separately from the unified "heading".

Lǐ Líncàn (1984: 61-83) has noticed geographical variations among Dongba glyphs. The author pointed out four regions between Wúliàng 无量 River and Láncāng 澜沧 River: 1) the joint area of Wúliàng 无量 River and Jinsha River; 2) the left area of the northern bank of Jīnshā 金沙 River; 3) the vicinity of Lìjiāng 丽江; 4) Wéixī 维西 area, towards the West of Lìjiāng 丽江. Dongba glyphs in area 1) to 4) show spectrum changes in three aspects: from images to glyphs; from morphograms to phonograms; from loose connections to dense connections with speech. Zhōu Yín (2015) systematically compared the Dongba glyphs, elicited from Dongba script, among Báidì 白地, Lìjiāng 丽江, and Lǔdiàn 鲁甸, which are from the second to fourth areas proposed by Lǐ Líncàn (1984). The result has proved the Lǐ Líncàn remarks (1984). The places where Dongba glyphs came from mentioned in the present study, Éyà 俄亚, north-west of Lìjiāng 丽江 and Dàdōng 大东 Township, Lǔdiàn 鲁甸, should be located in the first, the third, and the fourth regions, respectively.

The variations among Dongba glyphs happen to be coherent with the migration route of Moso People in history (cf. Fāng Guóyú 1944: 20-98; Lǐ Líncàn 1984: 38; 85-100): the closer to the starting point, the less the glyphs correspond to syllables.<sup>64</sup>

The use of Dongba glyphs in secular documents could have contributed to the changes of their way in representing the language.<sup>65</sup> The relatively open environment and bigger population in Lìjiāng 丽江 and Lǔdiàn 鲁甸 areas (comparing to Báidì 白地, where Tibetan Buddhism is the predominant culture and Naxi People represent a small population) prospered Dongba culture, with local scholars' research on their glyphs (Zhōu Yín 2015: 269-271). Dongba script has been introduced to daily life and not limited to religious context. In Dongba writing system, the glyphs are "for audience to listen", since common people generally listen to formulaic verses chanted by Dongba priests according to the glyphs as mnemonic devices of the contents (Lǐ Líncàn 1984: 72-73). In secular materials, however, the formal and official documentation requires precise records. In order to write down the speech on a word-by-word basis, the usage of homophonic glyphs has been developed. This manner of using glyphs could correspond to Jiǎjiè 假借 ("phonetic loan") in Chinese "Liùshū 六书" theory. Bái Xiǎoli (2013: 354) distinguished three types of homophonic representation in Dongba glyphs: 1) adding phonetic markers to glyphs; 2) all the morphemes are represented through homophonic pictograms; 3) creating innovative phonetic markers. The contact with Chinese culture could have promoted the evolution of Dongba glyphs. Lǐ Líncàn (1984: 82) claimed Geba script, a branch of Dongba glyphs characterized by all phonograms, created under the influence of Chinese characters. Zhōu Yín (2015: 264) pointed out the increasing amount of Chinese loans in Dongba glyphs from Báidì 白地 (farther from Chinese culture) to Lǔdiàn 鲁甸 (closer to Chinese community).

The path of development of the glyphs analyzed here is a diachronic reconstruction based on the synchronic comparison of several versions of the 28 lunar mansions of Dabaism and Dongbaism.

<sup>64</sup> Besides the correspondences among graphemes and morphemes, the evolution of some graphic shapes also coincides with their related locations. For example, the grapheme "frog",  (Lǔdiàn 鲁甸) is the simplified version of  (north-west of Lìjiāng 丽江). Moreover, the star "the ear of the mdzo",  (Éyà 俄亚), written through two separate pictograms, is considered the elder version than the combined glyph,  (north-west of Lìjiāng 丽江) and  (Dàdōng 大东 Township), while the one with indicative markers,  (Lǔdiàn 鲁甸) should be the latest. The evolution order of Dongba glyphs is cited from Liú Yuè (2010): 42-43; 55.

<sup>65</sup> The author has had the opportunity to observe the different chronological stages of Dongba writing also during the fieldworks from 2011 to 2014 and has been able to interpret the Dongba scriptures and Dongba blessing letters.

The most remote point of the reconstruction could reach the earliest stage in which Daba and Dongba cultures were handed down orally. In that context, the priests relied on their memory, not on written texts. Over time, due to the changes in language, the priests of the last generations could have been able to remember the names of the stars (possibly remaining their old pronunciations<sup>66</sup>), but not able to relate them with common and contemporary words. Therefore, they could not have been able to understand the remote meanings of the stars. In order to write down the stars names in a more efficient way, the priests started to use more pictograms to represent more syllables of the designations. Some homophonic pictograms are chosen since they are more commonly used or since identical pictograms for the morphemes are not available. With the increase in the number of glyphs, determinatives would have also been added in order to distinguish the meanings of the words.

Daba script writes down the language in a more pictographic way. Besides the fact that the total number of its glyphs is very limited (28 original single pictograms), each of them records the information as a phrase or compound. Dongba script, apart from the geographical variations analyzed above, shows diachronic evolutions. From the early discovery and documentation of Dongba script, this writing appears to be pictographic. Several symbols composing a picture express a certain meaning, which can be read in different ways.<sup>67</sup> Later on, Dongba script seems to go towards the form of pictogram: one glyph corresponds to a certain word or syllable in Naxi language. Fù Mào jì (1982) distinguished these two forms as “picto-glyph” (Túhuà Wénzì 图画文字) and “pictogram” (Xiàngxíng Wénzì 象形文字). “Picto-glyph” is a pictogram reflecting a certain idea that can be read / interpreted in different ways, while “pictogram” is more precise in expressing a meaning that could be represented by a fixed word or syllable.

Looking back at this procedure, we can see that Daba script shows the sprout stage of Dongba script. The former one is used as religious symbols conventionally applied among small communities of Daba priests. The latter one has developed various manners in order to represent the language.

## 6. Conclusion

Writing is considered one of the most important inventions in human history. It has made possible the transmission of knowledge and the communication among people without the limitation of time and space (Gelb 1952: 3). There are different chronologies about the origins of writings all over the world, in China, in South America (Maya), and in the Middle East (Cuneiform), for example.

Moso People have elaborated their own unique writing, Dongba script, over their long history. Their graphic forms in their ancestral origins are still unknown.<sup>68</sup> Daba hemerologies are the only written literature of Dabaism discovered so far. The work interpreting them and the collection of related materials has unveiled their underlying connection with the Dongba glyphs for the lunar mansions.

The use of the stars for the elaboration of a hemerology and the identification of days, were basic requirements in people’s lives. As mentioned before, the ethnic groups near Moso People use various hemerologies written through pictographic scripts. The geographically far distant Nahuatl traditions and Babylonian written culture have also developed astronomical hemerologies. Moreover, the predecessor of Chinese writing, the oracle bone script, was also created for divination, the people’s need to know future.

<sup>66</sup> Hé Zhìwǔ (1989: 155) explained some criteria to decide whether a word is from old Naxi: 1) apparently from modern Naxi words; 2) sound correspondences can be found among Naxi dialects and closely related languages. More examples of sound changes from old Naxi words to modern Naxi vocabulary can be found in Hé Zhìwǔ (1985: 76-90).

<sup>67</sup> Cf. Zhōu Yòuguāng (2003): 41.

<sup>68</sup> Some hypotheses on the time when it came out and on the related source can be found in Rock (1963: XIX-XX), Lǐ Lǐncàn (1984: 61-84), Lǐ Jǐngshēng (2003a), and Hé Límín (2003).

*This explains why the glyphs for astronomy have been originally invented among Daba and Dongba cultures.*

*In this paper, a comparative philological approach has been applied in order to illustrate the connection between Daba and Dongba scripts. The subjects under discussion include the 28 lunar mansions of Daba script (my first-hand materials on this limited number of Dabaism written texts) and the glyphs of 28 lunar mansions (mainly four versions collected by Rock, Lǐ Líncàn, Zhū Bǎotián, and Lǐ Guówén) among the around 1500 Dongba glyphs. Basing the analysis on the functions of the graphemes in each ligature, the different diachronic layers of Daba and Dongba glyphs have been illustrated. On this foundation, their plausible path of development has been reconstructed. Further on, the hypothesis has been proposed according to which Daba script could represent the initial stage of Dongba writing.*

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## Sažetak

### Od Daba do Dongba pisma: dijakronijsko istraživanje povijesti Moso piktografskog pisanja

Usporedba 28 mjesječevih kuća Daba i Dongba pisma otkrila je da su Daba glifovi jednostavni grafemi koji su obično piktogrami koji označavaju zvjezdane atlase ili su povezani sa slogovima imena zvijezda. Njihovi ekvivalenti u Dongba pismu su uglavnom ligature koje se sastoje od nekoliko grafema. Mogu biti piktogrami koji označavaju zvjezdane atlase ili silabičke reprezentacije oznaka mjesječevih kuća, ili kombinacija oboje. Temeljeći analizu funkcije glifova na zapisivanju jezika, rekonstruiran je mogući put

razvoja koji je uočljiv iz ova dva pisma. Nadalje, predlaže se hipoteza prema kojoj Daba pismo može biti početna faza Dongba pisma.

**Ključne riječi:** *Daba pismo, Dongba pismo, piktografsko pismo, gramatologija, 28 mjesečevih kuća, hemerologija*