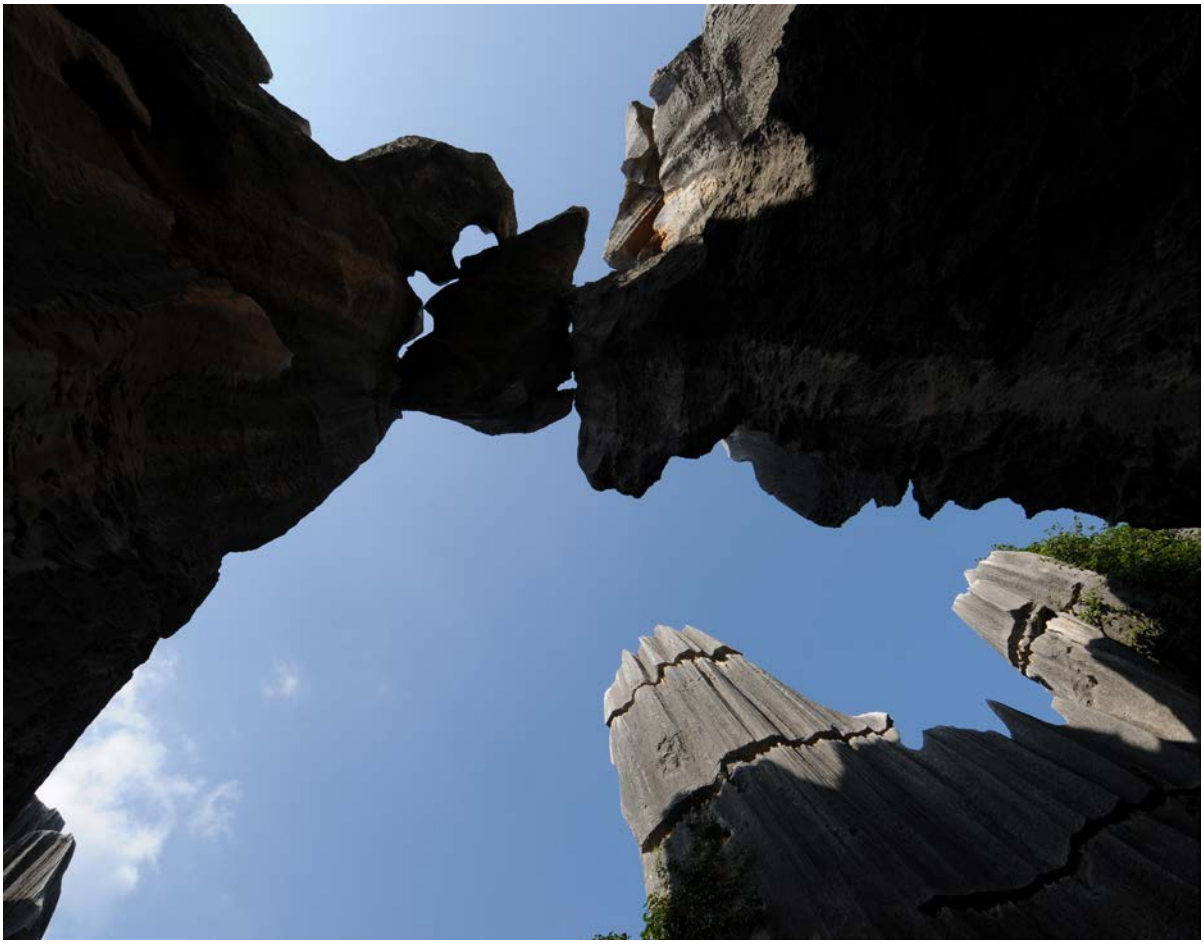
Studies in Asian Geolinguistics, Monograph Series No. 5

Remarks on Maps of the Yi Script Based on the Swadesh 100 Wordlist

Kazue IWASA



ILCAA 2015–2017 Joint Research Project Studies in Asian Geolinguistics
Research Institute for Languages and Cultures of Asia and Africa
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by Kazue Iwasa

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I hereby express my gratitude to Professor Mitsuaki Endo, who has always encouraged me to map and analysing Yi characters. Without him, I would have never been able to achieve the valuable findings described in this work nor to have deepened my understanding of the Yi script itself.

I am also very much obliged to the ILCAA, as this work is a product of the ILCAA Joint Project Studies in Asian Geolinguistics and to the Grant-in-Aid for Scientific Research from JSPS ‘Geolinguistics Studies of China and Adjacent Multilingual Areas Using High-Resolution and Wide-Area Maps’ (headed by Mitsuaki Endo, No. JP18H00670).

Finally, I thank my family, especially my beloved son, for understanding my commitment to my lifework and allowing me to devote myself to research.

Summary

Mapping Yi characters by meaning results in significant findings. In this study, I will make some observations about the Yi script and observe some tendencies that have been discovered using maps, in addition to a tentative list of the basic forms of Yi characters:

1. My investigation implies a possible process of alternation of character forms within Eastern dialects of Yi.
2. Dialectal distinctions aside, a remarkable resemblance exists among the scripts of certain areas, where either similar phonetic values or character forms are found distant from each other.
3. A tentative list of basic forms of Yi characters is given. This will be invaluable for narrowing down the provenance of Yi manuscripts by enabling the elimination of such characters as are found on the list because they are found throughout all the observed areas.

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1 Introduction

Yiyu (彝语), the group of languages of the Yi ethnic group, belongs to the Lolo-Burmese language group of the Tibeto-Burman language family. These languages are spoken in southwest China and the northern parts of Vietnam and Laos.

According to the official classification in China, there are six Yi dialects: Northern, Eastern, Southern, Southeastern, Western and Central. Four[1] of these, namely, Northern, Eastern, Southern and Southeastern, can be written with the Yi script, and numerous manuscripts in those dialects have been written in it.

Unlike the Modern Yi script, which was designed for universal use, the Old or Classic Yi script was not meant to be a tool of communication, but was employed by the *bimos*, religious leaders of the Yi people, and kept secret. Being a *bimo* and knowledge of the Yi script were passed down within a family, as were the Yi manuscripts themselves.

Bimo apprentices would memorise the texts before they were taught how to write them. This meant that the *bimos* did not require the scripture in reality. Yi manuscripts, thus, functioned as a *mise-en-scène* and a mnemonic aid.

When a manuscript is freshly copied by an apprentice or fledgling *bimo*, the text is written from their phonetic memory of it. As they write, *bimos* freely use homophonous characters whenever they do not remember the precisely correct one because the manuscripts were not intended for everyone but only for *bimos*. In other words, the Yi script did not have to be understood by everyone; in fact, it would be preferred that it was not known by anyone who was not part of a *bimo* clan nor by any other *bimos*. This made it a personal, or familial, writing system. The Yi script, therefore, shows great diversity not only from one language or dialect to another, but also from *bimo* to *bimo*.

This article examines the historical changes of Yi characters and detects a possible route for the propagation of such changes.

2 Map of Yi characters

The maps group the dialects of Yi in accordance with the Chinese official classification. Nine representative points are mapped as follows:

Southeastern dialect (SE): Lunan.

Eastern dialect (E): Luquan, Dafang, Weining, Panxian, Longlin.

Northern dialect (N): Xide.

Southern dialect (S): Shuangbai and Mojiang, including Shiping[2].

The main resource used for mapping was *DianChuanQianGui Yihan Jiben Cihui Duizhao Cidian* (『滇川黔桂彝汉基本词汇对照词典』 [1984]), which contains character data for eight points, Lunan (SE), Shuangbai (S), Luquan (E) , Dafang (E), Weining (E), Panxian (E), Longlin (E) and Liangshan (N), while *Hanyi Jianming Cidian* (『汉彝简明词典』[2011]) also provides abundant data, including on Mojiang (S).

As many allographs of each vocabulary item are shown as possible, nevertheless, an imbalance exists in the number of data points among these representative locales, especially Shuangbai (S), Longlin (E), Weining (E), Panxian (E) and Lunan (SE). As a result of these gaps in the quantity of data, in several areas it is utterly impossible to trace the propagation route of the Yi script and to observe how the Yi

[1] The Southeastern group of Loloish dialects, categorised thus by the official Chinese classification, are placed as one language of Central Loloish by Bradley (2002), with the remaining three dialects, the Northern, Eastern and Southern dialects, being placed as Northern Loloish languages. In this study, however, for the reasons of expediency, I use the official Chinese classification because all the data that I used for mapping the extent of use and varieties of the Yi script were found in Chinese publications, which use the official classification. Furthermore, this work does not address the classification system.

[2] On our maps, Mojiang is a representative location of the Southern dialect, while several data of Shiping (S) are also cited from other resources, for example, *Diannan Yiwen Zidian*『滇南彝文字典』(2005).

script changed. Therefore, we are restricted to collecting as many characters of such points with relatively few data as possible, and this will enable us to discover more clearly the process of historical changes in Yi characters.

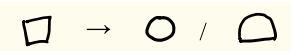
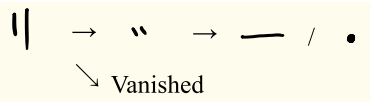
Finally, the vowels written as [ɿ] and [ʅ] in the original sources are uniformly transcribed as [ɨ] and [i] respectively, due to unavailability of appropriate fonts for the maps.

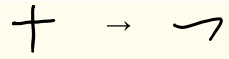
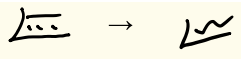
2.1 Map analysis methodology

The most challenging aspect of character analysis is that neither standard form nor criteria exists for the determination of chronological order among Old Yi characters.

While copying Yi manuscripts by hand, I noticed that certain tendencies exist in the way that character forms changed, which I published in Iwasa (2017b).

In that publication, (Iwasa 2017b), I stated that cursive handwritings in *bimo*s' writing could have prompted the great diversity of character forms. Below, 15 sorts of cursive patters are shown, taken from Iwasa (2017b).

1. 
2. 

3. 
4. 
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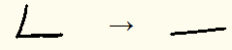
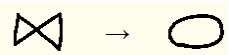
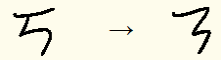
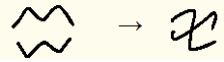
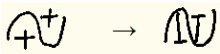
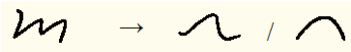
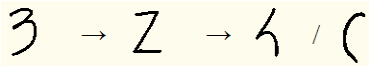
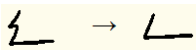
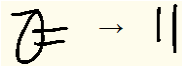
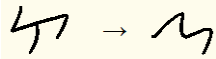
6. 
7. 
8. 
9. 
10. 
11. 
12. 
13. 
14. 
15. 

Although there are very few cases of stroke augmentation or form complication, cursive scripts nonetheless stimulate the simplification of character forms. In this present study, all the maps were examined based on the three abovementioned types and on my experience in researching Yi manuscripts.

3 Findings

The findings from the analyses of the maps are intriguing. First, the tentative basic forms of Yi characters will be deduced. Then, other features and tendencies will be noted.

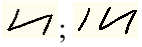
3.1 Basic forms of Yi characters

A thorough examination of the 106 maps results in a tentative list of 42 basic character forms. As a result, almost 40% of the Swadesh 100 wordlist are regarded as basic. The criteria for their determination are as follows[3]:

1. A given form is found in more than 75% of all representative points.
2. If a continuum is recognised between characters, even where these are different in appearance.
3. A common feature is still recognized, even though a given character is written in a cursive style, or a stroke or several strokes seem to be omitted, the direction of a stroke is upside-down, or it is written in a mirror-image.

A chart of the basic forms of Yi characters deduced from an analysis of all the maps is given below.

The assessment of a few characters might provoke controversy regarding their origin and the process of their history of alternation. For example, Kong (2005: 108–9) alleges that the character 子 meaning '(of a woman) to marry' looks like two branches being combined and that it signifies 'branches of a family among the Yi (家支)'. However, this seems to be only Kong's imagination, because no evidence is given to prove this assertion. As can be seen in map 34 'horn', other characters look notably similar to this 子. I have closely considered Kong's proposal and all other possibilities, but I have determined this character embodies a basic form among Yi characters, whose meaning is 'horn', at least judging from the resources dealt with in this study. The origins of Yi characters should be studied more closely when the opportunity arises.

No.	Degree of commonality by ratio of coverage	Map number	word	Basic Yi character
1	9/9	11	one	
2	9/9	12	two	
3	9/9	16	woman	
4	9/9	20	bird	
5	9/9	21	dog	
6	9/9	40	eye	
7	9/9	43	tooth	
8	9/9	48	hand	
9	9/9	52	heart	
10	9/9	72	sun	

[3] Kong (2005) has also proposed six criteria for determining "common Yi characters (共同彝文)". Some of these criteria are identical with mine. The details of the similarities and differences, however, can wait for another occasion.

11	9/9	74	star	
12	9/9	77	stone	
13	9/9	89	yellow	
14	8/8	8	not	(ma)
14’	2/2	8	not	(a)
15	8/8	13	big	
16	8/8	24	seed	
17	8/8	35	tail	
18	8/8	38	head	
19	8/8	66	come	
20	8/8	100	name	
21	8/9	23	tree	
22	8/9	55	eat	
23	8/9	75	water	
24	7/8	14	long	
25	7/8	17	man	
26	7/8	18	person	
27	7/8	31	bone	
28	7/8	44	tongue	
29	7/8	70	give	
30	7/8	86	mountain	
31	7/8	87	red	
32	7/8	90	white	

33	7/9	10	many[4]	
34	7/9	30	blood	
35	7/9	60	sleep	
36	7/9	68	sit	
37	7/9	91	black	
38	6/8	34	horn	
39	6/8	54	drink	
40	6/8	59	know	
41	6/8	73	moon	;
42	6/8	88	green	

All forms listed are to be expected in any given manuscript. Needless to say, they must be eliminated in investigation of such manuscripts, and we must focus upon those forms that do vary.

3.2 Derivational pattern 1: addition of a stroke

In the maps 1 and 2, the characters signifying 'I' and 'you' in Lunan and Longlin draw the researcher's attention due to their significant resemblance. This implies the efficaciousness of a derivational method. For example, in Lunan, the difference between the characters used for expressing the first- and second person singular is limited to one stroke on the right side, while in Longlin, the character for the first person singular shows one additional stroke beyond that of the second person singular.

[Maps 1 and 2]

[4] This character is a pictograph that once meant 'arrow'. Therefore, the meaning it now bears of 'many' must be a result of a phonetic loan. See the details in map 10 and its discussion.

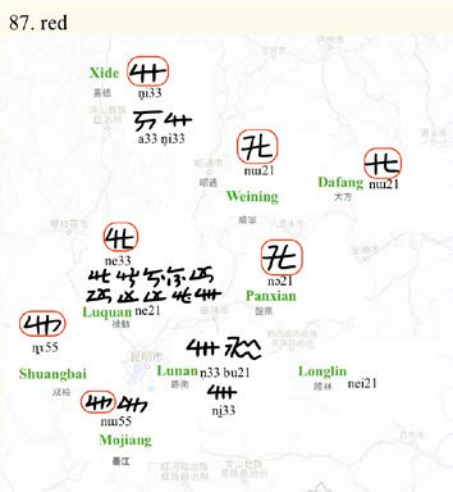
Here, another example is shown. Note the characters circled in blue.

The character meaning ‘sand’ appears to be derived by the addition of a single stroke to the one meaning ‘stone’.

[Maps 77 and 78]

The characters for ‘red’ (map 87) and ‘green’ (map 88) match this pattern. With the exception of Lunan, everywhere else, the characters for ‘green’ are created by adding one stroke to those ‘red’.

[Maps 87 and 88]



These observations are interesting because although the pattern is rational, it is completely opposite to a general simplificative tendency in Yi characters.

3.3 Derivational pattern 2: change in stroke shape

The pattern of a change in stroke shape. For the characters signifying ‘I’, ‘you’ and ‘we (excl.)’ in Lunan, the stroke on the far right changes its shape according to person and number. However, this pattern only holds true for these three pronouns.

[Maps 1, 2 and 3]

3.4 Similarity beyond dialectal distinction

In the Eastern dialect, the similarity among characters for all research points is as high as expected, as these are the same two groups of character forms, namely, the Yunnan group and the Guizhou group. Within the Guizhou group in particular, the characters are quite uniform.

Most notably, Luquan (E) characters seem to play the role of a mediator among all four dialects. In reality, between the Yunnan and Guizhou groups in the Eastern dialect, 97 out of 106 characters are in common, including allographs, meaning this dialect features 91.5% commonalities, and 82 out of the said 97 are found in Luquan. This may be because of Luquan's location. Further, 42 out of the 97 are basic characters, and 55 characters are dialectal. The rate of dialectal characters is thus 51.9%. This rate is higher than that found in the Southern dialect as noted below.

In the Southern dialect, between Shuangbai and Mojiang, 69 out of 106 characters are identical or strikingly similar, giving an inner-dialectal commonality rate of 65%. Of these, 35 are basic characters, meaning that the remaining 34 indicate commonality. The rate of dialectal characters is thus 32.1%, which is lower than the 51.9% of the Eastern dialect.

The Zhilujing (指路經), a Yi sutra, which narrates the route of the soul to the ancestors' homeland, supports the characterisation that the ancestors of the Yi came from Zhaotong (昭通). If the Yi script propagated from Zhaotong in every direction, it would have passed through Luquan; likewise, it would have gone through Weining, Dafang, and other sites. However, it would not have gone directly to Shuangbai from Luquan, as mentioned below.

Unlike the case of the Eastern dialect, there are several other instances that show a high degree of commonality, beyond dialectal distinction. This phenomenon appears to have its origin in proximity.

3.4.1 Commonalities between Luquan and the Southern dialect, Mojiang and Shuangbai

Between Luquan and the Southern dialect, 68 out of 106 characters are in common, including allographs. Because 38 out of the 68 are basic forms, 30 characters demonstrate similarity. Interestingly, 21 of those 30 are found in Luquan and Mojiang and are not shared between Luquan and Shuangbai, although Luquan and Shuangbai are near each other. This may be a result of the lack of data on Shuangbai; however, it may also imply that the propagation route of the Yi script to Shuangbai could have been a different one, such as that from the Mojiang area.

3.4.2 Commonalities between Mojiang and Lunan

There are 69 common or strikingly similar characters between Mojiang and Lunan. Of these, 37 characters are basic, meaning that the remaining 32 demonstrate high commonality between these two points, despite the dialectal distinction. This appears to stem from their adjacency.

3.4.3 Commonalities between Mojiang and Xide

Between Mojiang and Xide, there are 60 characters that display a high degree of similarity. As 36 of them are basic, the remaining 24 indicate commonality. The dialectal affinity of Mojiang and Xide is thus different, and the two dialects are found far apart. In fact, Xide is the northernmost in the distribution of the Yi script in China, whereas Mojiang is the southernmost.

This fact suggests that Mojiang and Xide are in relatively closer relation than the other dialects and that they departed in opposite directions at a period that was much earlier than the others.

3.4.4 Commonalities between Luquan and Lunan

There are 64 characters in total shared between Luquan and Lunan, and 41 are basic characters, meaning that the 23 characters display the resemblance of these two, beyond their dialectal affiliation. Although the degree of mutual contact between them is uncertain, their vicinity is a strong candidate for the reason that they have this similarity in characters.

3.4.5 Commonalities between Luquan and Xide

Luquan and Xide have 58 characters in common. Because 39 are basic characters, the remaining 19 characters illustrate the commonality between the two, although Luquan and Xide are distant and belong to different dialects. Their commonality could be attributed to relative closeness, there would be genetic reason as well.

3.5 Additional remarks

Within the Eastern dialect area, namely Luquan, Weining, Dagfang, Panxian and Longlin, Longlin is to be distinguished from the others to a certain extent. Longlin characters have a high individuality.

However, there are not enough data on Longlin at the present time. More data must be collected to support further investigation.

4 Future tasks

Any future task must incorporate the classification and analysis of the sets of characters in the five cases noted above that demonstrate high commonality.

The second task is to collect data on the Longlin characters for further investigation of the origin of their individuality.

Third, data must be collected to fill in the areas where the maps are incomplete. This would show us more detailed and concrete continua for each character, making it possible to discover a convincing route for the propagation of the Yi script and its process of change.

In Luquan (E), the characters circled in blue result from a borrowing of the Chinese character 五, 'five'. This same phonetic loan appears to have happened to other homonymic words as well, such as 'I' and 'fish'.

The character circled in green for Panxian (E) shows the most complex form, and this appears to be in allographic relationship with those shaded in green. They are concentrated and common within the Eastern dialect, and one of them is also observed in Mojiang, in the Southern dialect area.

Both the pronunciations and the characters of Shuangbai (S) and Mojiang (S) are similar, as indicated by the red circles. This movement may be a result of the proximity, as well as their dialectal affiliation.

The character in Lunan (SE), which is marked in turquoise, is unique, differentiated from those of other areas.

Among the research points within the Eastern dialectal area, the characters within the green frame demonstrate a striking similarity one another.

Within the Southern dialect, the characters found in Shuangbai and Mojiang are identical as indicated by a red circle.

In Xide (N) and Mojiang (S), similar characters are found, as indicated by blue circles, despite the geographical and dialectal distance.

The Lunan (SE) character that is marked in turquoise is not found in other areas.

The words [ŋə^{21} bu^{21}] in Panxian (E) and [ŋo^{33} bɯ^{21}] in Mojiang (S), circled in red, bear a phonetic resemblance, although they are written differently. Because the word [bɯ^{21}] in Mojiang expresses plurality, it is highly probable that one or both of them are phonetic loans. At least, [bɯ^{21}] is a phonetic loan of the word 'mountain', which is pronounced and written identically.

On the whole, most of phonetic representations are as similar as [ɑ^{33} ɕe^{55}] in Weining (E), [ʔɑ^{33} xi^{55}] in Dafang (E), [ɑ^{55} se^{55}] in Luquan (E), [ɑ^{21} sɨ^{55}] in Lunan (SE) and [ɑ^{33} si̱^{55}] in Xide (N), while their written all differ from each other, except for Weining and Dafang, which are marked in blue.

As mentioned above, the word [bɯ^{21}] (in the expression [ŋo^{33} bɯ^{21}]) in Mojiang (S) expresses plurality. In Shuangbai (S), an identical character to that for [bɯ^{21}] is found, and it is pronounced similarly, [bɤ^{21}]. This may be a result of proximity, in addition to their dialectal affinity.

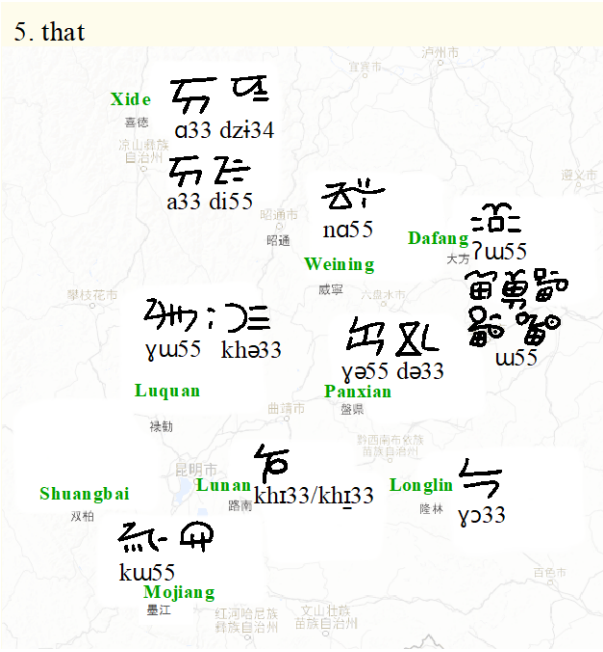
The data are divided according to their phonetic representations into two groups, as indicated by the blue line.

One group has a mid-high front and high central vowel, namely, Lunan (SE), Shuangbai (S) and Mojiang (S).

The other has an alveolar–retroflex affricative + a high front–high central vowel: Xide (N), Weining (E), Dafang (E) and Luquan (E).

In the former characters, and particularly in those of Shuangbai and Mojiang marked in red, a striking resemblance is found, in addition to their phonetic closeness. Furthermore, there is no other place that has the same character as Shuangbai and Mojiang or a similar one.

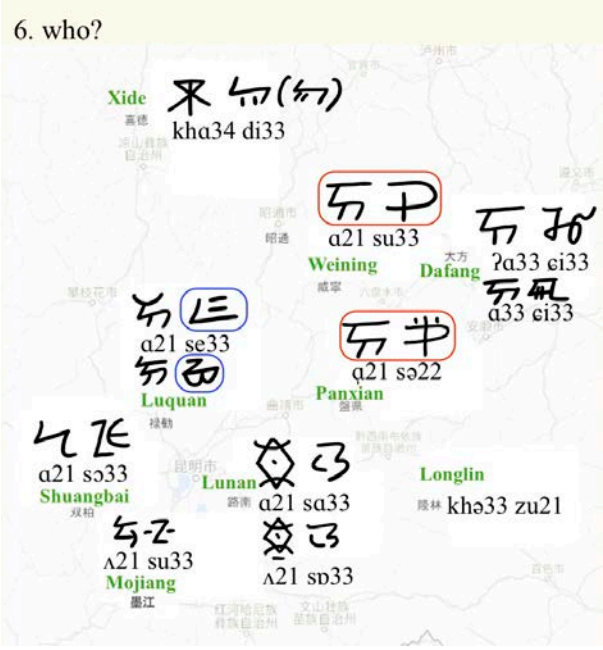
The word in Longlin (E) from this set deserves further research.



The phonetic representation as well as appearance of the characters are various.

According to STEDT, [a^{33} di^{55}] in Xide (N) seems to originate in PTB **m-day* ≍ **m-di* ('that'/ 'this' [deictic]) [5].

[5]Sino-Tibetan Etymological Dictionary and Thesaurus (http://stedt.berkeley.edu/~stedt-cgi/rootcanal.pl), last accessed on 12 August, 2018.



With the exception of Xide (N) and Longlin (E), the remainder have phonetic similarity with one another.

In Luquan (E), it is highly probable that the two characters pronounced [se^{33}], which are marked in blue, are phonetic loans. The upper one is identical to the word meaning 'three', and the lower is identical to the word meaning 'night', according to *Jianming Yihan Zidian* (2014)[6].

The Weining (E) and Panxian (E) characters circled in red bear a certain resemblance. In addition to the close proximity of these two locations, both of them are found in the Eastern dialect, leading us to conclude that they may be in allographic relation.

According to the *Sino-Tibetan Etymological Dictionary and Thesaurus* (STEDT), [mɯ^{33}] in Dafang (E), [mɪ^{33}] in Lunan (SE)[7], both appear to originate in PTB **(b/m) a-y* ('what').

The pronunciations of this word in Shuangbai (S) and Mojiang (S) are similar to each other, although they are written differently.

In Luquan (E) and Panxian (E), the pronunciations and characters for [mo^{33}], marked in blue, are identical. Their meaning and phonetic value indicate that they also may have their origin in PTB **(b/m)a-y* ('what').

[6] 张晋智主编. 2014. 『简明彝汉字典（禄劝版）』云南民族出版社.

[7] In STEDT, last accessed on 12 August, 2018, the tone of Sani is marked as 44. Yet, if the word forms and meanings found in both STEDT and my resources are considered, they are high

On the whole, the most common form is character for ‘not’, as represented by the green-circled characters. In Mojiang (S), all characters show great formal diversity in forms, apart from the triangular one, in green, which is likely derived from the most common form.

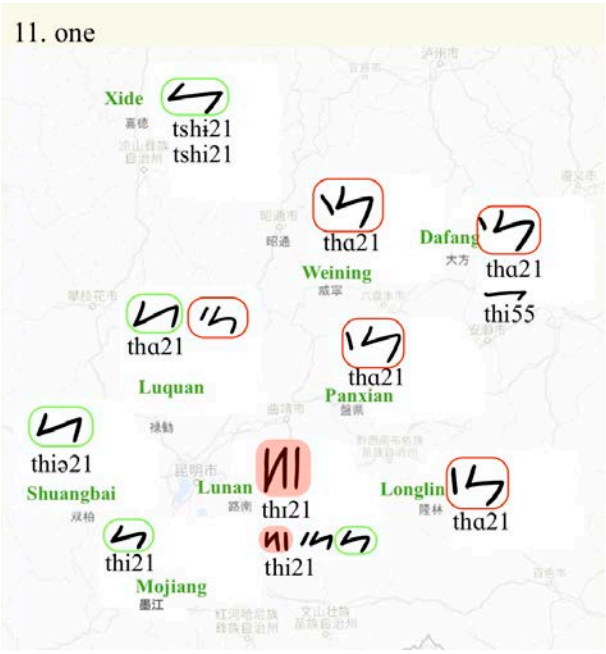
The words signified by a blue circle, [a^{21}] in Xide (N) and [ɑ^{33}] in Dafang (E), similar characters are found, although various allographs exist in each place.

Apparently, each location exhibits variant word formations.

Among the Eastern dialectal area, in Weining, Dafang, Panxian and Luquan, the characters in the red frame carry a common form.

Furthermore, the phonetic and formal similarity of the character marked in blue to those within the red frame is perceived.

With the exception of those in Xide (N) and Shuangbai (S), all the other characters are pictographic and originally carried the meaning of 'arrow'. They likely began to be used broadly to express 'many', as a result of a phonetic loan.

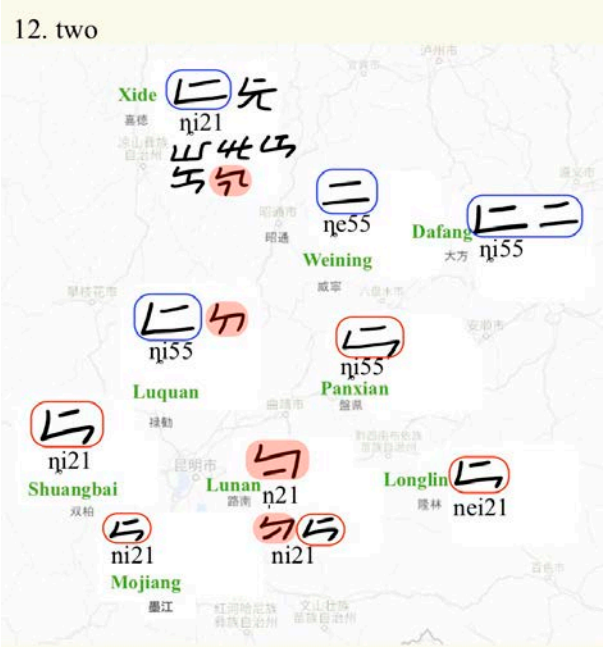


Each character that means 'one' shows a great similarity in its form to the others.

Interestingly, the form in Lunan (SE), shaded red, is a vertically reversed version of the characters within red circles.

In the West, from Xide (N) in the Northern dialectal area to Mojiang (S) in the Southern area, a common character form is observed among those circled in green, in spite of the slight phonetic difference.

It is also intriguing that characters circled in green and in red are found in Luquan (E) and Lunan, illustrating an intermediary area for these two groups.



In general, the shape as seen in Luquan (E) is similar to the Chinese 二 ('two'). Such Yi characters should be categorised as an indicating means (指事) the Six Methods of forming Chinese characters (六書), just as in 二.

The map clearly indicates that there are two types of characters indicating 'two'. One, marked in blue, is generally distributed in the Northern part, whereas the other, marked in red, is observed more widely.

The characters shaded in red fall into line from Xide (N) to Lunan (SE).

A common character form is seen among those circled in red, and the character in Lunan (SE) shaded in red is supposed to be an allograph of those.

In Xide (N), the three characters circled in blue are considered to be phonetic loans due to their homonymity with [zɨ^{33}]: they express 'water', for example, as well as 'big'. Characters that are similar to them are used to indicate 'water' where the Yi script exists.

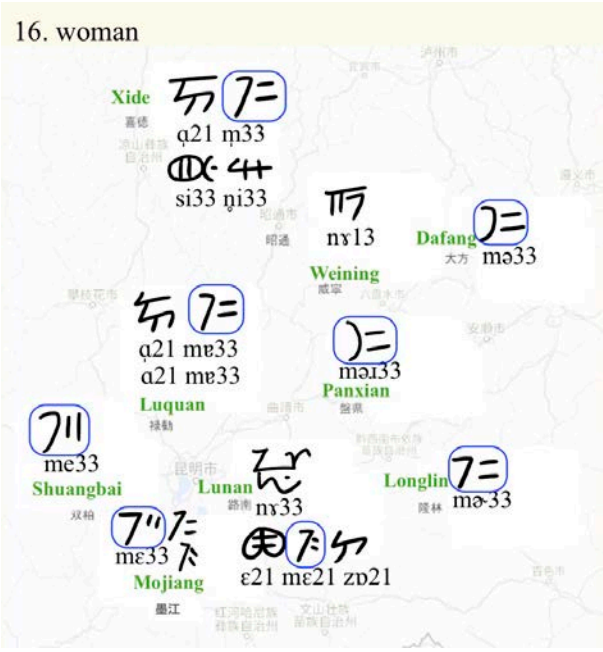
The most common character form of this word is circled in red. Identical forms are found in all locales except for Shuangbai (S) and Panxian (E), although the corresponding character in Panxian should be regarded as an allograph. As in Panxian, the other characters shaded in red are also to be understood as allographs of the more common form.

If the character circled in red is regarded as a standard form of the word 'long', the Shuangbai (S) version of the character is likely a phonetic loan, as the character marked with a blue circle means 'gold' and is pronounced the same there.

On one hand, the characters indicated by the green circles found in Weining, Dafang and Panxian within the Eastern dialectal area, bear a remarkable similarity to each other, but on the other hand, in the Southern dialectal area, the Shuangbai bears a striking resemblance to that of Mojiang—these characters are indicated by a blue circle.

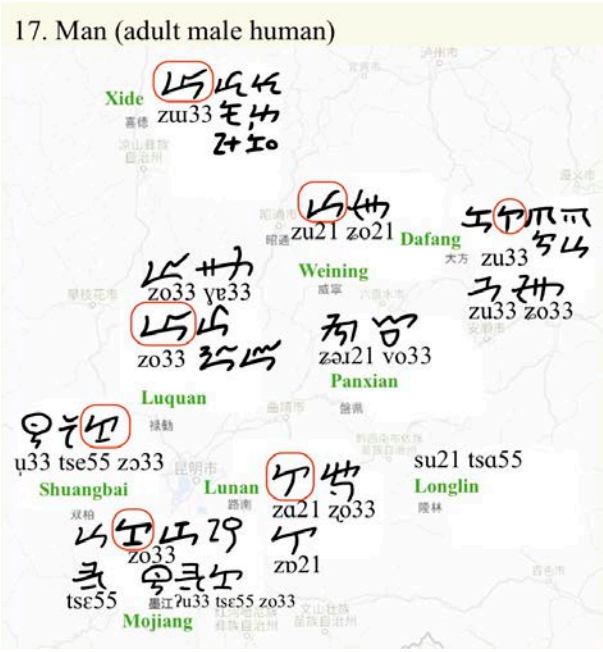
Two characters shaded in green seem to be in an allographic relation, in spite of their phonetic dissimilation. This suggests that they should both be logographic. Furthermore, they might be allographs of the characters circled in green as well.

Our attention is most directly drawn by an allograph of Mojiang, here indicated by a red circle. This is clearly a borrowing of the Chinese 小, 'small', based on meaning.



A common character form, circled in blue, is indicated here, such as the one in Dafang (E). Identical characters and very similar allographs are found all over the map. Their phonetic values are also very close.

This character appears to be so stable that it has not changed all over the whole area, although it has been in use over a long period.



A common character form, here circled in red, means ‘man’; for example, in Luquan (E). The phonetic representations of the words in all areas also show a striking resemblance.

A common character form is used for the word ‘person’, as marked in red, everywhere except Shuangbai (S), where the character used may be a phonetic loan.

At all research points except Weining (E) and Longlin (E), there are characters, here marked in red, that bear a resemblance to the Chinese 五 (‘five’), although some show a vertical inversion. It is plausible that they were borrowed from Chinese, first to express the number five because of their phonetic proximity to the contemporary pronunciation of vernacular Chinese. Then, this borrowed character may have begun to be used for homonymic words like ‘fish’ and ‘I’. Identical characters, marked in blue, are found in Xide (N) and Mojiang (S), despite their distance and their phonetic and dialectal difference. With due consideration for the phonetic representations of the other places considered, the [xɯ^{33}] of Xide appears to be a result of a lexical replacement or historical sound change. The most interesting aspect of this is that ‘five’ is now pronounced as [ŋɯ^{33}] in Xide. This means that the character 五 must have been borrowed before the replacement or sound change occurred. However, for this to be clearly settled, further investigation will be needed.

Interestingly enough, several pictographic characters have been recognised, such as, for example, the simplest one, marked with a green circle in Mojiang.

On the whole, many pictographic characters for the word ‘bird’ are found; these are indicated in red. Most appear to depict a bird spreading its wings to fly.

According to STEDT[8], the etymon here for Lunan (SE) and Dafang (E) is PTB **s-ŋak* (‘bird’), PLB **s-ŋ(y)ak*^{H} (‘bird’), whereas that of Xide (N) is PTB **k-rak* (‘fowl’/ ‘chicken’). Consequently, the phonetic value for ‘bird’ in Xide is different from that for the corresponding term in Lunan and Dafang. Nevertheless, this word is written identically in each place due to its pictographic nature.

As for ‘dog’, common or representative forms can be seen marked in blue, present in all the characters on the map. The characters for Lunan (SE) appear to be radical simplifications of those for Shuangbai (S).

One of the allographs in Xide (N), marked in red, is probably a phonetic loan.

The etymons for the words for Lunan and Dafang (E) are PTB **d-k*^{w}*əy-n* (‘dog’) and PLB **k*^{w}*əy*^{2} (‘dog’), according to STEDT[9].

[8] Last accessed on 12 August, 2018.

[9] Last accessed on 12 August, 2018.

According to STEDT[10], the etymons for [ʂɯ^{33}] of Xide (N), [ɕi^{33}] of Dafang (E), [ɕe^{21}] of Mojiang (S) and [ɕɪ^{33}] or [ɕɨ^{33}] of Lunan (SE) are PTB **s(y)ar* ('louse'), PLB **san$^{1/2}$* ('louse').

In Luquan (E), 'louse' and 'iron' are homophonous. The character for 'iron' is written as the one indicated with the red circle on the map, and the characters shaded in red must be allographs, which are also found in Lunan.

In Mojiang too, the characters circled in blue are used for 'iron' because they are homophonous, meaning that the ones shaded in blue may be allographs of these.

In Xide, as in Luquan and Mojiang, the character in the green circle is used for the word 'iron' as well, due to the homophony. Interestingly, a cognate for 'iron', pronounced [huɯ^{33}], is written identically to the Luquan character marked in red. Given this, it appears that a similar phonetic loan occurred in both Xide and Luquan, bringing these homophonous words to be written similarly.

Common character forms have been recognised elsewhere, such as, for example, in Shuangbai (S).

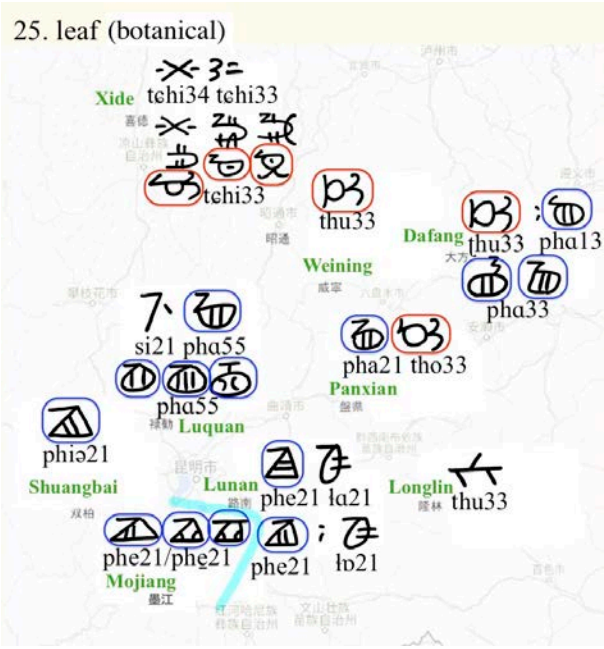
The etymons for these words in Xide (N), Dafang (E), Mojiang (S) and Lunan (SE) are PTB **si(ŋ/k)* ('tree'/ 'wood'/ 'firewood') and PLB **sik^{H} ≍ siŋ* ('tree'), according to STEDT[11].

The character used in Panxian (E), circled in blue, is thought to be a phonetic loan.

[10] Last accessed on 14 August, 2018.

[11] Last accessed on 14 August, 2018.

A continuum appears to exist among all the characters as marked in blue, and their phonetic values are also similar to each other, with the exception of that in Xide (N). The phonetic value [lɨ^{21}] in Xide is very different from the others, beginning with a sibilant [s-] or [ʂ-]. This fact indicates that the etymon of [lɨ^{21}] is distinct from the others.



There are two series of characters signifying 'leaf'. One, marked in blue, contains words beginning with [ph-], most of which take the form of a striped-triangle. In the other series are words beginning with an alveolar/retroflex stop or an alveolo-palatal affricate, and those are marked in red.

Interestingly, the Panxian (E) word [pha^{21} tho^{33}] appears to be a combination of these two series.

In addition, all characters belonging to the second series are only found to the north of Panxian. Therefore, unlike the other sites in the Eastern dialect area, no character circled in red is found in Luquan or Longlin, although the one in Longlin appears quite different from all the others.

The characters for Shuangbai (S) and Mojiang (S) marked in red look quite similar, as do their pronunciations.

The word in Panxian (E) is different from all the others in its formation, written character and pronunciation.

Five groups exist. Most of the disyllabic words consist of a word formation like ‘tree-skin’.

The characters marked in red are found in Xide (N) and Panxian (E). Their shapes and their phonetic values are very close, in spite of the dialectal distinction.

The characters indicated by blue circles are observed in Shuangbai (S) and Mojiang (S), although the characters appear to be rotated. Their shapes and pronunciations bear a strong resemblance to each other.

The characters marked in green are found in Mojiang and Lunan (SE). They have a similar appearance, and their pronunciations are similar as well, despite the dialectal differences.

The characters circled in pink are distributed in Weining (E) and Dafang (E). Their shapes and phonetic values are very similar. Those that are shaded in pink appear to be allographs of these, although the pronunciation of them in Luquan (E) is different. This indicates their logographic nature.

The characters shaded in turquoise show a degree of formal resemblance, but not in their phonetic values. Further investigation is needed.

According to STEDT[12], the etymons for the Xide (N), Dafang (E), Mojiang (S) and Lunan (SE) words are PTB **m/s-k-rəy* ('skin'), and PLB **m-k-rəy*[1] ('skin'/ 'outer covering').

The characters show a rich diversity of forms, but similar characters are found in Weining (E) and Dafang.

Provisionally, four groups have been determined, according to the form of the characters, namely, those circled in blue, red, green and turquoise.

According to STEDT[13], the etymon for the Xide (N), Dafang (E), Mojiang (S) and Lunan (SE) words is PTB **sya-n* ('flesh'/'meat'/'game animal').

The group in red is only found in the Eastern dialectal area.

The Mojiang character marked in green, although its form is not identical to the characters for Luquan (E), their pronunciations are the same.

Interestingly, the characters marked in blue are found from Xide in the north to Mojiang in the south, beyond a zone including Luquan, Panxian (E), Weining (E) and Dafang. It is thus plausible that the form might be older than those of the other groups. In addition to this, as the characters marked in turquoise are found exclusively in Xide and Mojiang, they might retain relatively older forms as well.

[12] Last accessed on 12 August, 2018.

[13] Last accessed on 12 August, 2018.

According to STEDT[14], the etymons for the words in Xide (N), Dafang (E), Mojiang (S) and Lunan (SE) are PTB **s-hywəy-t* ('blood') and PLB **sway*^{2} ('blood').

The characters marked in blue and their allographs are observed in the Eastern dialectal area, in particular, in Luquan, Weining, Dafang, Longlin, as well as in Lunan of the Southeastern dialectal area and in Mojiang of the Southern dialectal area.

The characters marked in red are only found along the western boundary, from the north to the south.

However, it should be noted that Mojiang, the southernmost location of all, features both types of characters.

The characters that are circled in blue are used throughout all the area, and they can be regarded as a common form for the word 'bone'. Their written forms and their phonetic values are similar to each other. It is quite probable that this character was in widespread use in the area where the Yi script was used, seeing little change throughout its history, although indeed some allographs do exist.

On the other hand, the character used in Lunan (SE) is pronounced almost identically to the characters circled in blue, but it differs greatly in its written form.

In STEDT[15], it is found that the etymon for [vu^{21}] of [vu^{21} du^{33}] in Xide (N), [ɣɯ^{33}] in Dafang (E) and Mojiang (S), and [ɣɯ^{21}] in Lunan is PTB **s/m/g-rus* ('bone'), whereas that for [du^{33}] of [vu^{21} du^{33}] in Xide is PTB **g-du(ŋ)* ('bone').

[14] Last accessed on 12 August, 2018.

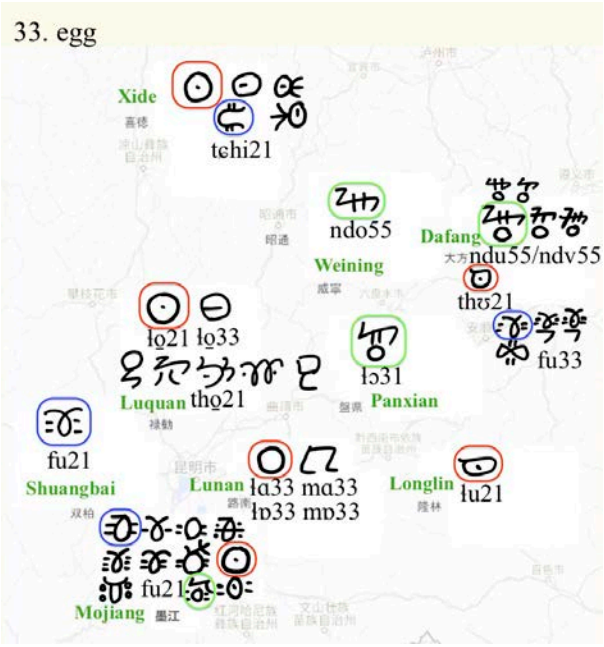
[15] Last accessed on 12 August, 2018.

There are five character types for the word 'grease', but there are only two phonetic values.

The characters marked in yellow and turquoise are found in the northern area, namely, in Xide (N), Dafang (E), Panxian (E) and Luquan (E), most of which are within the Eastern dialectal area.

The characters circled in red and in blue are used in Xide, the northernmost, and in Shuangbai (S), Mojiang (S) and Lunan (SE) in the south area, but nowhere in the Eastern dialectal area.

Interestingly, the characters marked in green are observed in Xide and Mojiang, that is, in the northernmost and the southernmost surveyed areas. This may be interpreted to mean that this character type is older than the others.



The characters marked in red are used most widely, and those marked in blue are only found peripherally.

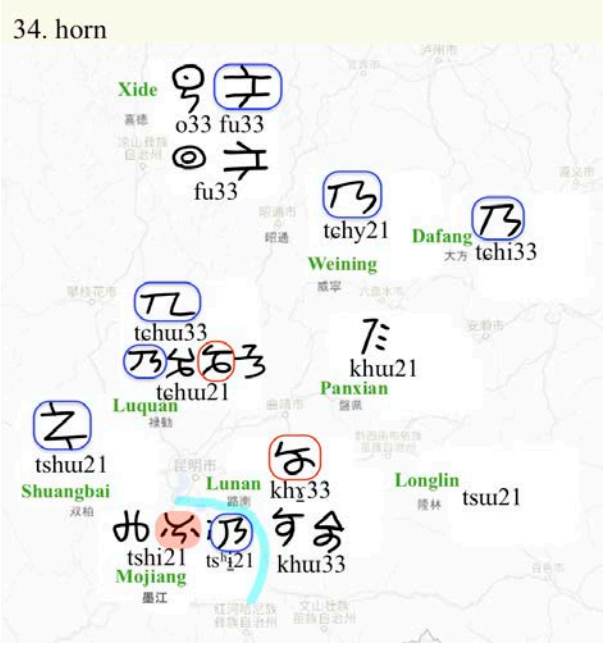
The characters circled in green are distributed in Mojiang (S) and in the eastern areas of the Eastern dialectal area. The most notable fact is that the pronunciation of these characters is different in each place: [ndo^{55}] in Weining (E), [ndu^{55}] in Dafang (E), [ɟɔ^{31}] in Panxian (E) and [fu^{21}] in Mojiang (S). In Dafang in particular, all three types of characters appear, and each type has its own phonetic value as a result of etymological difference. According to STEDT[16], the etymons are as follows:

The etymon of [fu^{21}] of Mojiang is PTB **ʔu* ('egg'/ 'bird').

In Xide (N), the etymon of [tɕhi^{21}] is PTB **d(w)əy* ('egg'/ 'testicle').

Although no etymological information is available in STEDT for the word [ndu^{55}] in Dafang, the similar-sounding [ndo^{55}] does have an attested etymon for Dafang, namely PTB **m/s-tow* ('egg').

[16] Last accessed on 12 August, 2018.



While there is a common form of the character throughout the area, which is marked in blue, the phonetic values of the characters in the various locations are diverse.

However, the etymon of [fu^{33}] in Xide (N), [tɕhi^{33}] in Dafang (E), [tshi^{21}] in Mojiang (S) and [khɯ^{33}] in Lunan (SE) is PTB **d-krəw* (‘horn’). The phonetic differences here are due to a historical phonological change.

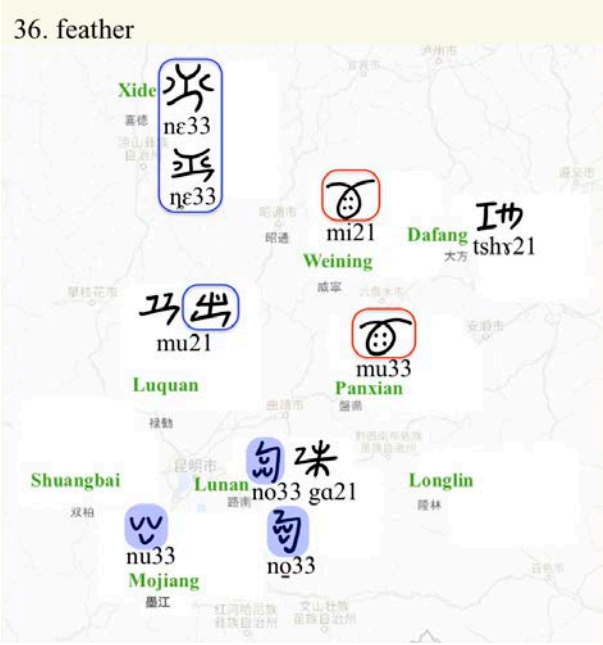
The characters circled in red and seemingly their allograph shaded in red are concentrated in the southwestern area of the map, namely, in Luquan (E), Lunan (SE) and Mojiang (S).

The characters marked in blue are found in each location. A formal continuum appears among the characters in this group. Additionally, each has the *m-* initial nasal. For example, the etymons for [mɛ^{55}] in Lunan (SE) are PTB **r-may* ≍ **m-ray* (‘tail’/ ‘penis’) and PLB **ʔm(r)ay*^{2} (‘tail’), according to STEDT[17].

The characters circled in red are found in Xide (N) and Luquan (E). The etymon of [ʂu^{33}] of [phu^{21} ʂu^{33}] in Xide from *ZMYY* (1991) is PTB **swap* (‘buttocks’/ ‘tail’). This also holds true in [su^{33}] in Dafang (E).

The characters circled in green are another group, also meaning tail, and they are also widespread. In particular, the two characters shaded in yellow in the green circles, as in Xide and Mojiang (S), are identical in form but different in pronunciations. Further research is necessary to account for this.

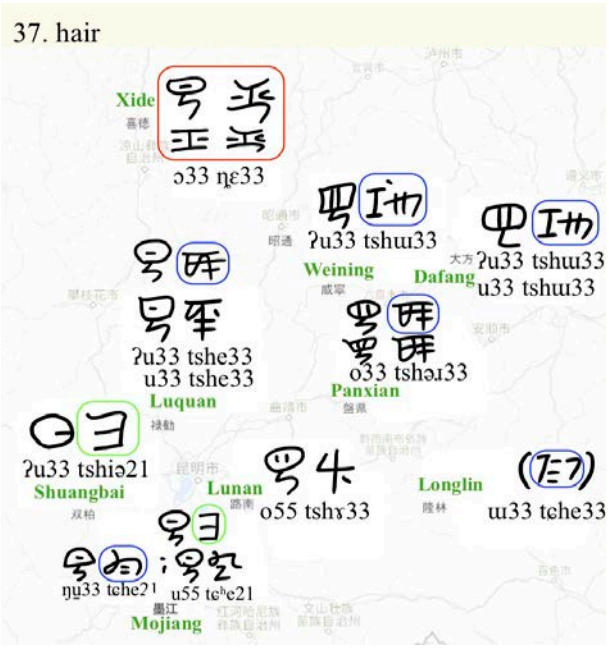
[17] Last accessed on 19 August, 2018.



The characters that are both circled and shaded in blue appear to be on a continuum, but again further investigation is necessary here. The etymon for [ŋ̊ɛ^{33}] in Xide (N) is PTB **r-(n/m)ey* ('hair of head'), as stated in STEDT[18].

The characters circled in red have only been found in Weining (E) and Panxian (E) hitherto. Interestingly, their pronunciations are also different from those marked in blue.

The clear distinction between characters marked in blue and those in red is striking, namely, that they fall in the east and in the west, respectively.



The word formation of 'hair' is the same in all places, namely, 'head-hair'.

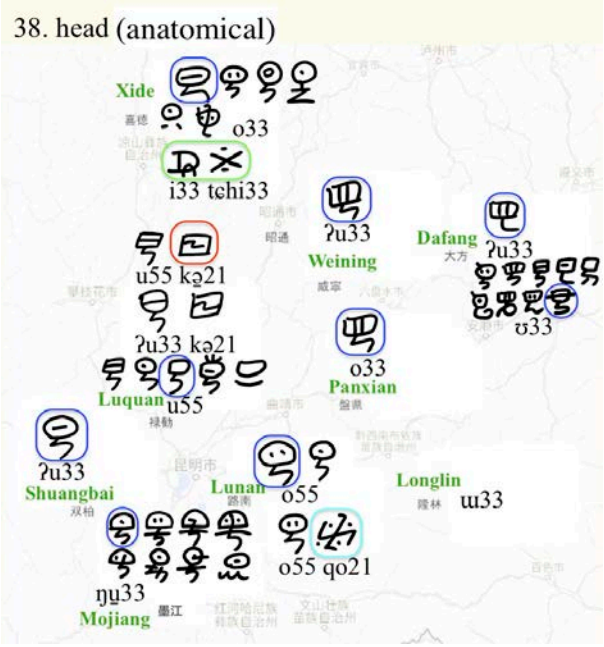
The characters circled in blue are the most widespread, appearing on a continuum. The closer one looks toward the centre, namely, Panxian (E) or Luquan (E), the more complex the character forms become.

In Shuangbai (S) and Mojiang (S), similar characters are marked in green.

The words in Xide (N) framed in red differ from the others due to their etymology. The etymon for [ŋ̊ɛ^{33}] in Xide is PTB **r-(n/m)ey* ('hair of head'), while [tshɯ^{33}] in Dafang (E), [tɕhe^{21}] in Mojiang and [tshɤ^{33}] in Lunan (SE) have the common etymon PTB **(t)sam* ('hair [head]'), according to STEDT[19].

[18] Last accessed on 19 August, 2018.

[19] Last accessed on 19 August, 2018.



The characters marked in blue bear a striking resemblance, and a continuum can also be clearly observed when they are compared one with another. The etymon for [o^{33}] in Xide (N), [ŋu̱^{33}] in Mojiang (S) and [o^{55}] in Lunan (SE) is PTB **d-bu-s* ('head'/ 'centre'/ 'senior male relative' / 'uncle'), according to STEDT[20].

The character within the turquoise circle is found in Lunan and pronounced [qo^{21}]. Its etymon is PTB **s-kawŋ* ('hollow'/'hollow object'/'head'), as asserted in STEDT. On the other hand, in Luquan (E), the character marked in red is pronounced [kə^{21}], similar to the pronunciation [qo^{21}] in Lunan. Although the etymon for [kə^{21}] is uncertain, it is plausible that it should be cognate with [qo^{21}].

The word [i^{33} tɕhi^{33}] in Xide composed of [i^{33}], whose etymon is the same as that of the characters marked in blue, and of [tɕhi^{33}], whose etymon is PTB **d-kyil* ('crown of head'), according to STEDT[21].

On the whole, the fact that the common form marked in blue is seen in characters all over the map suggests that this form did not change drastically, in spite of its wide distribution and long-running use through the ages.

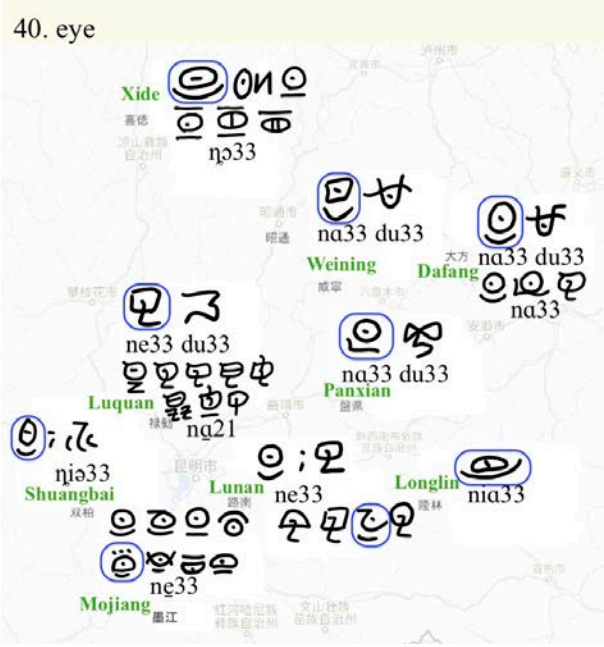
Word formation is similar over the entire area, in which disyllabic words are generally observed.

The first syllable appears in three forms, which are indicated by red, blue and green circles, respectively. In particular, the characters circled in blue show a continuum within their wide distribution, and the ones shaded in blue might be allographs for them. More research is needed.

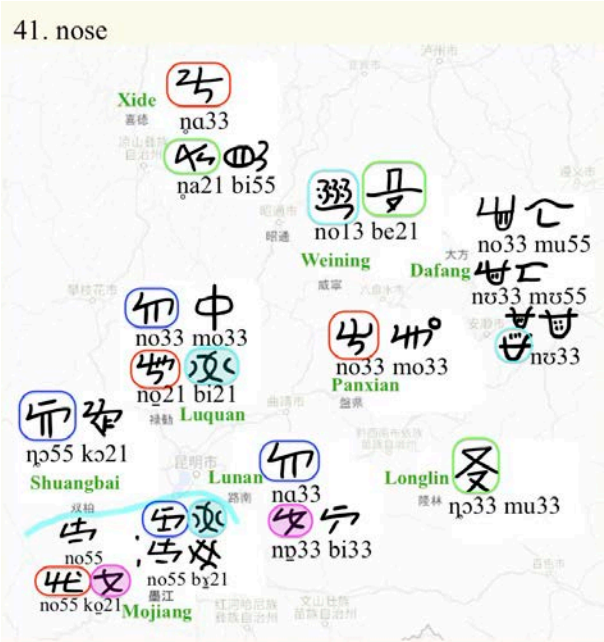
On the other hand, two types of the characters appear for the second syllable, and they are shaded either in pale blue or in pink. Although the characters marked with pale blue display a more complex form than the ones in pink, a sequence of formal change can apparently be observed between these two types. Their interrelationship is uncertain, making further research necessary.

[20] Last accessed on 12 August, 2018.

[21] Last accessed on 12 August, 2018.



With all the characters on the map investigated and compared, it is clear that a common character form exists among them. It is a typical pictograph.



The characters marked in blue are found exclusively in the southwestern area of the map, and those circled in green and turquoise are only found in the northeast. The characters marked in red, for their part, are distributed over a broader area, if the characters from Mojiang (S) and Luquan (E) are counted as their allographs.

The characters shaded in pale blue are found in Luquan and Mojiang, and they are formally identical, in spite of the dialectal difference. Moreover, the words [no^{21} bi^{21}] in Luquan and [no^{55} $bɤ^{21}$] in Mojiang are phonetically similar. The reason that has led to identical characters being used in these places remains uncertain and requires further research.

The characters shaded in pale pink in Lunan and Mojiang resemble each other to a certain extent, but the phonetic values are divergent. At the moment, the resemblance seems purely coincidental, but their logographic origin must be investigated to confirm this supposition. As both appear in a word that has the same meaning in both places, a slight possibility exists of lexical replacement.

The characters circled in blue are only found in the southwestern area, in Luquan (E), Shuangbai (S), Mojiang (S) and Lunan (SE). This may be due to their proximity or areal features.

The characters marked in green are observed in Xide (N) and Shuangbai. However, interestingly enough, neither these characters nor another that bears a similar pronunciation to either is found in Luquan, which is located between the two places.

The characters indicated with a red circle are exclusively distributed in Weining (E) and Dafang (E). These may be local characters, as the character [pu^{33}] in Luquan seems to be cognate[22] with them, but it is written differently.

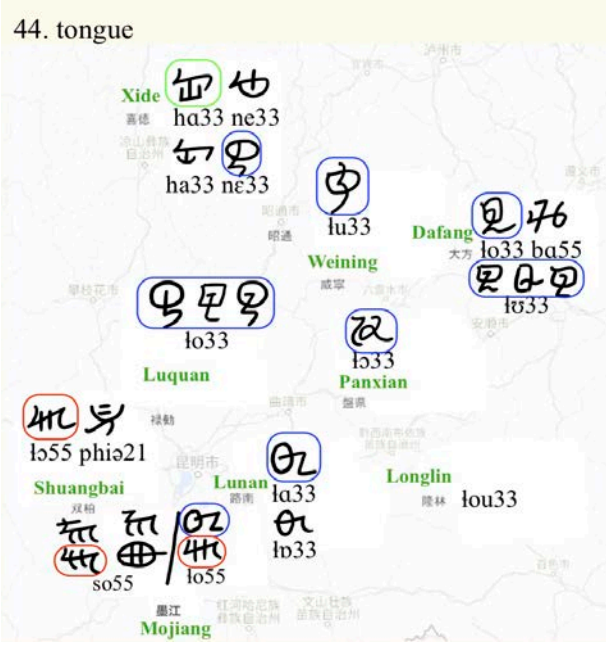
The characters shaded in turquoise resemble each other to some extent, but their phonetic values are different. This implies that these characters were logographic or that a lexical replacement or a phonetic loan occurred in the history of one of them.

As has been seen, a continuum exists, and it is easy to follow the process of change in character forms. The characters appear to be pictographic, and the most complicated form among them is that for Luquan (E), which is marked in blue, and its simplified allographs are circled in turquoise.

According to STEDT[23], the provisional etymons for [dʐi^{33}] in Xide (N), [dzɛ^{21}] in Mojiang (S) and [tʂi^{33}] in Lunan (SE) are PTB **m-dzyway* ('tooth'/ 'tusk'), and PLB **jway^{l}* ('tooth'/ 'tusk').

[22] Further investigation and additional data are needed before any conclusion can be drawn concerning its etymology.

[23] Last accessed on 12 August, 2018.

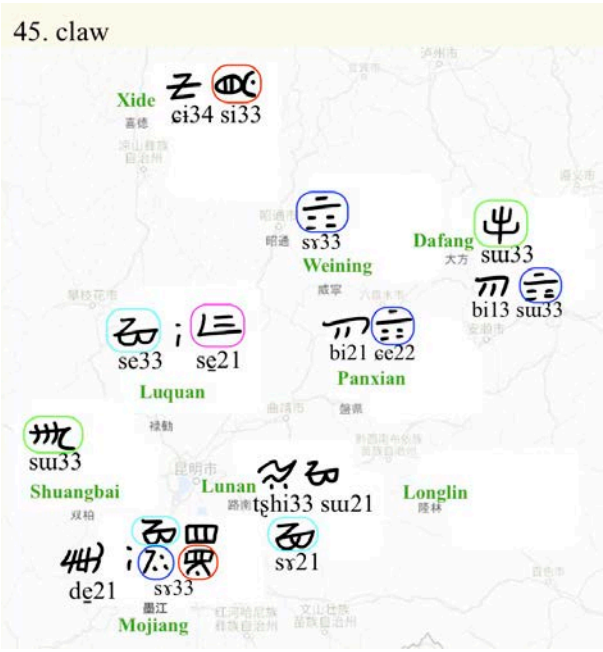


There are three representative types among the character forms.

The character type marked has the widest distribution. Most characters in this type have similar phonetic values: [ɬu^{33}] in Weining (E), [ɬo^{55}] in Mojiang (S) and so on, although, the one in Xide (N) is different, [nɛ^{33}]. This may be due to lexical replacement, but further investigation is needed.

The type circled in red is found in the southwestern area, in Shuangbai (S) and Mojiang. The phonetic value [so^{55}] in Mojiang appears to be cognate with the other [ɬo^{55}] and thus to be a result of phonological change.

The third type, marked in green, has only been observed in Xide.



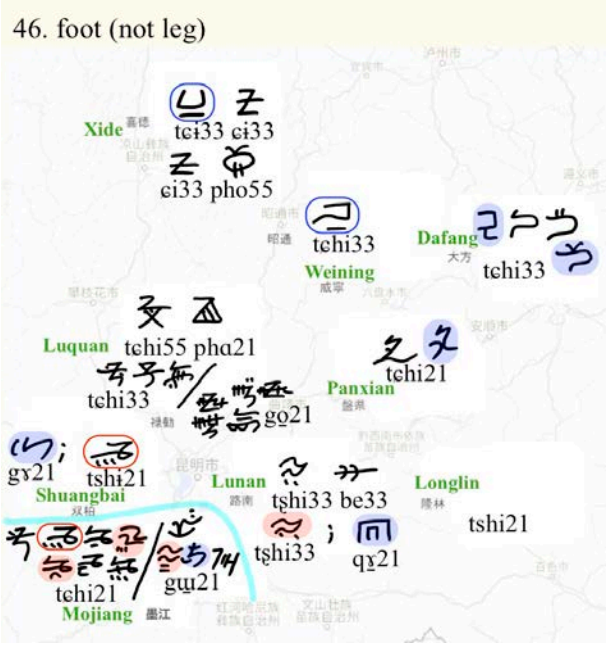
The characters marked in blue are distributed most widely.

The ones marked in turquoise are seen in the western area, in Luquan (E), Mojiang (S) and Lunan (SE), irrespective of the dialectal variation. It is highly probable that these constitute a phonetic loan.

The characters circled in green are found in Dafang (E), the easternmost location, and in Shuangbai (S), the westernmost one. They also probably constitute phonetic loans.

The characters circled in red are found in the northernmost location, Xide (N), and the southernmost, Mojiang.

The character marked in pink is only found in Luquan, and it is also a phonetic loan. It is normally used to indicate the number ‘three’.

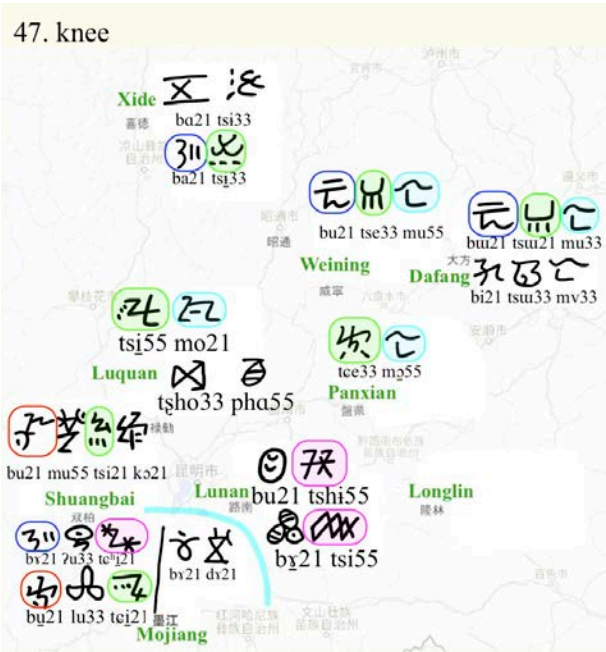


For ‘foot’, two basic forms have provisionally been set. The characters circled are the standard forms, and the shaded ones are allographs.

The characters marked in blue are found over a wide range, in most places, with the exception of Luquan (E). Several characters used in Luquan are thought to be a phonetic loan.

The ones marked in red are only found in the southwestern area, Shuangbai (S), Mojiang (S) and Lunan (SE).

Considering the distribution of each form, the characters marked in red are most likely newer than those in blue, in spite of the fact that they seem more pictographic.



The characters shaded in green seem to be derived from a certain basic form, as do those in turquoise and in pink.

The characters marked in blue are distributed in the northernmost and southernmost areas, Xide (N) and Mojiang (S), while those marked in red are only found in the southwestern region, in Shuangbai (S) and Mojiang in particular. The character forms circled in blue may be older than those in red.

There is obviously one common character form here, circled in blue.

The etymons for [lo^{55}] in Xide (N), [lɑ^{13}] in Dafang (E), [lɑ^{55}] in Luquan (E), [l<u>e</u>^{21}] in Mojiang (S) and [le^{21}] in Lunan (SE) are PTB **lak* ('hand'/ 'limb'), PLB **lak^{L}* ('hand') and PL **lak^{L}* ('hand'), according to STEDT[24].

The characters marked in blue appear to belong to the same group. However, the phonetic values show two types. One type, shaded in blue, begins with [p-], whereas the other, circled in blue, has a [ɣ-] or zero initial consonant. The usage of these characters, their different phonetic values and their wide distributions suggest that they could have been used as logographs.

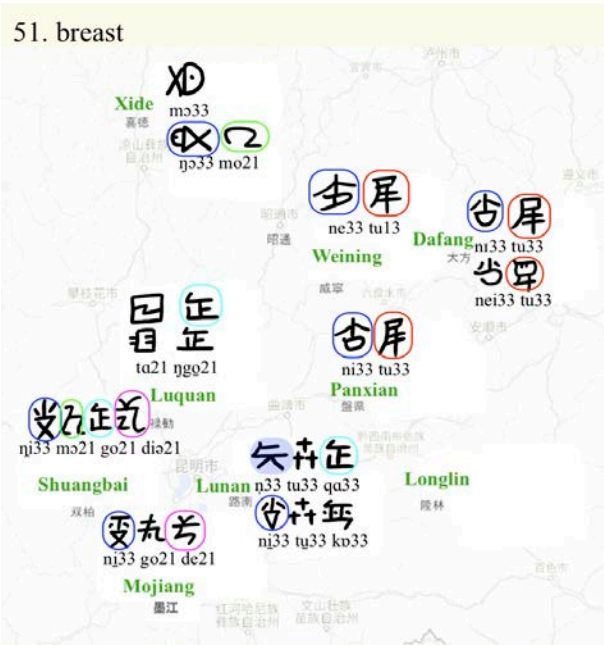
[24] Last accessed on 23 August, 2018.

The characters that are circled in green are considered to be one group, although the character from Luquan (E) appears slightly different in its shape and phonetic value. The etymon for [lie^{21}] in Dafang (E) and [lɛ^{33}] in Lunan (SE) is PTB **g/m-liŋ* ('neck'), according to STEDT[25].

The characters marked in pink are widespread. The etymon for [be̱^{21}] in Mojiang (S) is PTB **bran* ≍ **pwat* ('neck'/ 'throat').

The characters that are circled in red show a certain resemblance in their forms. However, their pronunciations are different; these can be divided into two groups. One group, shaded in green, is phonetically similar to the characters circled in green, and the group shaded in blue is phonetically similar to those circled in blue. This signifies that the characters might have served as logographs.

The characters that are circled in blue are exclusively found in Weining (E) and Dafang (E), while [ku^{21}], which shows a similar phonetic value, is observed in Xide (N). The etymon of this word in Xide is PTB **kwa* ('throat'/ 'neck'). This may apply to the word [ko^{55}] in Dafang as well.



The most widely distributed form is marked by a blue circle, while the character shaded in blue, found in Lunan (SE), is considered a phonetic loan of this word.

The characters circled in red are only found in Eastern dialectal region, especially in Weining, Dafang and Panxian. The phonetic values of these characters are [tu^{33}] or [tu^{13}], and in Lunan the similar pronunciations of [tu^{33}] and [tu̱^{33}] are observed. This is a regional feature of the eastern dialectal area.

The characters circled in green are only observed in Xide (N) and Shuangbai (S).

The characters marked in turquoise are found in Luquan (E), Shuangbai and Lunan. Their phonetic values are all different, however.

The characters marked in pink are found in Shuangbai and Mojiang (S). Their forms and phonetic values are similar, in spite of the dialectal differences between these two places.

[25] Last accessed on 10 August, 2018.

The characters meaning ‘heart’ has a common form, which is circled in blue.

This form is observed throughout the entire area, which means that the character is logographic in origin and has been used widely over a long period, without any drastic change.

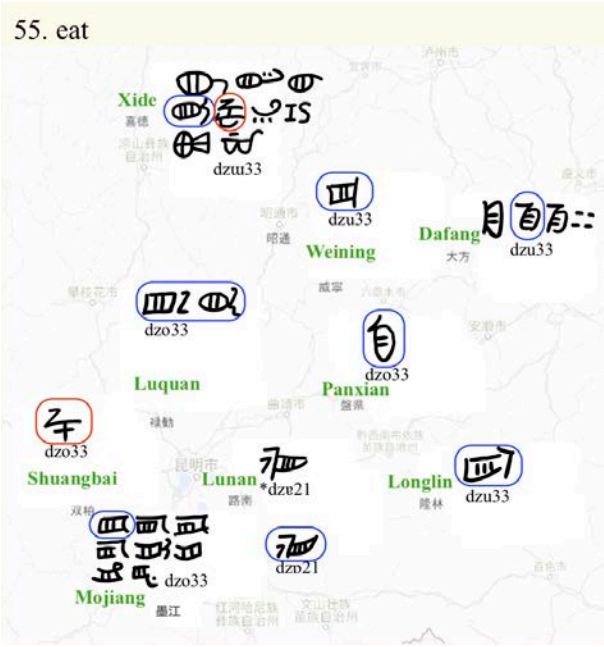
The phonetic value in Xide (N) is [he^{33}]; this seems to differ from the other pronunciations. However, this can be traced to phonological change. The etymon of this pronunciation is the same as the [ne^{33}] of Dafang (E), described in Chen et al. (1985: 243): PTB **s-ni* (‘heart’/ ‘breast’/ ‘chest’/ ‘rib’).

The characters circled either in green or in turquoise are only to be found in Weining (E), Dafang (E) and Luquan (E), and those marked either in red or in blue are more widely observed in the remaining locations.

With the exception of Shuangbai (S) and Mojiang (S), the common form that is marked in blue is widely distributed.

The etymon for [ndo^{33}] in Xide (N), [dɒ^{21}] in Mojiang and [tʂi^{55}] in Lunan (SE) are PTB **m/s-tuŋ* ('drink'/ 'suckle'), PLB **m-daŋ^{1}* ≍ *m-doŋ^{1}* ('drink') and PL **m-daŋ^{1}* ('drink'), as asserted by STEDT[26].

This character may have been a logograph because allographs found in Xide and Luquan (E) retain a certain similarity in their form. However, in Shuangbai, Mojiang and Lunan in the south, characters are observed that bear a different form. These seem to be the result of a phonetic loan.



The characters circled in blue bear a remarkable resemblance among themselves, and they are observed over the entire area. This implies that the characters were logographic and that they changed little over the course of their histories and throughout the wide area where they are found.

The wide distribution of the characters abovementioned implies that it is highly probable that the characters found in Xide (N) and Shuangbai (S), marked in red, represent phonetic loans. In Shuangbai, as this is the only character that expresses 'eat', at least to available knowledge, this homophonous character appears to have taken a firm hold on this area in the place of the common forms identified by the blue circles.

[26] Last accessed on 22 August, 2018.

There are two distinctive, common forms among the characters over the entire area.

The characters that are marked in red are categorised together into one group, and provisionally, although there is some difference in their shapes, the other characters, marked in blue, do nevertheless show a certain resemblance, on the whole.

The character found in Dafang (E), shaded in red, is similar to those circled in red in its form; however, its phonetic value is different.

The character found in Lunan (SE) is shaded in blue: this character bears a certain similarity in its form to those marked in a red circle, but it has a different phonetic value.

Three types of the character form exist.

One type, marked in blue, is distributed in the Eastern dialectic area, namely, in Luquan, Weining, Dafang and Panxian. The character found in Luquan, shaded in blue, appears to be an allograph, but further investigation is necessary to confirm this.

The characters belonging to the type marked in red are found in the Southern dialectal area, Shuangbai (S) and Mojiang (S).

The characters of the final type are marked in green. These can be observed in Mojiang and Lunan (SE), in spite of the dialectal differences between these two places. This may be due to their proximity.

According to STEDT[27], the etymons for [mo^{33}] in Xide (N), [ŋɒ^{21}] in Mojiang are PTB **mraŋ* ('see'), PLB **s-mraŋ* ('show'), PLB **mraŋ*^{1} ('see').

[27] Last accessed on 23 August, 2018.

There are four types of the character forms. A regional tendency has emerged, judging from the distribution.

Those characters that are circled in blue and those that are marked in red are found exclusively in Yunnan Province. Those that are marked in blue are observed in Shuangbai (S) and Mojiang (S), while those that are marked in red are found in Luquan (E), Shuangbai and Mojiang.

The characters in pink are exclusively found in Guizhou Province, in Weining (E), Dafang (E) and Panxian (E).

The characters circled in turquoise are found in the north, including Xide (N) in Sichuan and Weining and Dafang in Guizhou.

In spite of the differences in the shapes of the characters, the provisional etymons for [ɣu^{21}] in Xide, [dʑu^{33}] in Dafang and [gɒ^{11}] in Lunan (SE)[28] are PTB **(k/g)ra* ('hear'/ 'listen'/ 'sound'), and PLB **gla*^{2} ('hear'/ 'listen').

There is a clear regional tendency for the characters meaning 'know'.

The characters marked in blue are distributed broadly, with the exception of the southwestern area of the map, not appearing in Shuangbai (S) or Mojiang (S) of the Southern dialectal area, in Yunnan Province.

For their part, the characters circled in red are found only in Shuangbai and Mojiang, and those marked in green are relatively restricted, appearing in the northwestern area, in Xide (N) and Luquan.

[28] In STEDT, the data for Sani are cited from *TBL* (1992) and the tone is given as 11. This is slightly different from the tone 21 seen on the map, but the words can nevertheless be regarded as the same, given their identical word formation and the striking similarity in their pronunciations.

Three types of the character forms exist, and their distribution exhibits regional distinctions.

The characters marked in red are only found in Shuangbai (S) and Mojiang (S), whereas those circled in green are exclusively observed in Luquan (E) and Lunan (SE).

The characters marked in blue are most widely distributed, appearing everywhere except Longlin (E).

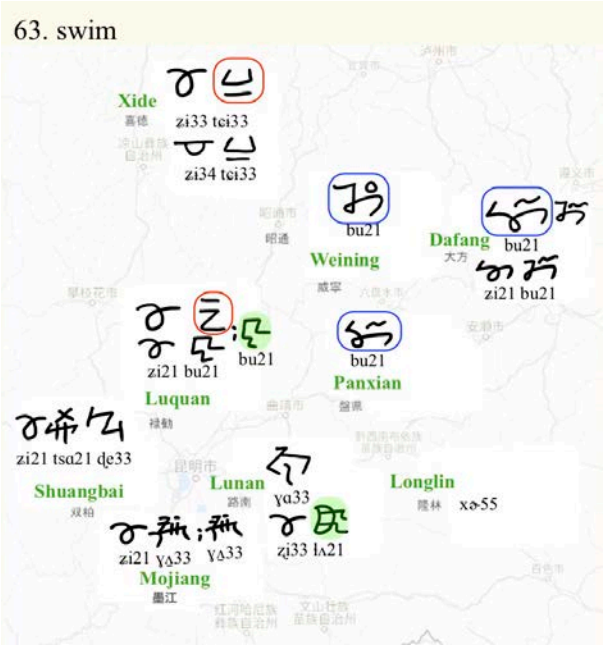
Interestingly, the characters marked in blue are found in both the northernmost and the southernmost areas, Xide (N) and Mojiang (S).

The characters circled in red and their allographs, shaded in red, are distributed over the vast area stretching between Xide and Mojiang.

The characters circled in blue appear to form a group. However, more data are needed to clarify the correlation among them and demonstrate how their shapes have changed.

The characters marked in red are only found in Luquan (E) and Mojiang (S), despite their dialectal distinction.

The character marked with a green circle and the one marked by a red one are phonetically and formally different from the others that appear on the map. Further investigation is needed on their etymons and the origins of their character forms.



Several words, such as, [ʑi^{21}] in Dafang (E) and [ʐi^{33}] in Lunan (SE), are the first syllable of a more-than-two-syllable word meaning “water”, so they are not discussed here.

In the Guizhou area, a common form is recognised among the characters marked in blue, from Weining (E), Dafang (E) and Panxian (E).

Then, the characters indicated by a red circle are only found in Xide (N) and Luquan (E). They do show a striking resemblance in their forms, but their phonetic values are different. These circumstances suggest that they should be used logographically.

Two characters highlighted in green appear to bear an allographic relationship to each other. Their character forms bear a certain similarity, but their phonetic values do not relate at all. Further research is required to unravel this.

The characters marked in blue are exclusively found in the Guizhou area, namely in Dafang (E) and Panxian (E), while those in green are observed only in Weining (E) and Luquan (E). Those four characters are distributed in the Eastern dialectic area.

The characters marked in red exhibit a wider range than the ones marked in blue.

It is notable that the character shaded in turquoise seems to be a borrowing from the Chinese 飞.

It appears that the characters marked in red may correlate with those in green, as is evident from an examination of their shapes.

A certain regional tendency exists regarding this word.

On the one hand, one group consists of the three characters circled in green, found in the Guizhou area, in Weining (E), Dafang (E) and Panxian (E). However, on the other hand, the characters marked in blue are distributed exclusively in the Yunnan area. The characters indicated by a red circle are only found in Xide (N) and Luquan (E), in the northwestern part of the map.

The characters marked in blue exhibit a common form at all sites.

The characters circled in blue are the most widely distributed, and thus, they can be considered the common form. All of them are used in the word 'sleep'[29].

[29] See '60. Sleep' for details.

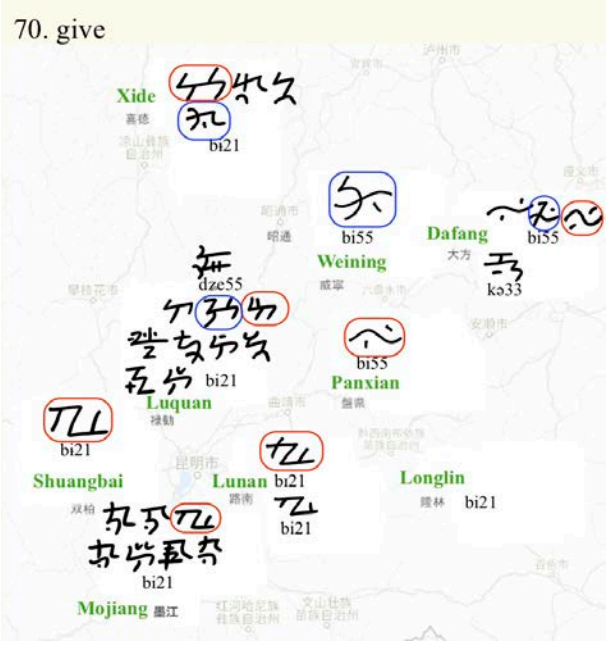
The characters marked in blue are most broadly distributed, and these may be considered the common form.

The character found in Shuangbai (S), here circled in red, appears to be a phonetic loan from a homophonous word meaning ‘two’.

The characters that are marked in blue are exclusively found within the Eastern dialectic area, including in Luquan, Dafang and Panxian.

The characters shaded in blue are distributed around the periphery of the areas mentioned above, and these latter appear to be similar to the former. The interrelationship of these should be investigated further.

The characters circled in red are observed in Xide (N) and Longlin (E), while the one in Longlin appears to be a simplified version of the one in Xide. They are found across an area where other types of characters are distributed. This situation shows an ABA distribution, implying that the characters in the red circles can be anticipated to be relatively older than the others.



Although two separate groups of characters are indicated, one in blue and one in red, there may be a certain amount of interrelation.

The characters marked in blue are only found in the northern part of the map, in Xide (N), Luquan (E), Weining (E) and Dafang (E), while another group of characters, marked in red, are distributed throughout the entire area with the exception of Weining.

This suggests that the characters marked in red are older than the others and should be considered to have once been the standard form for 'give'.

The characters that are marked in blue are found more in the northern part of the map, but those circled in red are observed in the south.

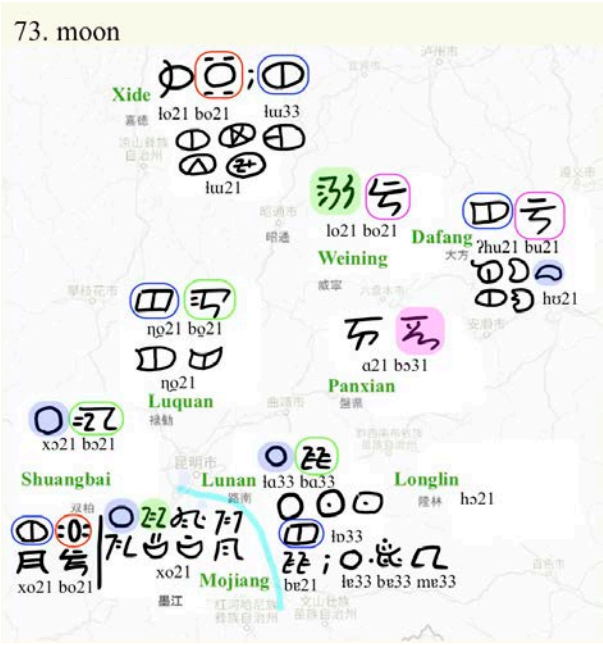
The characters that are only found in Weining (E) and Panxian (E) are marked in green.

Those characters that are marked both in red and in blue, as can be deduced from their forms, appear to be interrelated. However, the phonetic values for these categories are different. For this reason, they are provisionally dealt with separately. Further, their etymons are thus far uncertain.

The characters marked in blue are distributed over the whole area, meaning that we can regard them as the standard character form for expressing 'sun'.

The characters circled in red are only found in Xide (N), Panxian (E) and Mojiang (S). What is remarkable here is that the phonetic value of the character in Xide does not resemble that of the others. This implies that there must have been a logographic use and that a lexical replacement likely occurred in Xide.

The same phenomenon is also found among the characters circled in green. These appear in Xide, Luquan (E), Weining (E) and Dafang (E), in the north. The character found in Xide is pronounced [bu^{33}], and its most similar allograph in Luquan is pronounced [ŋi^{33}], the one in Weining is pronounced [ŋe^{21}] and the fourth, another in Dafang is pronounced [ŋi^{21}]. This suggests that lexical replacement occurred in Xide and that this character was logographic.



The characters circled in blue are found in most locales, and those shaded in blue are limited to Dafang (E), Shuangbai (S), Mojiang (S) and Lunan (SE). These groups appear to be interrelated and to be allographic to each other. Their wide distribution indicates that they could signify logographic or pictographic additions, as could easily be concluded from their forms.

The characters circled in green are found in Luquan (E), Shuangbai and Lunan, whereas those shaded in green appear in Weining (E) and Mojiang, slightly further out from the area where the former are attested. Judging from their forms, the two groups appear to form one, larger group, or in other words, they are in an allographic relation. However, the phonetic values for the green-shaded attestations are different from those within the green circles. This suggests that both sets represent logographic adoptions.

The characters circled or shaded in pink are only found in the Guizhou area, namely, Weining, Dafang and Panxian (E). Their appearance might constitute a phonetic loan. The characters circled in red are found in the northernmost site, Xide (N), and in the southernmost, Mojiang. It is probable that they are older than the others whose phonetic values are close to theirs.

It is clear from the map that a common character form can be set, which is circled in blue. Although the form shaded in blue appears more complex than the others, in most places, the common form is observed.

According to STEDT[30], the etymons for this word are PTB **g(r/l)a:y* ('scatter'/ 'sow'/ 'dispersed widely'/ 'star'), PLB **ʔ-grəy*[1] ('star') and PL **C-gray*[1] ('star'), being pronounced [tɕɨ[33]] in Xide (N)[31]and [tsɛ[55]] in Mojiang (S).

The map makes it clear that a common character form, marked in blue, occurs.

However, the characters circled in red are to be found in the eastern part of the map, that is, in Dafang (E) and Longlin (E). They might be a derived from the more common form; however, more data comparing the sites are needed to allow for further investigation.

[30] Last access date, 25 August, 2018.

[31] The vowel [-ɿ] in STEDT and the resources I refer to is written [-ɨ] here due to the unavailability of the necessary font in the application used to draw the maps.

These characters can be roughly divided into two groups, of which one is marked in blue and the other is marked in red.

The group in blue is attested over a widespread area, but the red group is separately distributed in the northernmost site, Xide (N), and in the southernmost ones, Mojiang (S) and Lunan (SE).

Judging from the shapes of the characters, the blue group characters appear more pictographic than the red ones. Within the blue group, the circled characters appear to be more simplified than the shaded ones. Their distribution appears to indicate a clear regional distinction. The characters that are circled in blue are found only in south, while those shaded in blue are found in the north area, mainly Guizhou Province.

A common character form can be perceived throughout; its iterations are here indicated by blue circles.

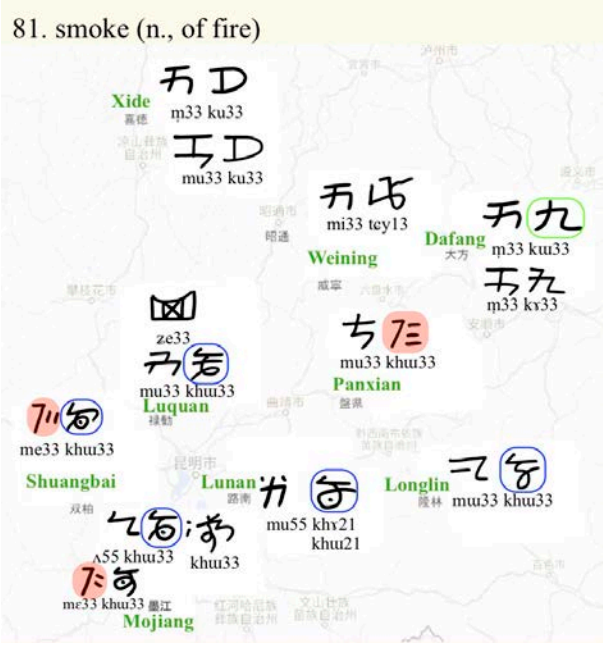
This common form is found over the whole area, and no obvious allograph appears.

A character meaning ‘stone’ appears in almost everywhere, except Xide (N) and Mojiang (S).

Here, two distinctive groups are found, one circled in blue and the other in red. Although they might be interrelated, further research is needed to clarify this.

The common character forms are observed in the Eastern dialectic area, Weining, Dafang, Panxian and Luquan, in addition to Mojiang (S).

The common character form is marked in blue.



The character found in Dafang (E), circled in green, is a phonetic loan, borrowed due to its homophony with the character meaning 'nine', which is likely borrowed from the Chinese 九.

The characters marked in blue are distributed in the southwestern area of the map, Yunnan Province and Guangxi Autonomous Region.

The characters shaded in red are notable. In Shuangbai (S) and Mojiang (S), they are pronounced as [me^{33}] or [mɛ^{33}], while in Panxian (E), the phonetic value given is [khɯ^{33}]. This may be because a lexical replacement occurred in Panxian.

The characters marked in blue are exclusively found in the Eastern dialect area, with the exception of Longlin.

The characters marked in red are found relatively in the southwestern area, in Shuangbai (S), Mojiang (S) and Lunan (SE), in spite of the dialectal distinction. Thus, it appears to be best categorised as a regional feature because of proximity.

The characters marked in blue and those in red appear to be interrelated; in other words, the ones circled in red appear to be a simplified version of their counterparts. More data from Shuangbai, Mojiang and Lunan are needed.

It is notable that the characters marked in green are observed separately at the northernmost site, Xide (N) and the southernmost site, Mojiang. This suggests that these instances can be expected to be older than the others.

The characters that are circled in blue are found exclusively in the Eastern dialect area, and the one shaded in blue is observed only in Xide (N), apparently an allograph.

Interestingly, the characters circled in red are found in northernmost site, Xide and the southernmost site, Mojiang (S). This indicates that they are likely older than others, although here too, further investigation is necessary.

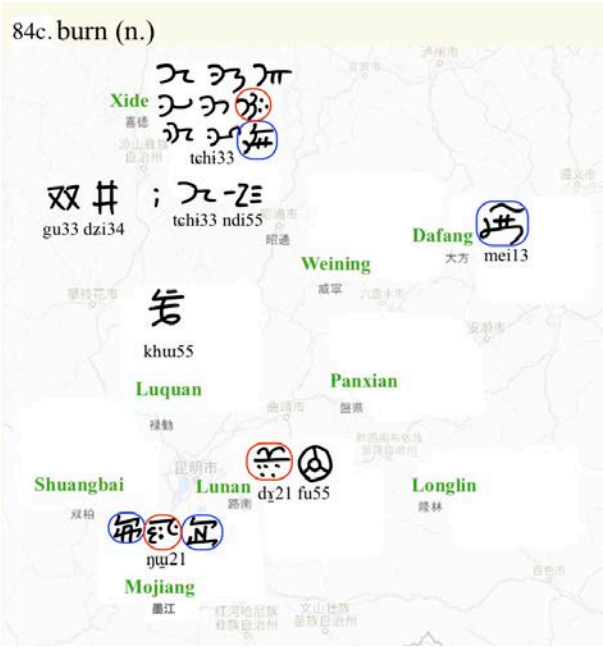
Another notable matter is apparent here, concerning the characters shaded in green, distributed in Xide and Lunan (SE). Their forms are almost identical, but their phonetic values are not. If the word formation and pronunciation for both sites are compared, they show a remarkable resemblance. Furthermore, if we consider the phonetic value and the shape of the character shaded blue in Xide, it is probable, and more natural to think, that a lexical replacement occurred for the character shaded green in Lunan.

Only two characters appear to be in common between Weining (E) and Dafang (E).

The characters that are marked in blue and are found in Weining (E) and Dafang (E) are identical.

The characters circled in red are more widely observed, and the one shaded in red may be an allograph of those.

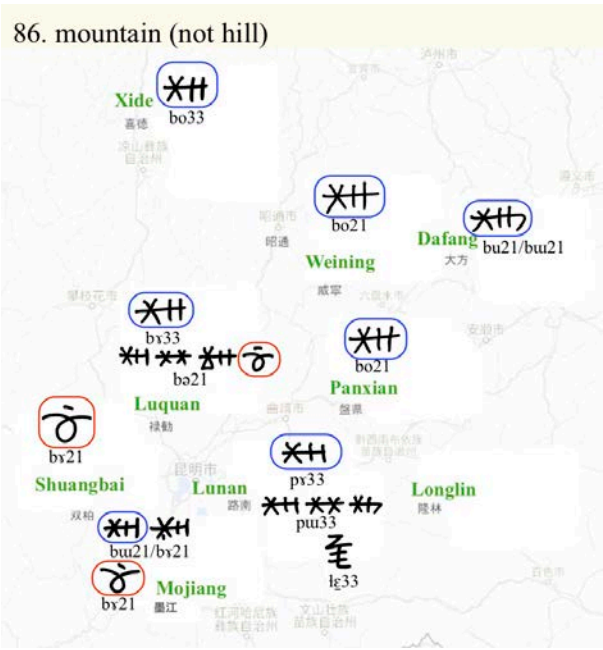
The characters marked in green are regarded as forming a group together, in spite of the appearance of certain differences in their shapes and phonetic values.



There are two groups, marked here in blue and in red.

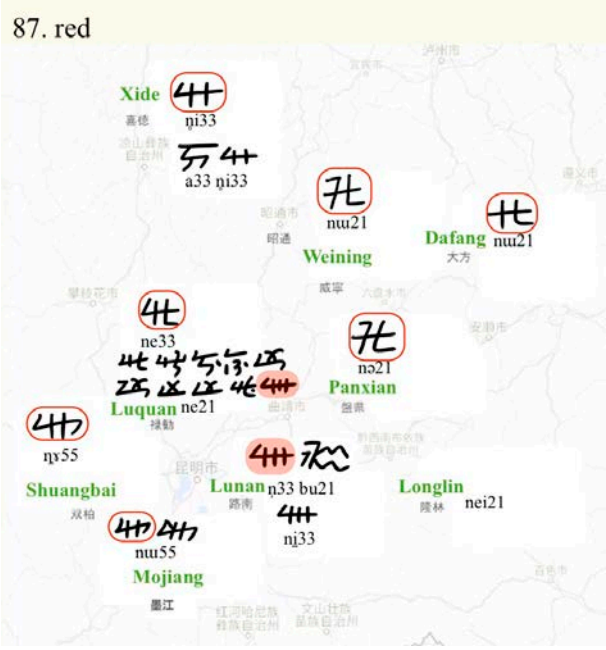
Note that the characters for both groups are found at the northernmost site, Xide (N), and the southernmost site, Mojiang (S), although their phonetic values are completely different.

The characters circled in red are distributed in between the north and south, while those in blue are only found in the north.



The map makes it obvious that the characters marked in blue are found at almost all sites.

On the other hand, the characters circled in red are only observed in the southwestern area of the map. This may indicate a phonetic loan, and the usage may be regional.



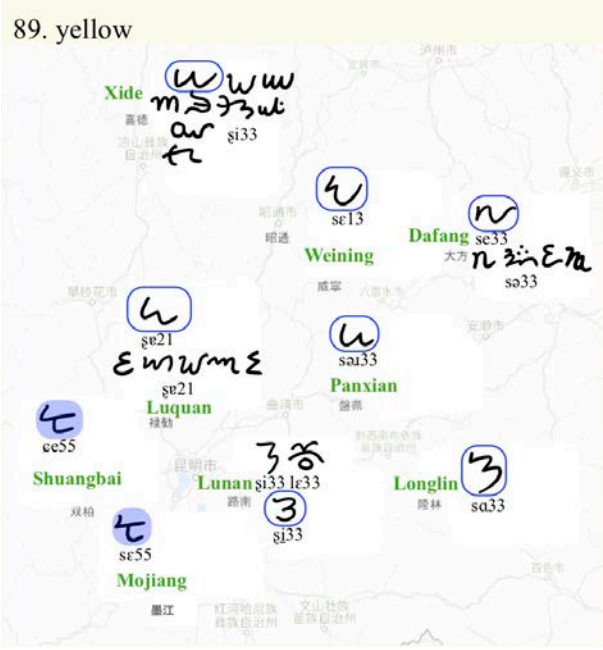
The characters that are circled in red are distributed over almost all the study area, and allographs are found in Luquan (E) and Lunan (SE), which are shaded in red.

Judging from the wide distribution of this character, its spread appears to have been logographic. Furthermore, it is remarkable that these appear to have been used for a long period, over the entire area, with very few changes in their form.

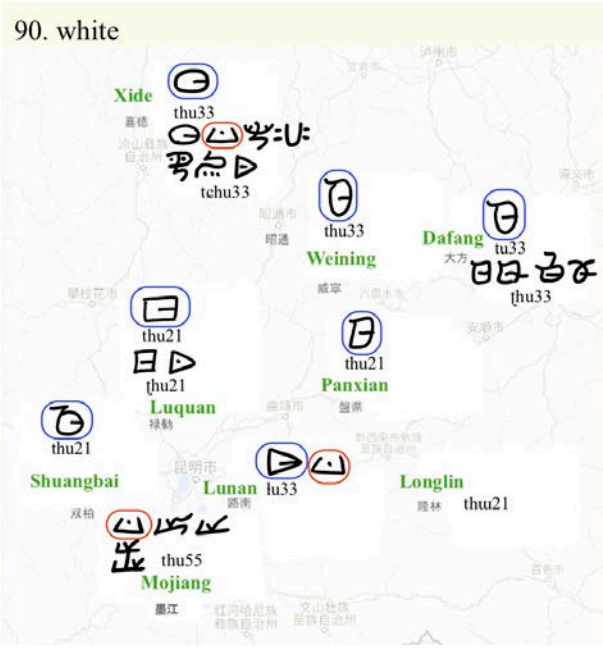
The characters marked in green are widely distributed, only not appearing in Xide (N) and Weining (E).

The initial consonants begin with either an alveolar or alveolo-palatal nasal, while in Xide and Weining, even in Dafang (E), the phonetic value for each character is so different, as [ɬo^{21}] in Xide, [ɦo^{55}] in Weining and [hʊ^{55}] in Dafang.

Interestingly, particularly in Dafang, almost identical characters bear different phonetic values, such as [nu^{55}] and [hʊ^{55}]. It is highly probable that this is due to a phonological change, although the etymon is uncertain.



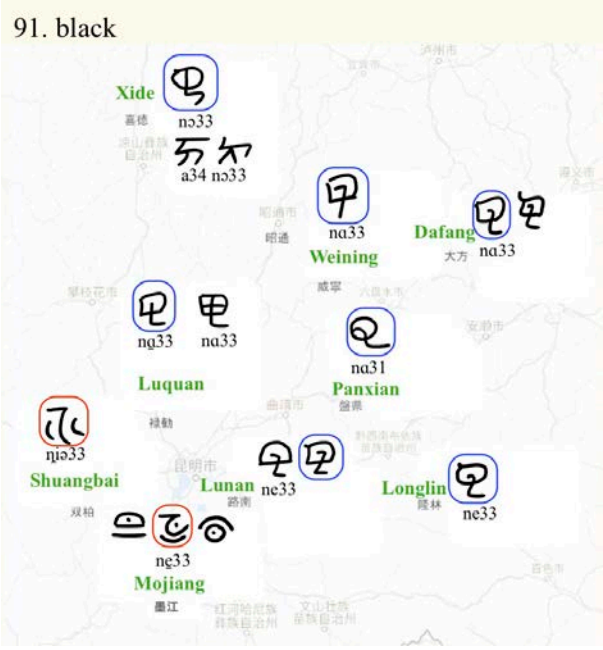
The characters in blue circles are distributed over the entire area. Those shaded in blue are allographs of the first. This original character has been deduced to be a pictograph depicting ‘snake’, and the word meaning ‘yellow’ is a homophone for this one. Therefore, the characters for a phonetic loan are used over the entire area.



The characters circled in blue are the most broadly distributed ones, and the ones in red may be their allographs, although further study of this point is needed.

It should be noted that the characters circled in red are found in the northernmost site, Xide (N), as well as on the southern end of the map, in Lunan (SE) and Mojiang (S).

Judging from the phonetic difference between the instance in Lunan and the others, the spread appears to have been logographic.



There is regional distinction that pertains to the word ‘black’.

The characters circled in blue are the most widely distributed, whereas those in red are observed only at the southwestern end of the map.

At most sites, the word ‘night’ is disyllabic. The first syllable is written with a common character form, circled in blue.

However, no common form has been found for the second syllable.

The characters circled in green are found in Luquan (E) and Lunan (SE), while those in blue are observed in Luquan and Panxian (E).

Then, the characters circled in red are found in Weining (E) and Longlin (E). As in the point between them, Panxian, another word, which has a similarity to that of Luquan, is used, the expressions in Weining and Longlin might represent older version of the word.

The character circled in pink is a phonetic loan from a character meaning 'three', apparently borrowed from the Chinese 三.

The shapes and phonetic closeness of the characters shaded in turquoise, found in Dafang (E) and Lunan indicate that they may be in an allographic relation.

The characters marked in blue are distributed in Dafang (E) and Lunan (SE), while those marked in red are found in Luquan (E) and Lunan.

The characters shaded in green, which are observed in Lunan and Mojiang (S), bear some resemblance to these. They could be considered allographs.

Interestingly, on the whole, all types of the characters appear in Lunan.

The characters circled in blue are found in the northeast area of the map, and their phonetic values bear a striking resemblance to each other.

The characters circled and shaded red appear to be in allographic relation, and their phonetic values are also similar.

It is notable that the character marked in blue and those marked in red appear in complementary distribution. In addition, it is intriguing that both types of characters are found in Dafang (E).

The characters meaning ‘cold’ exhibit great variety.

A regional distinction is evident on the map, with five independent groups of characters.

The characters circled in red appear to be allographic because they are flipped version of each other.

The blue group exhibits two identical characters, from Shuangbai (S) and Mojiang (S), and one allograph shaded in blue, in Lunan (SE).

The others each have several allographs, but not one is observed in more than one place.

The reasons for this variety and regional isolation of each group remains unclear: more study is needed.

A common character shape appears on the map. The characters circled in blue are concentrated in the Guizhou area, while those the ones shaded in blue are distributed in the Yunnan area. It appears that they are in allographic relation.

The etymon of [ɖie^{21}] in Dafang (E) and [dʐi^{21}] in Xide (N) is PTB **m-dyat* ('satiated'), whereas for [mɯ^{21}] in Mojiang (S), the etymon is PTB **mwa* ('full'/ 'satiated'), as asserted by STEDT[32]. Due to this etymological difference, the phonetic value of the characters found in Mojiang exhibits a difference from the others. These characters are pronounced differently from those in the other places while always being written alike indicates a logographic nature, persisting throughout history.

The characters circled in blue appear in the Eastern dialect area, especially within Guizhou.

In Luquan (E) and Lunan (SE), although their dialectal affiliations are different, two seemingly allographic characters are observed.

In spite of the large distance between Sichuan and southern Yunnan, similar characters are seen in Xide (N) and Mojiang (S).

[32] Last accessed on 25 August, 2018.

Several groups appear for the word ‘good’. The most significant feature of this map is that in nearly all groups, the allographic characters carry different phonetic values.

First, in the group shaded in blue, the character in Xide (N) is pronounced [va^{55}], and the ones in Weining (E) and Dafang (E) are [tsu^{55}].

Second, the pronunciation of the characters shaded in orange is [sa^{33}] in Xide, but the one in Shuangbai (S) is pronounced [ŋ̊ɔ^{33}], Mojiang (S) shows the pronunciation [no^{55}].

Third, regarding the characters shaded in green, the one in Xide is [mbo^{21}], but it is [tsho̱^{21}] in Luquan (E).

Fourth, the phonetic values of the characters shaded turquoise are [xɯ^{33}] in Xide and [tsho̱^{21}] in Luquan.

Fifth, the phonetic values of the characters shaded in pink are [ŋ̊u^{33}/ŋ̊ʊ^{33}] in Dafang but [tʂɑ^{21}/tʂʌ̱^{21}] in Lunan (SE). Sixth, the characters shaded in red are pronounced like [mə^{33}] in Dafang but pronounced [ŋə-^{33}] in Longlin (E).

Finally, the last group has characters circled in green, found in Panxian (E) and Luquan. Their forms are similar and so are their phonetic values.

The characters circled in blue are concentrated in the northern part of the map. As their forms make clear, they are nearly identical, and their phonetic values also bear a striking resemblance to each other.

The characters marked in red are distributed in a row from Xide (N) to Longlin (E). Although it remains uncertain what the phonetic difference should be attributed to, it is obvious that the characters’ passage has been logographic.

The characters circled in green are found in Xide and Lunan (SE). The fact that these are used for expressing the same meaning in spite of their phonetic differences suggests that they must have had logographic transitions.

Only one pair of allographs is found in Luquan (E) and Mojiang (S).

The etymon of [fʌ̲[21]] in Mojiang is PTB **s-wi* ≍ **s-way* ('dried up'/ 'thirsty'), according to STEDT[33].

The characters marked in blue are distributed over most regions.

The characters marked in red have, however, only been observed in Mojiang (S) and Lunan (SE). This seems to indicate a regional propagation because at least in the resources used for this study, these characters are not used for this word.

[33] Last access on the 25 August, 2018.

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