

Universal Multiple–Octet Coded Character Set
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1 Introduction

The main scripts used by the Yi people in Sichuan province, Yunnan province, Guizhou province, and Guangxi Zhuang autonomous region in China to record the Yi languages are called the Yi scripts (YIII). Among them, the Liangshan standard Yi writing system is the phonetic system, and the other writing system is the ideographic system as a whole. Therefore, if the former can be called Yi Syllables, the latter can be called Yi Ideographs.

Yi Ideographs, which are different from Yi syllables of the Liangshan standard Yi writing system, were submitted in [WG2 N3288 = L2/08–193](#) by China National Body, called Classical Yi in the document because of numerous literatures consisting of Yi Ideographs, thus submitting them for encoding will help facilitate the digitization project of ancient books. After pixel–wise verification, 256 groups of 519 duplicate glyphs were present in 88588 proposed glyphs, two groups of which are shown in [Figure 1](#). There is also a lack of variant review and induction activities.



Figure 1 Proposed glyphs in [WG2 N3288](#)

Group #143 (#49846, #49852, #49863, #49869), Group #245 (#87724, #87729, #87731)

2 Encoding ideas

2.1 Existing standardized documents

So far, there are three series of standardized documents of Yi Ideographs.

The translation and collation of Yi Ideographs literatures in Guizhou Province began in 1955 by the Bijie District Yi Translation Group. Its results include *西南彝志* (1966), *彝文字典* (mimeograph, 1978), etc. Starting from July 1989, the Institute of Yi Literature of the Guizhou Institute of Ethnicities, together with relevant comrades from the Yi Language Teaching and Research Department of the Guizhou Institute of Ethnicities, began to compile and organize the first draft of the Yi–Han dictionary based on the work of *彝文字典* (1978) and the former Yi Antiquities Compilation Office and Yi Language Teaching and Research Department of the Guizhou Institute of Ethnicities. After that, the writing team held three review meetings and prepared four drafts, checking the form, pronunciation and meaning of each orthographic character, and submitted them to the Guizhou Yi Studies Research Conference and Colloquium in August 1990 to form *简明彝汉字典* (Guizhou part, 1991). In response to the requests of users, the Bijie Yi Studies Research Association and the Bijie Ethnic and Religious Affairs Commission jointly organized the revision of the dictionary with the consent of the Guizhou Yi Studies Research Association, the Guizhou Ethnic and Religious Affairs Commission, Guizhou University for Ethnicities and the Bijie Ethnic and Religious Affairs Commission, as well as relevant units, departments and personnel. After five large-scale reviews, it became *简明彝汉字典* (Guizhou part, updated version, 2018).

The standardization of Yi Ideographs in Yunnan Province began in 1982. In June 1982, the Yunnan Provincial Ethnic Affairs Commission and the Ethnic Minority Language and Script Working Committee held a symposium in Kunming for Yi cadres, Yi language experts, and Yi Bimo to discuss and study the standardization of the Yi ideographs and propose a set of super-dialect Yi ideographs. In July 1983, the Yunnan Provincial People's Government approved the establishment of the Leading Group for the Standardization of the Yi ideographs and the establishment of an office under the Yunnan Ethnic Minority Language and Script Working Committee to carry out the standardization of the Yi ideographs. The experts of the Office of Yi Language Standardization investigated and collected more than twenty pronunciation points of the six major dialects of Yi languages and the usage of Yi ideographs, and based on careful comparison and research, the first batch of 1675 common Yi ideographs were standardized. In the course of the pilot implementation, experts working on the specification took care to make additional modifications to the scheme, adding 583 Yi ideographs, containing a total of 2258 Yi ideographs, and designing a transliteration scheme (using 350 Yi ideographs) for the special treatment of borrowed words. The outcome of this work was *云南规范彝文彝汉词典* (2014).

The development of common Yi ideographs for the four provinces began in July 1989 in Xichang in the spirit of the Fourth Collaborative Meeting on the Arrangement and Publication of Yi Ancient Books in Yunnan, Sichuan, Guizhou and Guangxi Provinces. After discussions among the Yi leaders, scholars, and experts, they agreed to form a Yi Collaboration Group. In late March 1993, the first meeting of the Yi Collaboration Group was held in Kunming, with an office set up through consultation among the responsible departments and experts from the four provinces. The meeting resulted in the Minutes of the Meeting, reported to the National Ethnic Affairs Commission for the record. The meeting decided to compile a set of super dialects of Yi ideographs as a universal script for the whole nation. In May 1995, the Collaboration Office invited more than forty comrades in charge, Yi language practitioners, Yi experts and scholars, as well as editors from three ethnic publishing houses in Yunnan, Sichuan and Guizhou to review the dictionary in Kunming. After the meeting, the Collaboration Office, based on the opinions of the reviewers, named the super dialect Yi language dictionary jointly compiled by the four provinces and regions as 滇川黔桂彝文字典, added pronunciation points and corrected the pronunciation and meaning of each Yi ideograph. Since 2002, the former Bijie Institute has brought together writers from various dialect areas to work on the Yi dictionary to add meaning items and Yi ideographs, and to update it into 通用彝文字典 (2014).







2.2 Multi-column code charts for Yi ideographs

As shown in [Table 1](#), Yi ideographs have similar textual characteristics and regional commonalities as Han ideographs. Considering the similarity between Yi ideographs and Han ideographs, this proposal argues that the unification process needs to act on Yi ideographs to form a multi-column code chart in order to meet the needs of users and ancient book digitizing.

The submission sources are from the producers and organizers of the documents. The submission sources covered by this proposal include D-source (Yunnan, 滇), Q-source (Guizhou, 黔), and U-source (General), according to the published standardized documents. C-source (Sichuan, 川) and G-source (Guangxi, 桂) can also be added to the code chart.

The reference sources are from the literature compiled and prepared by the respective submitting sources. In this proposal, D-source corresponds to D0 (云南规范彝文彝汉词典), Q-source corresponds to Q0 (简明彝汉字典), and U-Source corresponds to U0 (通用彝文字典). The subsequent numbers are in the form of xxxyy, indicating the yy-th Yi ideograph on page xxx of the text. The submission source expression, the reference source number and the Yi ideograph index number can be further agreed.

Table 1 Glyphs in three documents

Number	Yunnan	Guizhou	General
00184			
	D0-03107	Q0-00415	U0-01202
	[po ³³]	[pu ³³] (1, 3, 4), [pɔ ³³] (2, 5)	[pu ³³] (1, 5, l, p), [pu ⁵⁵] (2), [po ³³] (3, d, s), [t ^h u ²¹] (6, y), [bau ⁵⁵] (g), [t ^h ɔ ⁵³] (g), [pɔ ³³] (b)
Bucket; Hole; Lock; Drum	Jar; Bucket; Cylinder	Jar; Bucket; Coffin	
00214			
	D0-03408	Q0-00510	U0-01312
	[pɣ ⁵⁵]	[pu ¹³] (1, 4), [pu ³³] (2), [pɪ ³³] (3), [pu ³³] (5)	[pu ¹³] (1), [pi ³³] (2, 5, y), [pɣ ⁵⁵] (3, s), [pi ⁵⁵] (4), [pe ³³] (6, l), [pu ³³] (d), [pei ³³] (g), [pu ³³] (p, b)
<i>Bimo</i>	Chant; <i>Bimo</i> ; <Place>	<i>Bimo</i> ; Chant; <Place>	

- Yunnan:** 云南规范彝文彝汉词典 (2014)
 云南省, 红河哈尼族彝族自治州, 石屏县, 哨冲镇
- Guizhou:** 简明彝汉字典 (Guizhou part, updated version, 2018)
 (1) 贵州省, 毕节市, 威宁彝族回族苗族自治县, 板底乡
 (2) 贵州省, 毕节市, 大方县, 安乐彝族仡佬族自治乡
 (3) 贵州省, 六盘水市, 盘州市, 淤泥彝族自治县
 (4) 贵州省, 毕节市, 威宁彝族回族苗族自治县, 雪山镇
 (5) 贵州省, 毕节市, 七星关区, 大屯彝族乡
- General:** 通用彝文字典 (2014)
 (1) 贵州省, 毕节市, 威宁彝族回族苗族自治县
 (2) 云南省, 昆明市, 石林彝族自治县
 (3) 云南省, 红河哈尼族彝族自治州, 红河县
 (4) 云南省, 大理白族自治州, 巍山彝族回族自治县
 (5) 四川省, 凉山彝族自治州, 喜德县
 (6) 云南省, 楚雄彝族自治州, 楚雄市
 (l) 云南省, 昆明市, 禄劝彝族苗族自治县
 (d) 贵州省, 毕节市, 大方县
 (b) 贵州省, 毕节市, 七星关区
 (p) 贵州省, 六盘水市, 盘州市
 (s) 云南省, 红河哈尼族彝族自治州, 石屏县
 (y) 云南省, 楚雄彝族自治州, 永仁县
 (g) 广西壮族自治区, 百色市, 隆林各族自治县

2.3 Unification and variation for Yi ideographs

A working group could be established based on the Yi Collaboration Group to address the unification process of Yi ideographs. Both 简明彝汉字典 (Guizhou part, updated version, 2018) and 滇川黔桂彝文字集 (2004) have established variation relations on forms of Yi ideographs, which may be based on morphemes (heterostructure that could be disunified) or on shapes (hetero-writing that could be unified). The abstract shape analysis progress should be built on Yi ideographs in order to build the variation database directly on Yi ideographs.

2.4 Character database for Yi ideographs

The specific pronunciation at each pronunciation point, the specific meanings, the index in each reference source, and the information of the radicals (appearing in 简明彝汉字典 and 通用彝文字典) of each Yi ideograph should be included in a special character database, which could be created following the mechanism of Unihan database.

(End of Document)