

Title: Proposal to update representative glyph of U+3029 SUZHOU NUMERAL NINE

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This is a proposal to update the representative glyph shown in the code charts for U+3029 SUZHOU NUMERAL NINE 𠫪. Three suggestions will be given on the update method

In this proposal, I propose that the shown representative glyph does not reflect the current real-world usage. Below shows the representative glyph of U+3029 in pre-Unicode 13.0 on the left, and the post-Unicode 14.0 on the right. The current glyph (on the right) is provided by *CJK Strokes* as provided in [L2/20-058](#).



Unicode 13.0 and older on left, Unicode 14.0 and 15.0 on right

Some real-world usage of the Suzhou numeral 9 as excerpted from books and photographs are provided in the References section. The pictures are tagged with digits wrapped in parenthesis such as (1).

Background

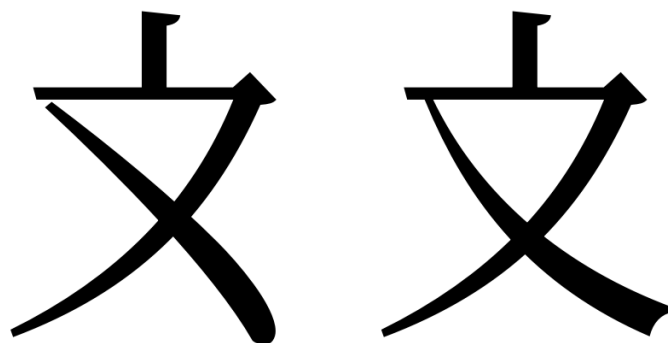
The Suzhou numerals is a numeral system used in Chinese communities before the introduction of Arabic numerals. Unicode currently encodes 12 of them in the [CJK Symbols and Punctuation](#) block, nine at U+3021..U+3029 and three at U+3038..U+303A.

The current glyph of U+3029 𠫪 HANGZHOU NUMERAL NINE, and its processor glyph 𠫪, shown in Unicode with 4 separate strokes might be from GBK and GB 18030-2000. Only reference (10) shows the numeral exactly as shown in the Unicode code charts, and reference (20) shows a similar but not exact using 3 strokes similar to the character 夕.

Besides, in GB 18030-2005, which is the successor of GB 18030-2000 (which is also successor of GBK), the shown glyph for Suzhou numeral 9 is modified and does not match those in GB 18030-2000 and GBK.

Due to the lack of real-world usage evidence and change of glyph in different versions of GB 18030, I would like to propose Unicode to modify and update the glyph for U+3029. However, there are multiple sources for the character and some of the usages shown a different glyph than other usages. Thus, I have compiled 3 possible glyph(s) to be used to replace the glyph for U+3029.

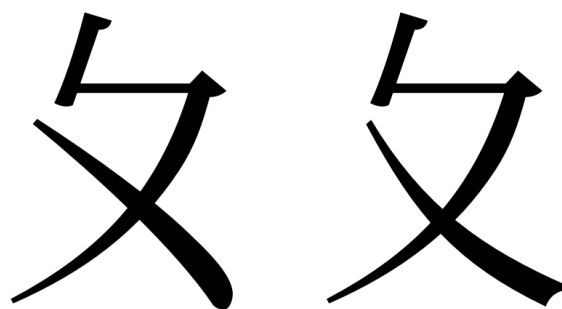
Suggestion 1



This glyph is the form mostly used in **typed material** during the early documents and designed based on reference (1), (2), (3), (4), (5), (7), some of (8), (11) and (17). This glyph is also the reference glyph as provided by GB 18030-2005 and GB 18030-2022. With normalisation, the glyph provided by CNS11643 can match this glyph too. Samples of glyphs from font vendors implementing Big5 are also similar to this glyph in composition.

Reference (1), (2), (5), (7) and some of (8) uses a dot stroke (點筆, 丶) instead of a press stroke (捺筆, ㇏). Reference (3) is a geometric font and it is not possible to deduce the last stroke. CNS11643 uses a dot stroke for both the first and third stroke. Both GB 18030-2005 and GB 18030-2022, along with both Big5 font vendors (Arphic and Dynacom) shows a press stroke. However, both of these forms are equivalent.

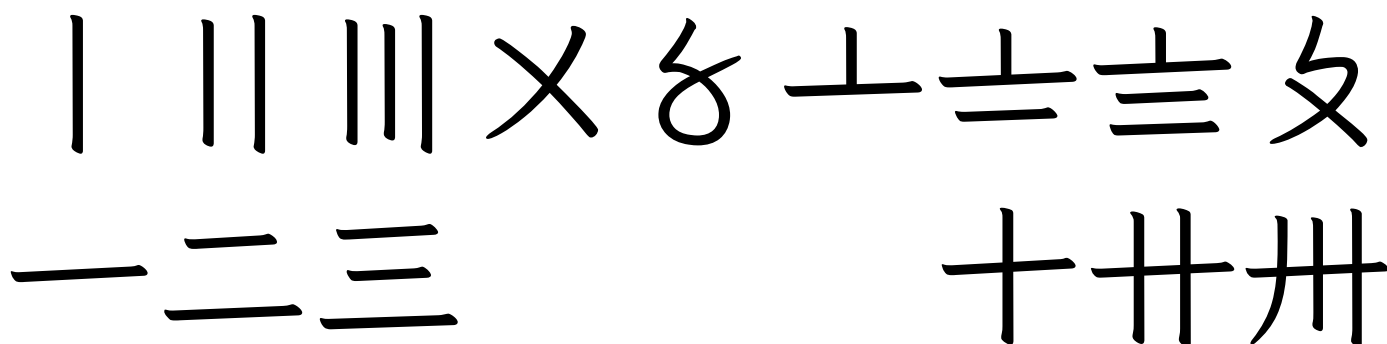
Suggestion 2



This glyph is the form mostly used in **written material** during the early documents and designed based on reference (9), (12), (13), (14), (15), (16), (19), (21), (22) and first of (8). This glyph is also the reference glyph as provided by Big5 specification document. It is noted that the first stroke usually does not pass through the third stroke like the current glyph in Unicode.

All the references showing the glyph uses a dot stroke (點筆, 丶) instead of a press stroke (捺筆, ㇏) as it is easier to carry the stroke from this numeral to the next in handwriting. However, normalising the dot stroke to press stroke is acceptable when displaying the glyph using printed fonts.

Suggestion 3



This suggestion does not focus on U+3029 only, but all the Suzhou numeral glyphs. Since the modern usage of Suzhou numeral is primarily handwritten as shown in reference (12) through (19), it might be better to convert all the Suzhou numeral glyphs to use a handwritten style font instead of a printed style font. The problem with Suzhou numeral 9 can also be solved elegantly as this is the form the general public uses in handwriting and education (shown in reference (21)).

The above glyphs are provided as in [Iansui](#), an open-source Traditional Chinese font simulating handwritten style and licensed under SIL Open Font License, version 1.1. Alternative vertical form is also shown here for U+3021..U+3023.

There is precedence of using handwritten style glyphs as shown in L2/20-058 such as the two spacing modifier glyphs U+02EA and U+02EB used for Taiwanese Phonetic Symbols. The Bopomofo and Bopomofo Extended blocks are also shown with a handwritten style, which is also due to mostly handwritten usage in modern time.

All 3 suggestions will require a change to the *CJK Symbols* font. *Iansui* is license-wise compatible with *CJK Symbols* and may be merged directly into the font. If the Unicode committee choose to change to use a handwritten style but requires the glyph to match those in the Bopomofo block, I will be able to help design such glyphs.

That is all.

Thanks to Ken Lunde and Henry Chan for providing materials and references.
Thanks to But Ko for providing the font of *Iansui*.

References

With sources:

(12)碼子字 尋常記帳,爲簡便起見,還有一種碼子字如下:——

丨 𠄎 𠄎 𠄎 𠄎 𠄎 𠄎 𠄎 𠄎 𠄎

這是當一到九的九個數字和零字用的;不過丨 𠄎 𠄎三字,也可以橫寫做一 二 三,使並用起來,豎寫橫寫,輪流變換,容易分別;他的記法,也是橫行,例如:——

二千一百三十二,寫做 𠄎-𠄎-𠄎;

五百六十,寫做 𠄎𠄎 𠄎𠄎;

四萬九千,寫做 𠄎𠄎 𠄎𠄎𠄎𠄎.

(1)

1929 年《新學制算術教科書 第 1 冊》(New Academic System Arithmetic Textbook Volume 1)

丨 one	𠄎 four	𠄎 seven
𠄎 two	𠄎 five	𠄎 eight
𠄎 three	𠄎 six	𠄎 nine

(2)

1814 年《中國言法》(Elements of Chinese Grammar, by Joshua Marshman)



(3)

青龍橋車站計程石碑 Milestone stele at Qilongqiao Station

法京人數

○法國巴黎斯京城人數雖不如英京然冠蓋踵錯士庶殷繁亦一大都會也西歷二月初十至十六日曾有人稽巴黎斯京中人數共二百二十二萬五千九百有十人數日間婚姻者五百五十八家死者一千四百十七人中男七百六十一人女六百五十六人誕生者一千二百十九人中男六百一十二人女六百零七人蓋該處風俗凡婚喪喜慶某處某人各須稟報地方官存冊故瞭若掌螺一望即能了了也

精算圖

○西

報載有精算圖二則不知仿于何人該報名其圖為邪術圖蓋甚言其推算之精也按是二圖各行橫疊總數實相吻合各行直疊或對角二行交疊其總數亦合若符節茲譯錄于左以為茶餘酒後消遣之一助

11	11	11	11	11	11	11	11	11	11
11	11	11	11	11	11	11	11	11	11
11	11	11	11	11	11	11	11	11	11
11	11	11	11	11	11	11	11	11	11
11	11	11	11	11	11	11	11	11	11
11	11	11	11	11	11	11	11	11	11
11	11	11	11	11	11	11	11	11	11
11	11	11	11	11	11	11	11	11	11
11	11	11	11	11	11	11	11	11	11
11	11	11	11	11	11	11	11	11	11

11	11	11	11	11	11	11	11	11	11
11	11	11	11	11	11	11	11	11	11
11	11	11	11	11	11	11	11	11	11
11	11	11	11	11	11	11	11	11	11
11	11	11	11	11	11	11	11	11	11
11	11	11	11	11	11	11	11	11	11
11	11	11	11	11	11	11	11	11	11
11	11	11	11	11	11	11	11	11	11
11	11	11	11	11	11	11	11	11	11
11	11	11	11	11	11	11	11	11	11

蘭隴雜詠

○明憲十二淨無塵細雨輕風一半春讀罷陔南詩一卷堂前剛到賣花人 超然臭味有誰同總在春風淡蕩中此地紅塵飛不到却將清水洗芳叢 晨起看花到北堂開窗放出隔宵香怪儂一笑偏多事自製新詞誄夕陽 誰是蘭心蕙質人風流濯濯少年春因循恐把韶華負忙煞閒吟自在身 楚詞讀罷有餘音香草叢中寄託深千古騷人千古恨不知誰識美人心 薛子兼初稿

辛巳偶題

○老大何堪憶少時驚心往日去如馳一千里外歸無物三十年來剩有詩入世敢矜才獨絕思親不覺夢相隨西郊又遇新秋節一葉梧桐早自知○登城西道上遠眺 閒來常獨步秋色繞

FIGURES.

1	一	cêk.	19	十九	câp káu.	2,076	二千零七十六
2	二	ně.	20	廿	jī câp.	3,506	三千五百零六
3	三	sa ⁿ .	23	廿三	jīh sa ⁿ .	4,728	四千七百二十八
4	四	sì.	35	卅五	sâp ngǝ.	5,206	五千二百零六
5	五	ngǝ.	44	卅四	sīp sì.	5,782	五千七百八十二
6	六	lâk.	56	五十六	ngôp lâk.	6,008	六千零八
7	七	chit.	69	六十九	lâk káu.	6,703	六千七百零三
8	八	poi ^h .	78	七十八	chit poi ^h .	7,543	七千五百四十三
9	九	káu.	94	九十四	kâup sì.	7,600	七千六百
10	十	câp.	100	百	cêk pe ^h .	7,030	七千零三十
11	十一	câp it.	105	百零五	pe ^h lân ngǝ.	8,000	八千
12	十二	câp jī.	150	百五十	pe ^h ngǝ.	8,764	八千七百六十四
13	十三	câp sa ⁿ .	382	三百八十二	sa ⁿ pe ^h poi ^h jī.	9,706	九千七百零六
14	十四	câp sì.	570	五百七十	ngǝ pe ^h chit.	9,900	九千九百
15	十五	câp ngǝ.	853	八百五十三	poi ^h pe ^h ngǝ câp sa ⁿ .	9,830	九千八百三十
16	十六	câp lâk.	900	九百	káu pe ^h .	17,846	一万七千八百四十六
17	十七	câp chit.	1,000	千	cêk choi ⁿ .	40,700	四万零七百
18	十八	câp poi ^h .	10,000	一万	cêk b̄w̄n.	97,015	九万七千零一十五

乃至五十錢を添ふる人あり、臺灣北部に此風多し

第十五章 臺灣人の日用文字其他

第一節 商業帳簿用文字及び符牒

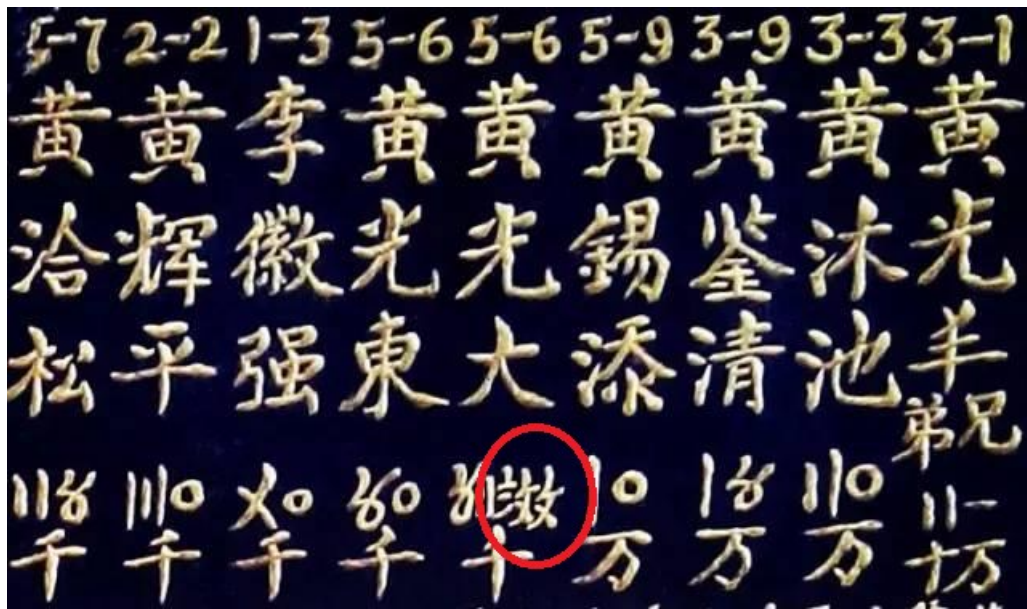
○	一	二	三	四	五
零					
	上	六	七	八	九
					十

千 百 二十三圓	六 百 十 五 圓	二 百 五 十 圓
一 一 三	上 一 八	一 八 〇
千 百 十 元	百 十 元	百 十 元

二十圓 三十三錢 四厘	三百二十圓 一錢
一 〇 三 八	三 二 〇 〇 一
十 元 角 點 厘(文)	百 十 元 點

錢位は之を以て表はす

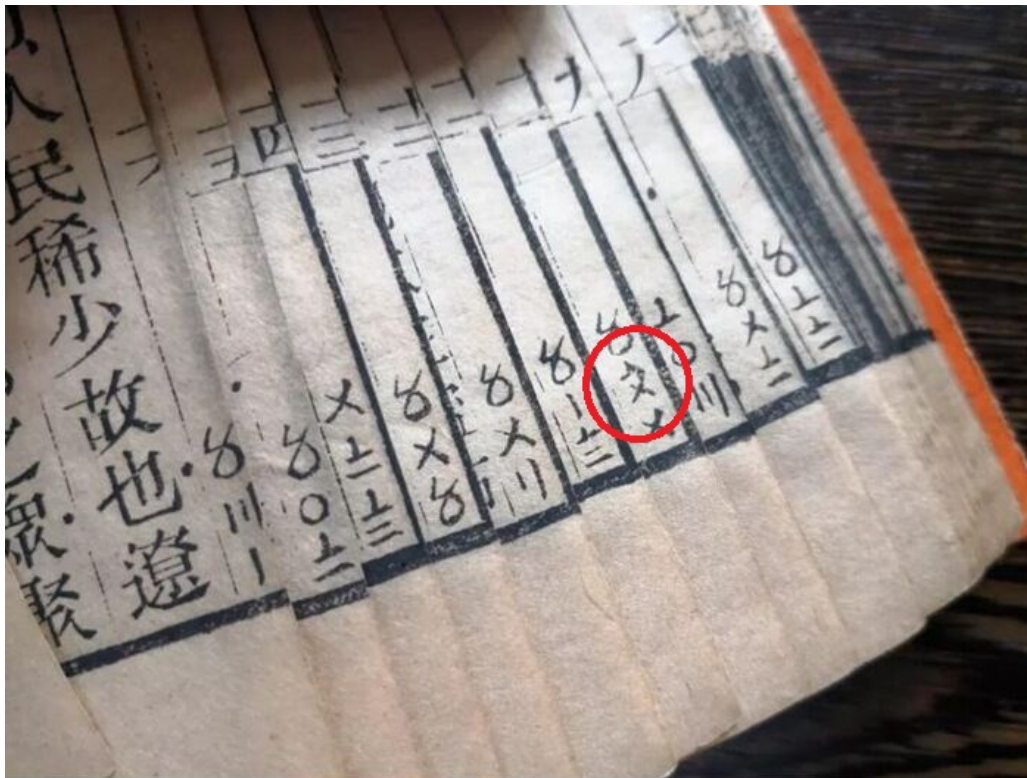
臺灣記憶
Taiwan Memory
國家圖書館數位典藏



(10)

達濠郭聖王宮碑記

Unknown sources found online:



(11)

Written materials:

A handwritten ledger on aged paper with red grid lines. The text is written in vertical columns from right to left. A red circle highlights the entry '文' (Wen) in the column for '伍' (Five).

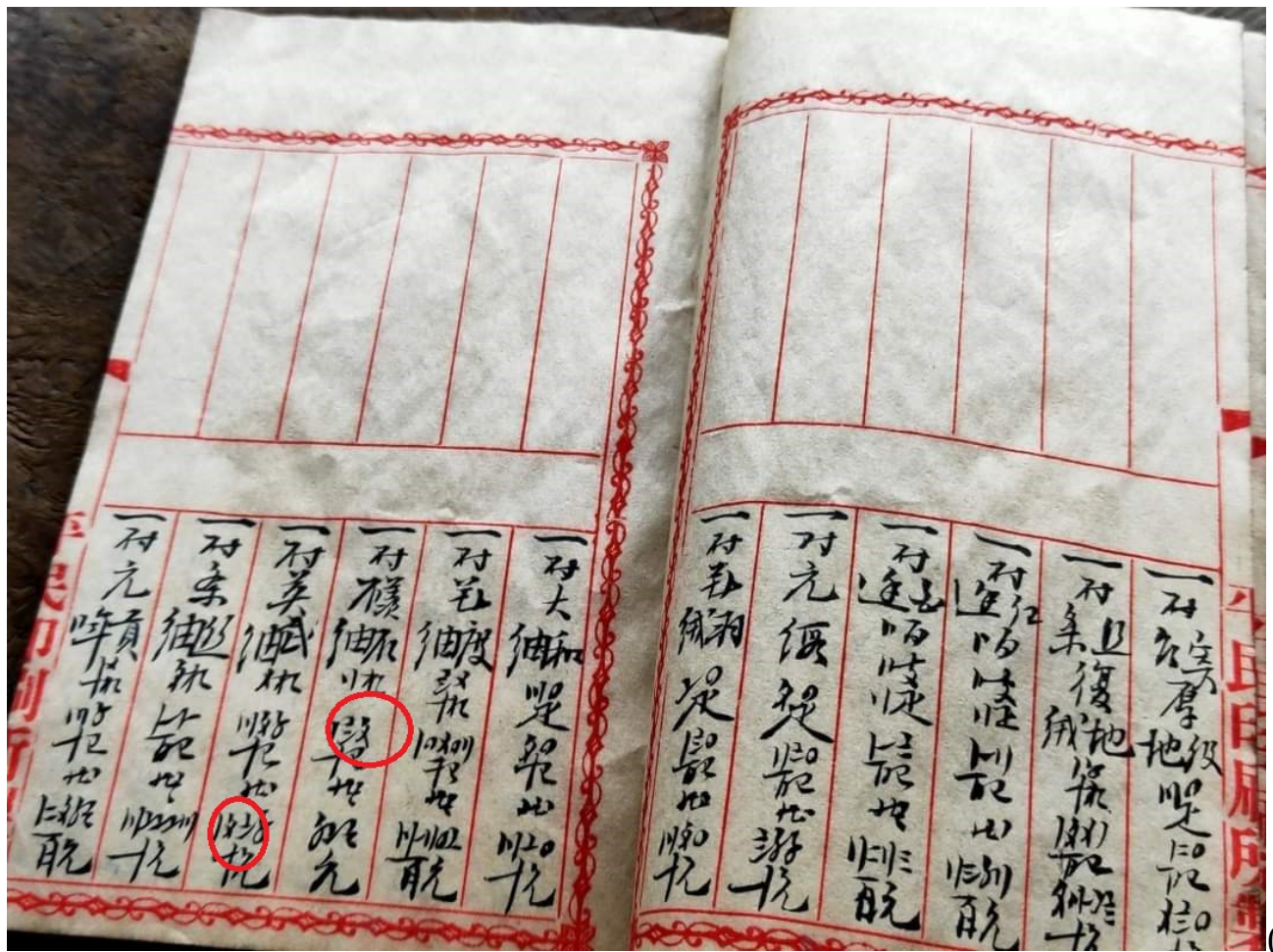
十	九	伍	壹
退 10	退 20	退 20	退 10
退 10	退 20	文 20	退 10
退 10	退 20	退 20	退 10

(12)

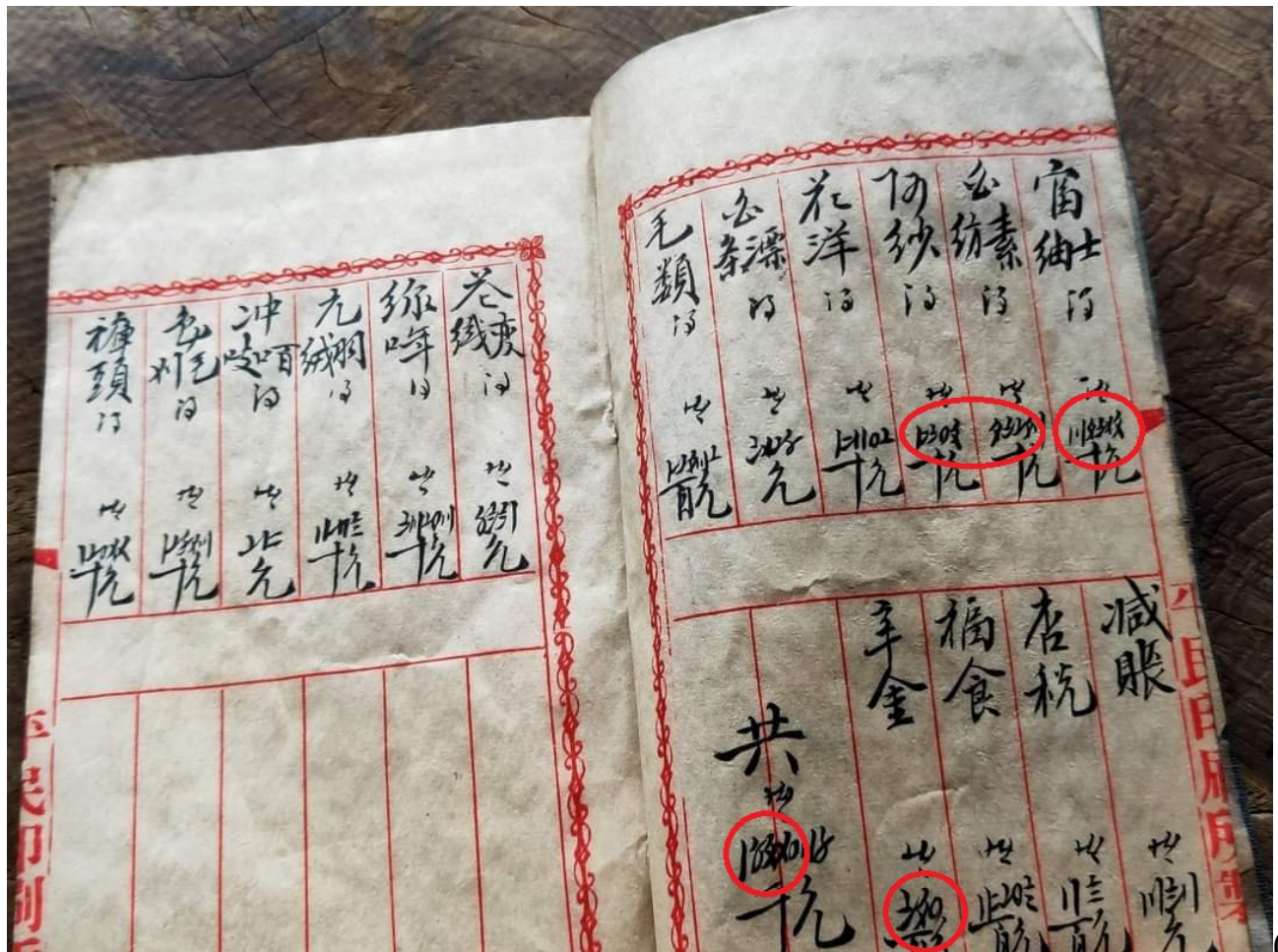
A handwritten ledger on aged paper with red grid lines. The text is written in vertical columns from right to left. A red circle highlights the entry '肉' (Rou) in the column for '伍' (Five).

十	九	伍	壹
退 10	退 20	退 20	退 10
退 10	退 20	肉 20	退 10
退 10	退 20	退 20	退 10

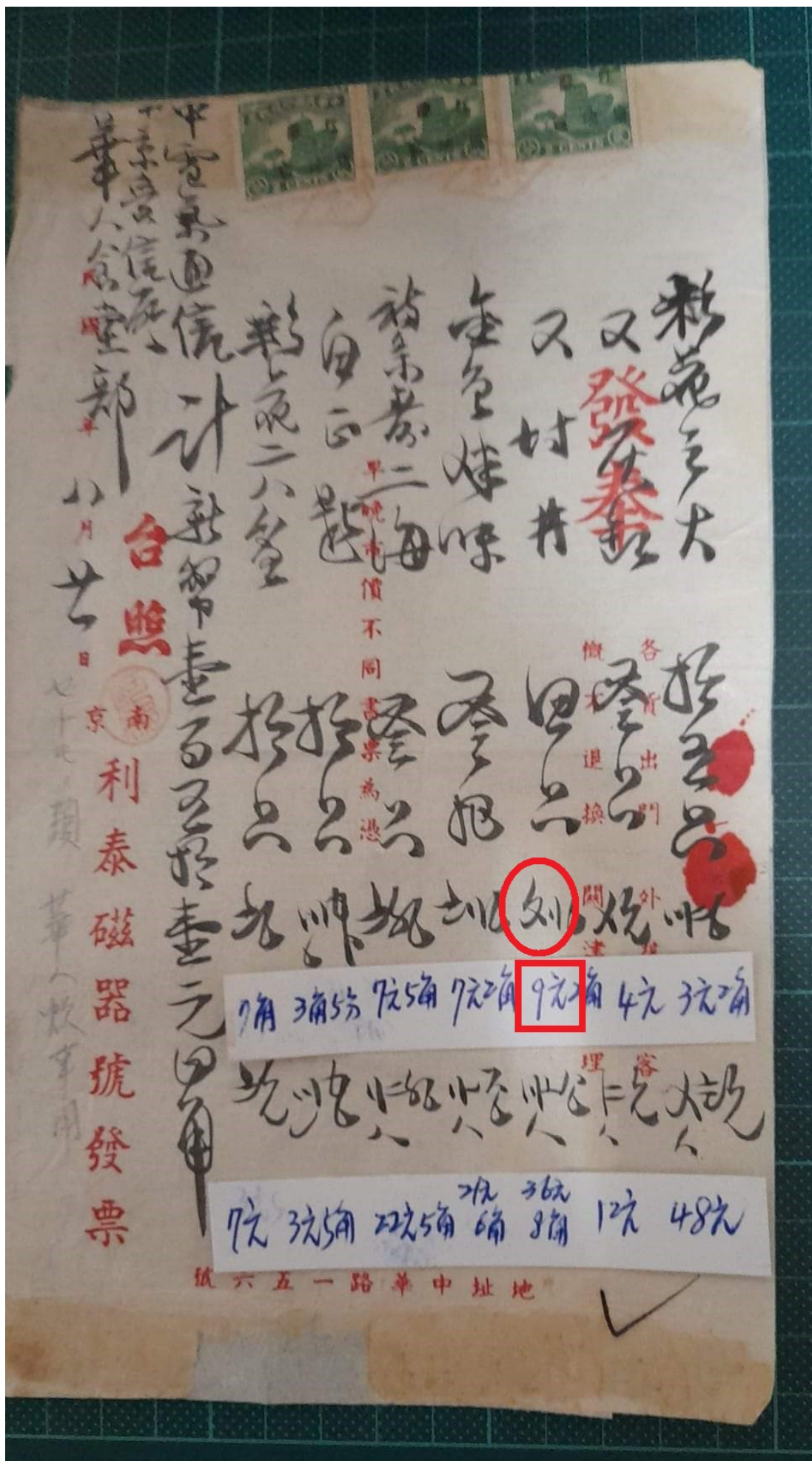
(13)



(14)



(15)



(16)

(a note labelling it as 9 is marked below)

Usage as seen in Hong Kong:



(19)



(20)

3. Traditional Signs for Numbers

These signs are usually used for showing prices in market, restaurant or sometimes minibus.

Traditional signs	○	一			乂	ㄥ	一	二	三	ㄣ	十
Chinese characters	零	一	二	三	四	五	六	七	八	九	十
	0	1	2	3	4	5	6	7	8	9	10

In written Chinese, we write the digits and the units of money as follows:

千 cīn ¹	百 bàak ³	十 sǎp ⁶	元 jùn ⁴	角 gòk ³ / 毫 hòu ⁴	分 fān ¹
--------------------	---------------------	--------------------	--------------------	--	--------------------

(21)

龍躉三味

湯炆炒
例

湯

風善

豉汁蒸

蒜子火腩炆

𦣻

𪔐

回斂

錦綉

以名
百航

Encoding standards:

A9	0	1	2	3	4	5	6	7	8
4				×	8	⊥	≡	≡	文
	3021	3022	3023	3024	3025	3026	3027	3028	3029

GBK

A9	0	1	2	3	4	5	6	7	8
4				×	8	⊥	≡	≡	文
	3021	3022	3023	3024	3025	3026	3027	3028	3029

GB18030-2000

A9	0	1	2	3	4	5	6	7	8
4				×	8	⊥	≡	≡	文
	3021	3022	3023	3024	3025	3026	3027	3028	3029

GB18030-2005

A9	0	1	2	3	4	5	6	7	8
4				×	8	⊥	≡	≡	文
	3021	3022	3023	3024	3025	3026	3027	3028	3029

GB18030-2022

A2DD	×	A2DE	×	A2DF	×	A2E0	×
A2C1	IX	A2C2	×	A2C3		A2C4	
A2C5		A2C6	×	A2C7	8	A2C8	⊥
A2C9	≡	A2CA	≡	A2CB	文	A2CC	+
A2CD	≡	A2CE	≡	A2CF	A	A2D0	B
						A2D1	D

Big5 Specification (1984)

A2C3	A2C4	A2C5	A2C6	A2C7	A2C8	A2C9	A2CA	A2CB	A2CC	A2CD	A2CE
丨	川	川	乂	8	一	二	三	文	十	卅	卅

Arphic Big5 encoding scheme sample, shown with Regular script

A2C3	A2C4	A2C5	A2C6	A2C7	A2C8	A2C9	A2CA	A2CB	A2CC	A2CD	A2CE	A
丨	川	川	乂	8	一	二	三	文	十	卅	卅	

Dynacomware Big5 encoding scheme sample, shown with Regular script

字形資訊

本機字型		全字庫字型	
<div>文</div>		<div>文</div>	
CNS	Unicode	BIG-5	EUC
1-243D	3029 <div>文</div>	A2CB	8EA1A4BD

CNS11643