Universal Multiple-Octet Coded Character Set
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1.   Introduction

This is a preliminary proposal to encode the system of tablature notation used to represent the music of the medieval Chinese lute (琵琶, Chinese *pípa*; Japanese *biwa*). This system, known in China as *Dūnhuáng pípápǔ* 敦煌琵琶譜, was in use in China during the Tang (618–907) and Song (960–1279) dynasties, as well as in Japan during the same period. This system is not in modern use, but is required for encoding for the use of scholars studying music manuscripts of these periods. A total of 46 characters are proposed for encoding.

2.   The Chinese Lute

The Lute family of instruments was not part of the native pre-Han musical tradition of China, but spread to China from Central Asia. From the time of the Han dynasty (206 B.C. to 220 A.D.) the word *pípa* 琵琶 (supposed etymology being 琵 = *pī* 批 "to strum the string outwards", and 琶 = *bǎ* 把 "to pluck the string inwards") began to be used for various lute-like musical instruments, but it was not until the period of the Northen and Southern Dynasties (420–589) that there is any evidence of the introduction of the distinctive lute proper into China.

By the Tang dynasty (618–907) the *pipa* lute had established a position as the primary instrument in the tradition of "banquet music" (*yànyuè* 宴樂). The Chinese musical tradition was also exported to Korea and Japan as part of the wholesale cultural Sinicization of these countries that took place during the Tang dynasty (this musical tradition is in fact known as Tōgaku 唐樂 "Tang Music" in Japan), and some important musical texts, as well as actual instruments dating from this period, are preserved in Japan. Two closely related varieties of the medieval Sino-Japanese lute were in use (as well as other more distant relatives, such as the "moon lute", for which no musical scores are extant):

The typical **four-stringed lute**, which has a pear-shaped body and a short neck with four frets. Distinctively, the pegbox at the end of the neck is bent back at a sharp angle (as was also the case with the medieval European lute).

The less common **five-stringed lute**, which is narrower than the four-stringed lute, and has a straight neck with five frets.

Fig. 1: Tang dynasty lutes preserved at the Imperial Storehouse at Nara in Japan

4-Stringed Lute	5-Stringed Lute
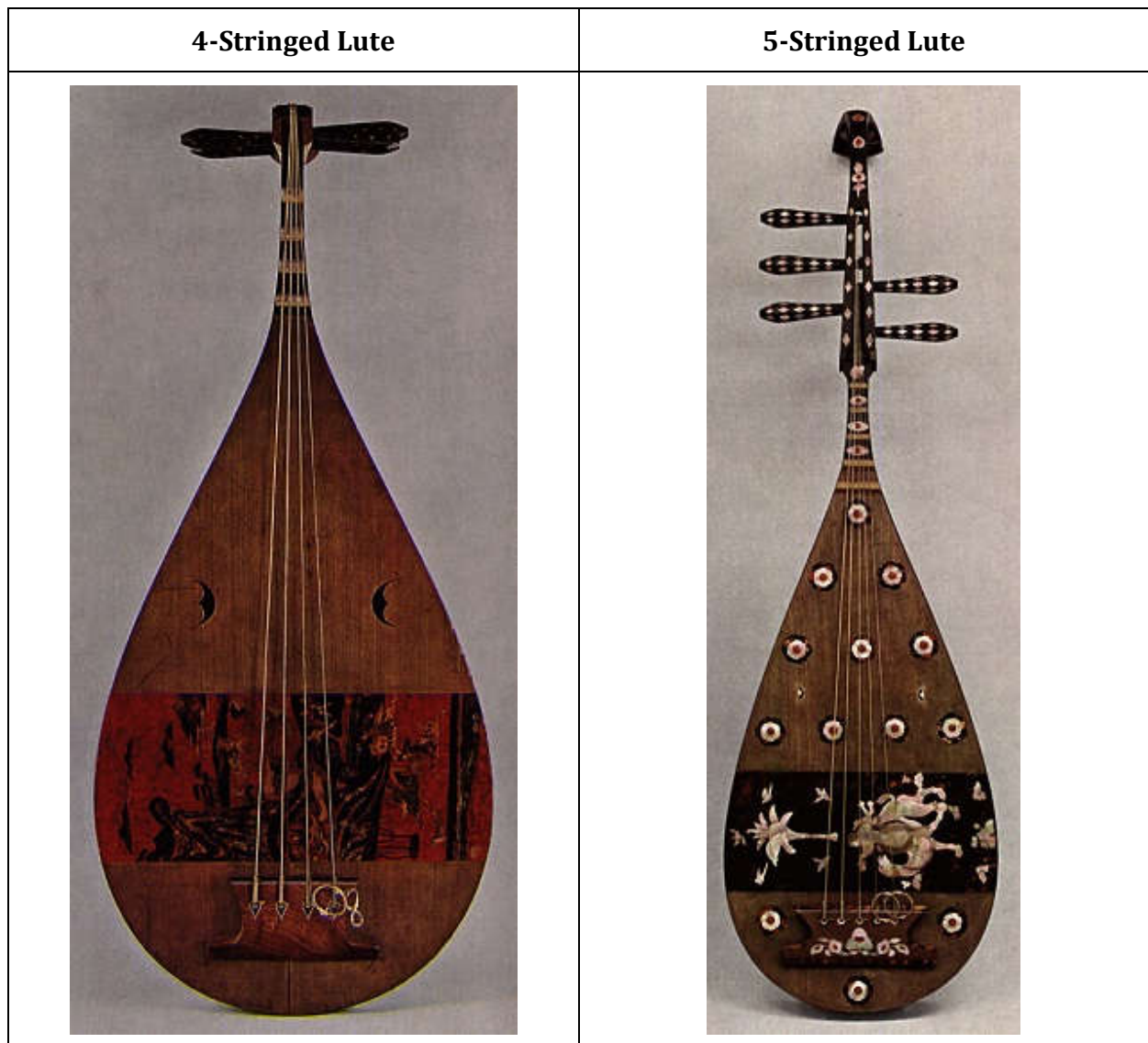
The lute could either be played on its own as an accompaniment to popular songs, typically by a female lutenist who would both sing and play, or as part of a larger orchestral arrangement. The lutenist is usually depicted as plucking the strings with a large plectrum (see Figs. 3 through 6).

Fig. 2: Another four-stringed lute preserved at the Imperial Storehouse at Nara in Japan
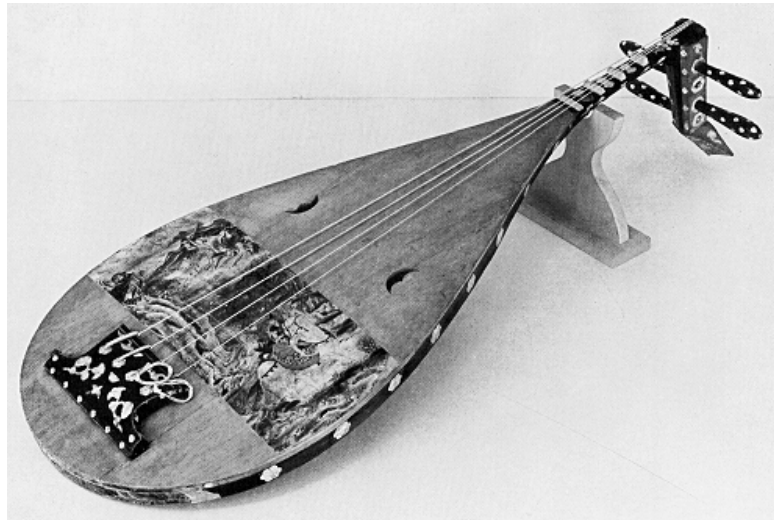
Fig. 3: Detail of a mural at the Mogao Caves near Dunhuang

This mural shows a *pipa*-player dancing and playing with the four-stringed lute behind the back, to the accompaniment of drums and other instruments

Fig. 4: Detail of *Night Revels of Han Xizai* by Gù Hóngzhōng 顧閎中 (937–975)

Fig. 5: *Palace Concert* by an unknown Tang dynasty artist showing palace ladies at a banquet playing various musical instruments (*pipa* at top centre)

Fig. 6: Detail from a Liao dynasty (907–1125) tomb mural in Inner Mongolia showing a Flutist and Lutenist

The *pipa* lute has continued to be an important instrument for popular music up to the present day, but the modern Chinese *pipa* lute, which has a rounder body, a straight neck and up to seventeen frets, evolved during the Ming dynasty (1368 – 1644), and is not at all the same instrument as the medieval lute. Nor do musical scores for the modern Chinese lute use the same system of tablature that is found in Tang dynasty and contemporaneous Japanese manuscripts.

3. Lute Scores

The four-stringed Chinese lute was a very widely played musical instrument during the Tang dynasty (618–907) and the Song dynasty (960–1279), and several manuscripts using a special system of tablature signs for writing lute music have survived in China and in Japan:

- A Tang dynasty Dunhuang manuscript, *Pelliot chinois 3808*, held at the Bibliothèque nationale de France in Paris, comprising 25 tunes, the first 20 written in one hand, and the last five written in a different hand (see Fig. 12).

- A Tang dynasty Dunhuang manuscript, *Pelliot chinois 3719*, held at the Bibliothèque nationale de France in Paris, comprising a fragment of a single tune, *Huànxīshā* 浣溪沙 "Washing in the Stream" (see Fig. 13).

- A Tang dynasty Dunhuang manuscript, *Pelliot chinois 3539*, held at the Bibliothèque nationale de France in Paris, comprising a list of the twenty tablature signs (see Fig. 14).

- The *Tempyō Lute Score* (*Tempyō Biwa Fu* 天寶琵琶譜), a single-sheet manuscript preserved at the Imperial Storehouse at Nara in Japan, dated to circa 738 (see Fig. 15).

- The *Fushiminomiya Family Lute Score* (*Fushiminomiya-hon Biwa Fu* 伏見宮本琵琶譜), a 25 sheet Japanese manuscript dated 920–921, comprising a copy of lute scores composed by the Chinese lute master Lián Chéngwǔ 廉承武 at Yangzhou in the year 838 for Fujiwara Sadatoshi 藤原貞敏, who was an administrative officer of a Japanese embassy to China during the years 834–841 (see Fig. 16).

- *Sango Yōroku* 三五要録, a 1328 manuscript copy of a text on lute tuning compiled by Fujiwara no Moronaga 藤原師長 (1137–1192) in the late 12th century.

- The *Kikutei Family Scroll* (*Kikutei-ke Monjo* 菊亭家文書), a composite manuscript scroll, including 3 sheets that give tunings for the lute to be used during the first, eighth and fourth lunar months, with a colophon dated 1386 (see Fig. 17).

- The *Five-Stringed Zither Score* (*Gogen Kinfu* 五弦琴譜), a Japanese manuscript dated 842 that comprises six modal preludes and twenty-two tunes for the five-stringed lute, using a system of tablature based on that used for the four-stringed lute, but extended with six additional tablature signs represented by ordinary Chinese characters (see Fig. 18).

4. Tablature Signs

4.1 Basic Tabalature Signs

The four-stringed lute had four strings and four frets, allowing a total of twenty finger positions (open string and four fret positions for each string). There are twenty basic tablature signs in lute scores, each corresponding to one of the twenty possible finger positions. The absolute value of the notes represented by the tablature signs depends on the tuning of the lute required for the mode of the piece to be played. Different modes require different sets of notes, and so only a subset of the twenty tablature signs are ever used in any given tune (the complexities of the modal system used for lute music during the Tang dynasty will not be discussed here as it has no bearing on encoding).

The five-stringed lute has one extra string and one extra "lonely fret" that is only used with the fifth string. This gives an additional six fret positions, which are represented by the Chinese characters 子 *zǐ* "son", 九 *jiǔ* "nine", 中 *zhōng* "middle", 四 *sì* "four", 五 *wǔ* "five" and 小 *xiǎo* "little" (see Fig. 18).

The basic tablature signs used in scores for four-stringed lute and five-stringed lute are shown in Table 1.

Table 1: String/Fret positions for 4- and 5-stringed lute

Fret	String I (宮 gōng)	String II (商 shāng)	String III (角 jué)	String IV (羽 yǔ)	String V *
0 = Open String (散打 sàndǎ)	I–0 一	II–0 ㄴ	III–0 ㄅ	IV–0 丄	V–0 子
1 = Index Finger (頭指 tóuzhǐ)	I–1 ユ	II–1 ス	III–1 七	IV–1 ハ	V–1 九
2 = Middle Finger (中指 zhōngzhǐ)	I–2 几	II–2 十	III–2 ヒ	IV–2 丨	V–2 中
3 = Ring Finger (名指 míngzhǐ)	I–3 フ	II–3 乀	III–3 乙	IV–3 厶	V–3 四
4 = Little Finger (小指 xiǎozhǐ)	I–4 屮	II–4 ㄥ	III–4 ㄴ	IV–4 Ƴ	V–4 五
5					V–5 小

* The assignment of the six extra tablature signs for the five-stringed lute follows Wolpert 1981b.

Table 2 shows the the twenty tablature signs of the four-stringed lute, ordered in Fret/String order, with the corresponding glyphs from various Chinese and Japanese manuscripts. The first ten signs are derived from the Chinese ideographs for the numbers "1" through "10". It is not certain what the derivation of the last ten signs is, although several of the symbols have intriguing graphic analogies with Jurchen characters for the numbers eleven through twenty, which suggests that Jurchen numbers and lute tablature signs may share a common derivation from cursive simplifications of Chinese numbers (see West 2012 for details).

In later Japanese lute music manuscripts, some of the original tablature symbols are written as graphically similar Han ideographs, and are given Japanese readings as if they were these ideographs (e.g. Ƴ is commonly written as the ideograph 也, pronounced *ya* in Japanese). However, most of these ideographic back-formations are not actually correct interpretations of the original forms of the tablature signs.

Table 2: Comparison of Tablature Signs in Various Manuscripts

No.	String/ Fret	Glyph	P. 3808 #1-20	P. 3808 #21-25	P. 3537*	P. 3719	Tempyō Biwa Fu	Fushimino-miya-bon Biwa Fu	Kikutei-ke Monjo	Gogen Kinfu
1	I–0	一	一	一	一	一	一	一	一	一
2	II–0	乚	乚	乚	�乚	﹀	乚	乚	乚	乚
3	III–0	㇆	㇆	㇆	⺌		㇆	㇆	㇆	㇆
4	IV–0	⊥	丄	丄	丄		丄	丄	丄	丄
5	I–1	ユ	ユ	ユ	ユ			エ	エ	エ
6	II–1	ス	ス	ス	ス		㆐	下	ス	ス
7	III–1	七	七	七	士	七	七	七	七	七
8	IV–1	ハ	ハ	ハ	ハ		ハ	ハ	ハ	ハ
9	I–2	几	几		几	几	几	几		几
10	II–2	十	十	十	十	十	十	十		十

No.	String/Fret	Glyph	P. 3808 #1-20	P. 3808 #21-25	P. 3537*	P. 3719	Tempyō Biwa Fu	Fushimino-miya-bon Biwa Fu	Kikutei-ke Monjo	Gogen Kinfu
11	III–2	ヒ	ヒ		心じ	ㄷ	ヒ	ㄷ	
12	IV–2					l				]	]
13	I–3	フ		フ	イ					フ
14	II–3	て	て		て			ㄥ	ㄥ	ロ
15	III–3	ζ	ζ	ζ	ζ				之	し
16	IV–3	ム		ム	糸	公	ム	ム		ム
17	I–4	ヰ	ヰ		∃			斗	斗	ﾘ
18	II–4	レ	レ	レ	し		∨			レ
19	III–4	ζ	ζ	ζ	ζ			之		ζ
20	IV–4	ヤ	ヰ		と	セ	ヤ	も		ヤ

* Signs IV-2 and III-2 are swapped in P. 3537, but for ease of comparison they have been swapped back to their correct positions in this table.

4.2 Small-Sized Signs

The twenty-six tablature signs occur in full-sized and small-sized forms. Small-sized signs do not occur in isolation, but may occur immediately following a full-sized sign. Both the full-sized sign and following small-sized sign are for the same string, and it is believed that the full-sized signs represent a full-length note, whereas the small-sized subjoined signs represent a half-length note. In Dunhuang manuscript P. 3808 only a single small-sized sign occurs after a full-sized sign, and the small-sized sign is closely appended to the bottom-right of the full-sized sign (see Fig. 7).

Fig. 7: Manuscript P. 3808 Tune 18 showing small-sized tablature signs
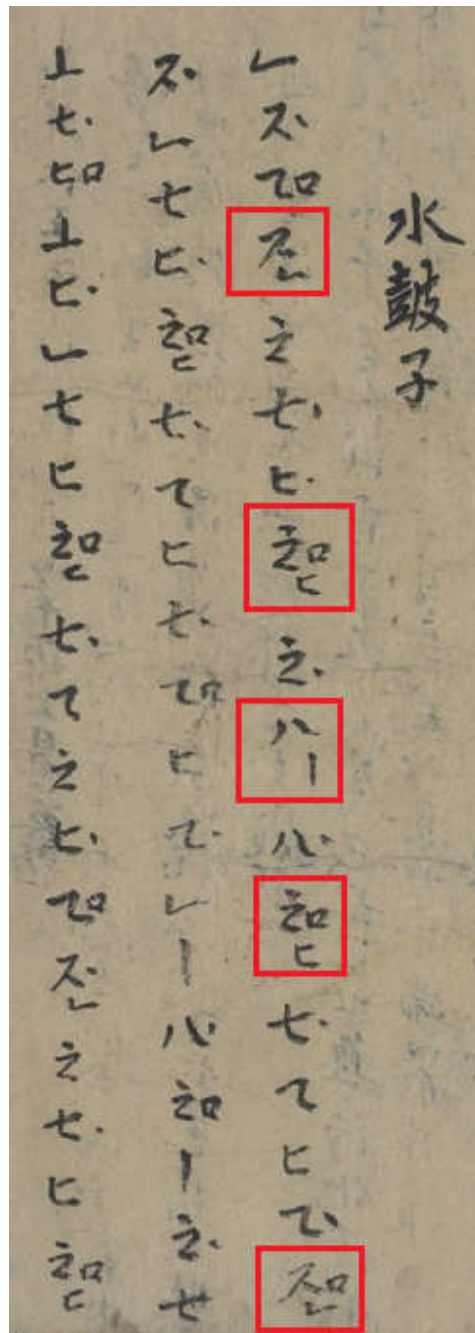
In other texts, two or more small-sized signs may occur in a sequence after a single base sign, and the small-sized signs may be more loosely attached to the preceding full-sized sign (see Fig. 8).

Fig. 8: *Tempyō Lute Score* showing sequence of two small-sized tablature signs
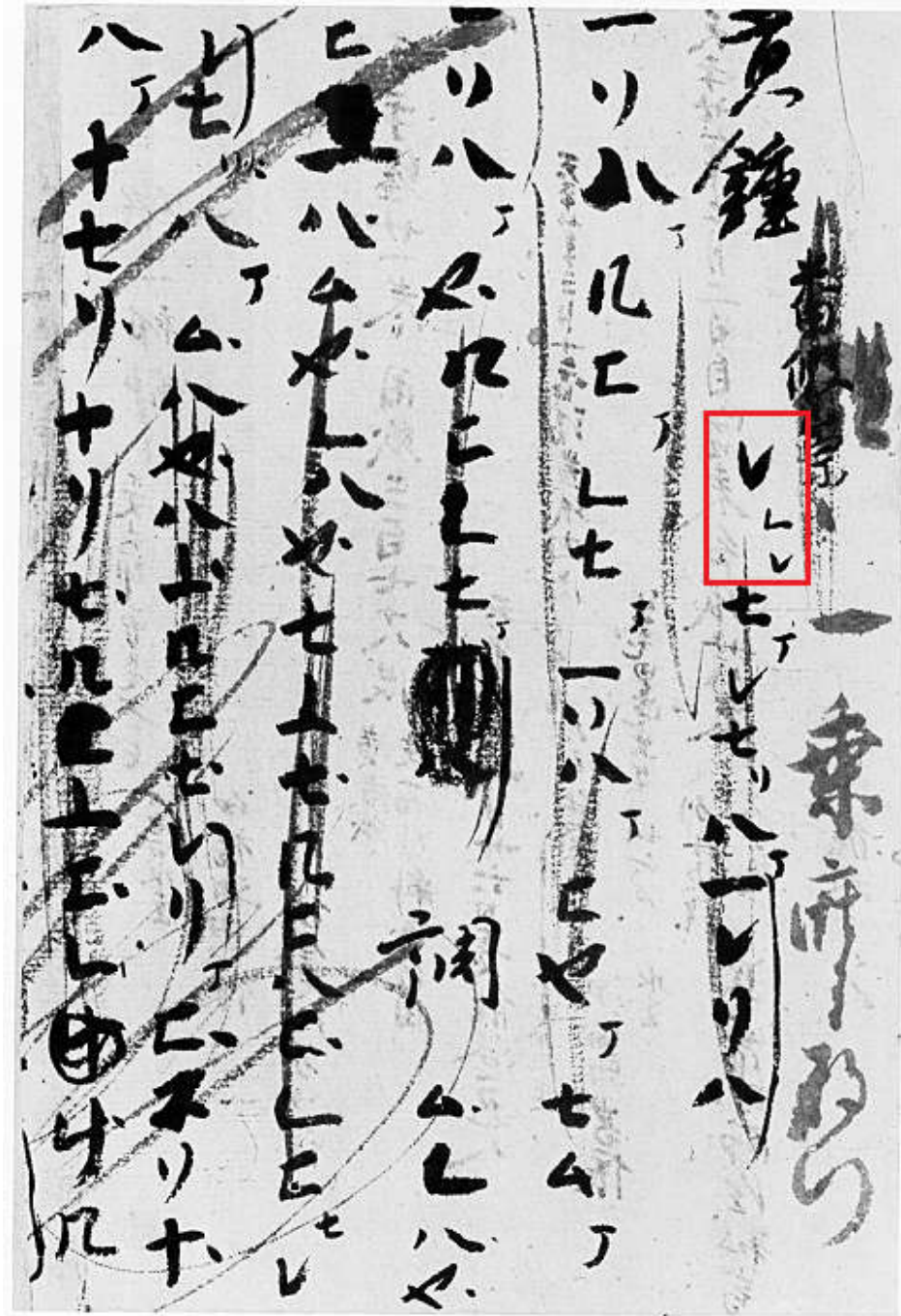
4.3 Pause Sign

A sign somewhat like the Chinese ideograph *dīng* 丁, and probably derived from a simplification of the ideograph *tíng* 停 "stop", is used to indicate a pause in most of the extant manuscripts. The pause sign is small-sized and occurs to the bottom-right of a preceding full-sized sign, following a small-sized sign, or at the end of a chord cluster.

Fig. 9: Manuscript P. 3808 Tunes 12 and 13 showing pause signs
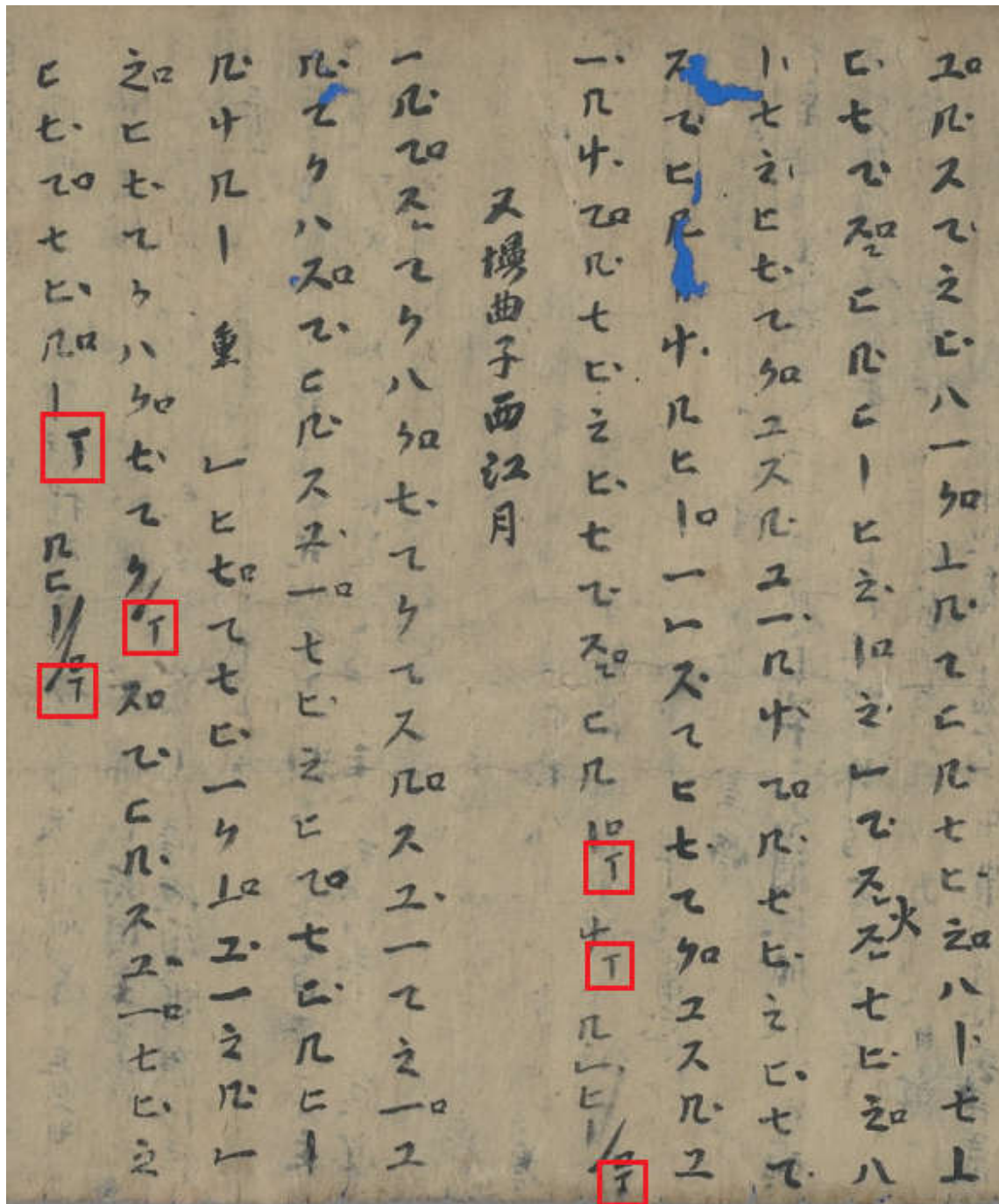
4.4 Diacritical Dots

Fig. 10: Examples of diacritical dots in the *Fushiminomiya-bon Biwa Fu*
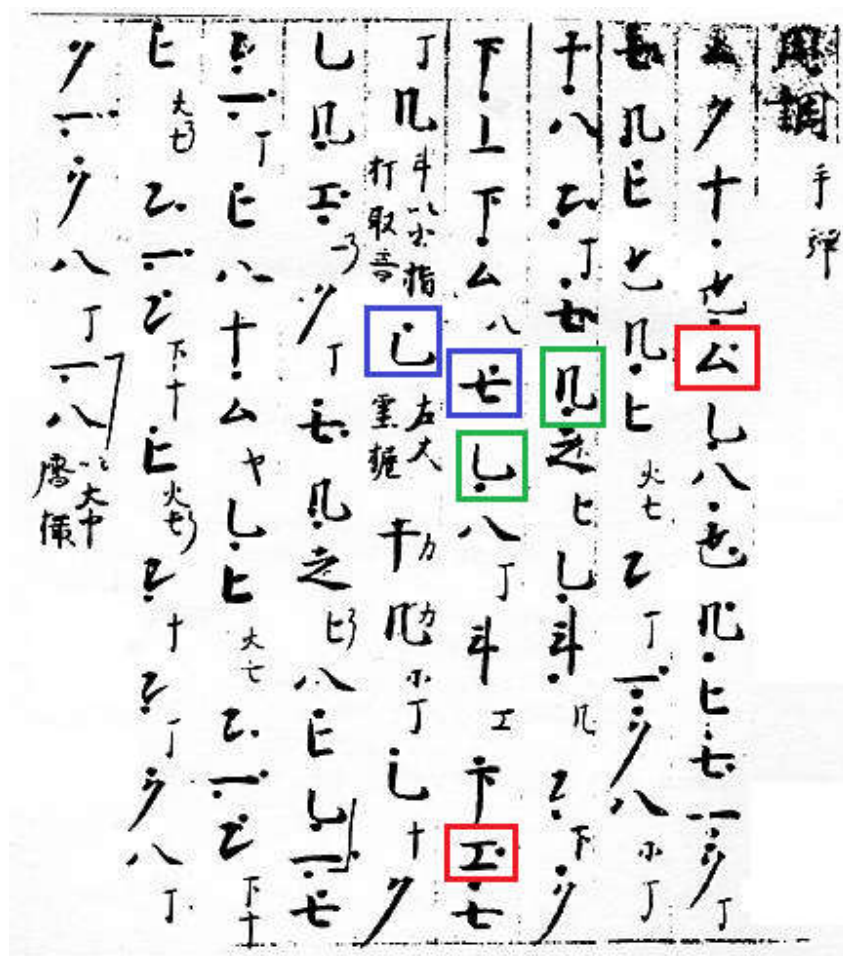
Dot on the right highlighted in red
Dot above highlighted in blue
Dot below highlighted in green

4.4.1   Dot on the Right

A round or elongated dot is positioned to the right of some tablature signs in most extant lute tunes, including those preserved in Dunhuang manuscript P.3808, the *Tempyō Biwa Fu*, the *Fushiminomiya-bon Biwa Fu*, the *Kikutei-ke Monjo*, and the *Gogen Kinfu*.

According to the technical instructions for finger-plucking (as opposed to using a plectrum) in the *Fushiminomiya-bon Biwa Fu* manuscript, a tablature sign with no dot indicates that the string is to be plucked inwards with the middle finger, whereas a dot to the right of the sign indicates that the string is to be plucked outwards with the nail using a "pick" (*tiǎo* 挑) movement. In the lute tunes of Dunhuang manuscript P. 3808 (see Fig. 11), which were probably intended to be played using a plectrum, a tablature sign with no dot would

indicate plucking the string inwards with the plectrum, and a tablature sign with a dot on the right would indicate plucking the string outwards with the plectrum.

4.4.2   Dot Above

A dot positioned above a tablature sign is found only in the *Fushiminomiya-bon Biwa Fu* manuscript in tunes explicitly marked as intended for finger-plucking. According to the technical instructions in the *Fushiminomiya-bon Biwa Fu* manuscript, a tablature symbol with a dot above indicates that the string is to be plucked with the index finger. A dot above may be combined with a dot on the right.

4.4.3   Dot Below

A dot positioned below a tablature sign is found only in the *Fushiminomiya-bon Biwa Fu* manuscript in tunes explicitly marked as intended for finger-plucking. According to the technical instructions in the *Fushiminomiya-bon Biwa Fu manuscript*, a tablature symbol with a dot below indicates that the string is to be plucked with the thumb. A dot below may be combined with a dot on the right.

4.5 Square Mark

A small square mark like the Chinese ideograph *kǒu* 口 is positioned to the right of certain tablature signs in Tunes 3–25 of Dunhuang manuscript P. 3808. Fig. 11 shows one tune from P. 3808 which has a square mark combined with several different tablature signs. In P. 3808 Tunes 21-25, which are written in a different hand to Tunes 1-20, this mark is sometimes written somewhat like the letter "D" or even as two curved vertical lines (see Fig. 12).

The regular spacing of this mark through each tune suggests that it indicates the major beat. This hypothesis is corroborated by the fact that the only Dunhuang tunes not to use this mark are the two tuning pieces at the start of P. 3808, and naturally tuning pieces would not be played in measured time to a clapper accompaniment.

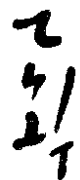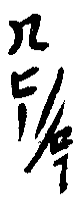**Fig. 11: Manuscript P. 3808 Tune 14 showing combining square marks and dots**
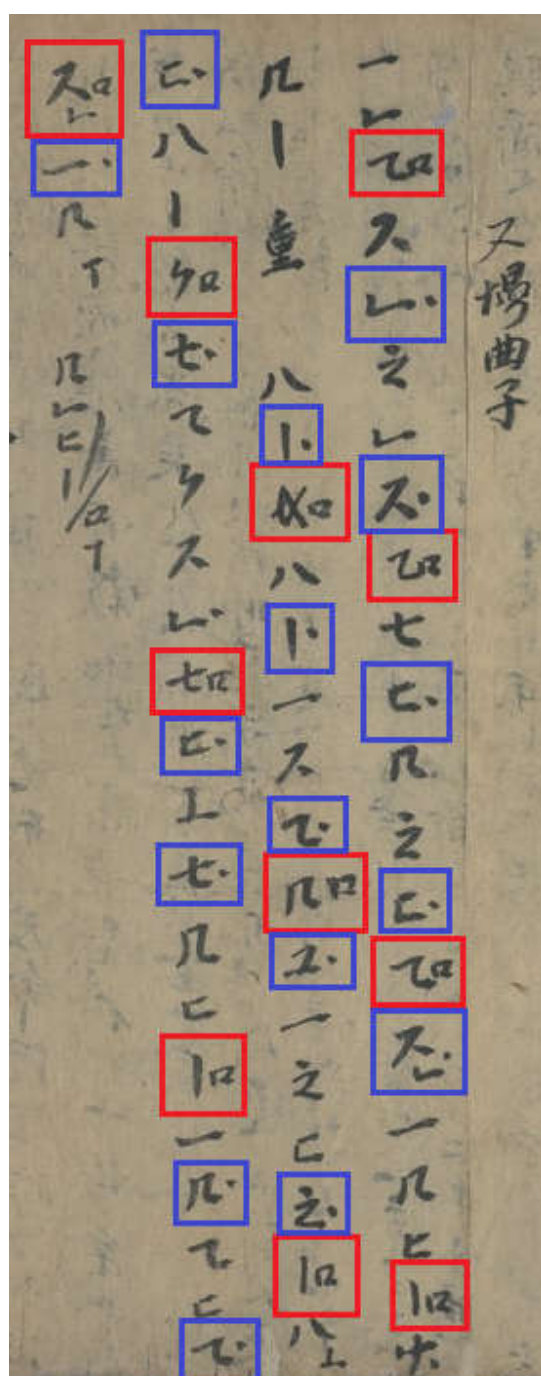
Square marks highlighted in red
Dots highlighted in blue

4.6 Chord Mark

In all manuscripts a single line, double line, or zigzag line may occur along the right side of a group of two, three or four tablature signs which are placed in a tight sequence with no gap between them. A group of such notes usually marks the end of the tune, but less frequently may occur elsewhere within a tune. At the end of a tune, the chord mark is frequently appended with a square mark and/or a pause sign (see Table 3).

The tablature signs against which this line is placed always correspond to different (usually adjacent) strings, and the signs are always given in ascending string order (e.g. I-0, II-4, III-0, IV-1). It is believed that this mark indicates that the notes it marks are a chord that should be played arpeggiato. At the end of the tune it indicates the tonic chord for the mode of the tune (see Table 4, Table 5, and Table 6).

Table 3: Example Chord Marks

Source	Image	Notes
P. 3808 #1		I-0, II-1
P. 3808 #2		II-1, III-3 (with pause sign)
P. 3808 #17		I-0, II-3 (with pause sign)
P. 3808 #19		II-3, III-0, IV-0 (with pause sign)
P. 3808 #20		I-0, III-3, IV-1 (with square mark and pause sign)
P. 3808 #21		I-0, II-2 (with square mark)
Fushiminomiya p.13		I-0, IV-1
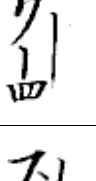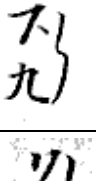
Source	Image	Notes
Fushiminomiya p.16		I-2, III-0, IV-0
Tempyō		I-0, II-4, III-0, IV-1
Gogen Tune 1		I-0, II-0, III-1 (with pause sign)
Gogen Tune 6		III-1, IV-4 (with corrupted pause sign)
Gogen Tune 10		I-0, II-0, III-1, IV-4
Gogen Tune 10		III-0, IV-2, V-3
Gogen Tune 18		II-1, V-1
Gogen Tune 21		III-0, IV-2, V-4

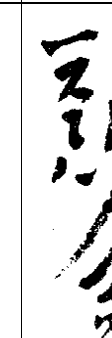**Table 4: Tonic Chord for P. 3808 Tunes 1-10 (I-0, II-1, III-3, IV-1)**
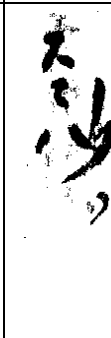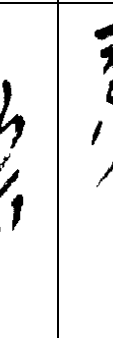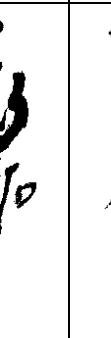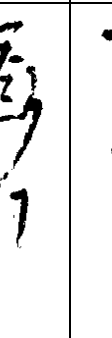
#1	#2	#3	#4	#5	#6	#7	#8	#9	#10

Table 5: Tonic Chord for P. 3808 Tunes 11-20 (I-2, II-0, III-2, IV-2)
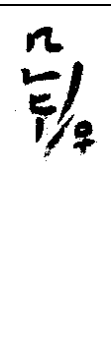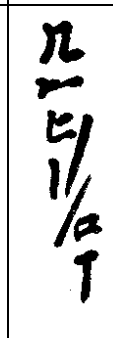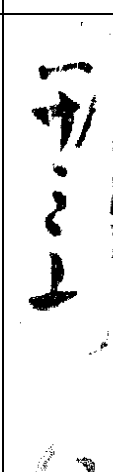
#11	#12	#13	#14	#15	#16	#20

Table 6: Tonic Chord for P. 3808 Tunes 21-25 (I-0, II-2, III-4, IV-0)

#21	#22	#23	#24	#25

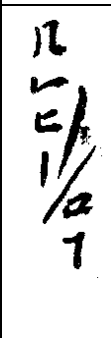## 5.   Encoding Considerations
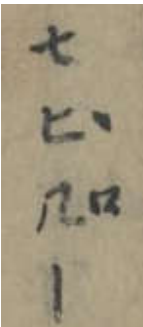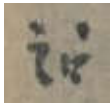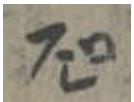
Lute notation is fairly complex, and there are differing interpretations of the meaning of some of the signs, so it is not easy to determine the best way to represent all the notational signs and marks as encoded characters. We present our preliminary suggestions below, but realise that alternative encoding decisions could be considered, and alternative character names could also be considered.

5.1 Directionality

Traditional lute scores are written in vertical orientation, but in modern typesetting and internet contexts horizontal left-to-right text layout would be more common. In horizontal layout small-sized tablature signs and the pause sign are normally placed on the base line after (to the right of) the preceding full-sized sign as shown in the examples below (see also Fig. 20).

Vertical layout	Horizontal layout
	レ ∟ レ
	八⊥
	七勺丁
	屮丁

It would also be preferable to reposition combining dots and square marks in horizontal layout so that marks that do not interrupt the flow of tablature signs in vertical layout also do not interrupt the flow of tablature signs in horizontal layout. The combining dot and square mark on the right in vertical layout do not interrupt the flow of tablature signs, so in horizontal layout they should be positioned above the tablature signs, as shown below.

七匕凡口丨 (vertical)	七匕凡丨
(vertical)	罜
(vertical)	呉ㄴ

As the dots above and below the tablature signs found in the *Fushiminomiya-bon Biwa Fu* interrupt the flow of text, it would be expected that these dots would be represented as spacing marks placed to the left or right of the sign they are attached to. The dot-above in vertical layout would become a dot on the left in horizontal layout; and the dot-below in vertical layout would become a dot on the right in horizontal layout.

The horizontal layout of the cluster of characters forming a chord is somewhat problematic. The chord mark, a single or double line to the right of 2–4 tablature signs in vertical layout mark, would be positioned horizontally above a sequence of 2–4 tablature signs in horizontal layout, but it is not obvious how exactly the square mark and pause sign that are frequently found appended to the chaord mark should be placed in relationship to the other characters in the cluster. A possible layout is shown below.

凡匕丨呉 (vertical)	凡匕呉

5.2 Basic Signs

We propose to encode the twenty basic tablature signs as symbol characters (gc=So). There is some variation in glyph forms between sources, but there is no need to represent these variations at the encoding level. We propose to use the glyph forms based on thos found in Dunhuang manuscript P. 3808.

5.3 Small-sized Signs

We propose to encode twenty small-sized tablature signs as symbol characters (gc=So). We do not propose to encode the six small-sized versions of Chinese ideographs that are used for five-stringed lute tablature.

5.4 Pause Sign

We propose to encode the pause sign as a symbol character with the name CHINESE LUTE PAUSE SYMBOL.

5.5 Combining Marks

We propose to encode the following four combining marks:

- CHINESE LUTE COMBINING SQUARE (non-spacing mark, on the right in vertical layout; above in horizontal layout);
- CHINESE LUTE COMBINING DOT (non-spacing mark, on the right in vertical layout; above in horizontal layout);
- CHINESE LUTE COMBINING LEADING DOT (spacing mark, above in vertical layout; on the left in horizontal layout);
- CHINESE LUTE COMBINING TRAILING DOT (spacing mark, below in vertical layout; on the right in horizontal layout).

As positional terms such as "above", "below", "left" and "right" are confusing when layout may be horizontal or vertical we propose to use the terms "leading" and "trailing" for above/left and below/right dots respectively.

5.6 Chord Mark

There does not appear to be any semantic difference between the single-line, double-line or zigzag forms of the mark, and so we only propose a single character called CHINESE LUTE CHORD MARK. We suggest that this mark should be attached to the last sign in the sequence of chord notes, and that a ZERO WIDTH JOINER be placed between each full-sized tablature sign in the sequence to indicate to the rendering system that the sequence of signs and following chord mark should be rendered as a single unit, with the chord mark extending the length of the sequence.

6.   Unicode Properties

Block: Chinese Musical Symbols at 1D280..1D2DF

Script: Common

* Lute tablature symbols, indicating string (I through IV) and finger position (0 for open string, and 1 through 4 for frets)

1D280 一   CHINESE LUTE TABLATURE SYMBOL I-0

1D281 ユ   CHINESE LUTE TABLATURE SYMBOL I-1

1D282 几   CHINESE LUTE TABLATURE SYMBOL I-2

1D283 フ   CHINESE LUTE TABLATURE SYMBOL I-3

1D284 十   CHINESE LUTE TABLATURE SYMBOL I-4

1D285 ㄴ   CHINESE LUTE TABLATURE SYMBOL II-0

1D286 ス   CHINESE LUTE TABLATURE SYMBOL II-1

1D287 十   CHINESE LUTE TABLATURE SYMBOL II-2

1D288 乙   CHINESE LUTE TABLATURE SYMBOL II-3

1D289 ㄴ   CHINESE LUTE TABLATURE SYMBOL II-4

1D28A ㄅ   CHINESE LUTE TABLATURE SYMBOL III-0

1D28B 七   CHINESE LUTE TABLATURE SYMBOL III-1

1D28C ヒ   CHINESE LUTE TABLATURE SYMBOL III-2

1D28D ㄹ   CHINESE LUTE TABLATURE SYMBOL III-3

1D28E ㄹ   CHINESE LUTE TABLATURE SYMBOL III-4

1D28F 丄   CHINESE LUTE TABLATURE SYMBOL IV-0

1D290 ハ   CHINESE LUTE TABLATURE SYMBOL IV-1

1D291 丨   CHINESE LUTE TABLATURE SYMBOL IV-2

1D292 厶   CHINESE LUTE TABLATURE SYMBOL IV-3

1D293 ヤ   CHINESE LUTE TABLATURE SYMBOL IV-4

1D294 一　　CHINESE LUTE TABLATURE SMALL SYMBOL I-0

1D295 ユ　　CHINESE LUTE TABLATURE SMALL SYMBOL I-1

1D296 几　　CHINESE LUTE TABLATURE SMALL SYMBOL I-2

1D297 フ　　CHINESE LUTE TABLATURE SMALL SYMBOL I-3

1D298 十　　CHINESE LUTE TABLATURE SMALL SYMBOL I-4

1D299 ㄴ　　CHINESE LUTE TABLATURE SMALL SYMBOL II-0

1D29A ス　　CHINESE LUTE TABLATURE SMALL SYMBOL II-1

1D29B 十　　CHINESE LUTE TABLATURE SMALL SYMBOL II-2

1D29C 乙　　CHINESE LUTE TABLATURE SMALL SYMBOL II-3

1D29D レ　　CHINESE LUTE TABLATURE SMALL SYMBOL II-4

1D29E ケ　　CHINESE LUTE TABLATURE SMALL SYMBOL III-0

1D29F 七　　CHINESE LUTE TABLATURE SMALL SYMBOL III-1

1D2A0 ヒ　　CHINESE LUTE TABLATURE SMALL SYMBOL III-2

1D2A1 �　　CHINESE LUTE TABLATURE SMALL SYMBOL III-3

1D2A2 ㄹ　　CHINESE LUTE TABLATURE SMALL SYMBOL III-4

1D2A3 ⊥　　CHINESE LUTE TABLATURE SMALL SYMBOL IV-0

1D2A4 ハ　　CHINESE LUTE TABLATURE SMALL SYMBOL IV-1

1D2A5 丨　　CHINESE LUTE TABLATURE SMALL SYMBOL IV-2

1D2A6 ム　　CHINESE LUTE TABLATURE SMALL SYMBOL IV-3

1D2A7 ヤ　　CHINESE LUTE TABLATURE SMALL SYMBOL IV-4

1D2A8 丁　　CHINESE LUTE PAUSE SYMBOL

1D2AB　　　◌　　CHINESE LUTE COMBINING SQUARE

* indicates a major beat

* on the right of a tablature symbol in vertical layout, or above in horizontal layout

1D2AC ◌̇　　CHINESE LUTE COMBINING DOT

* indicates that the string is to be plucked outwards

* on the right of a tablature symbol in vertical layout, or above in horizontal layout

1D2AD　　·◌　　CHINESE LUTE COMBINING LEADING DOT

* indicates that the string is to be plucked with the index finger

* above a tablature symbol in vertical layout, or on the left in horizontal layout

1D2AE◌·　　CHINESE LUTE COMBINING TRAILING DOT

* indicates that the string is to be plucked with the thumb

* beneath a tablature symbol in vertical layout, or on the right in horizontal layout

1D2AF◌　　CHINESE LUTE CHORD MARK

* appended to the last character in a sequence of two to four tabalature symbols representing a chord

* positioned on the right of a sequence of tabalature symbols in vertical layout, or above the sequence in horizontal layout

UCD properties:

1D280;CHINESE LUTE TABLATURE SYMBOL I-0;So;0;L;;;;;N;;;;;
1D281;CHINESE LUTE TABLATURE SYMBOL I-1;So;0;L;;;;;N;;;;;
1D282;CHINESE LUTE TABLATURE SYMBOL I-2;So;0;L;;;;;N;;;;;
1D283;CHINESE LUTE TABLATURE SYMBOL I-3;So;0;L;;;;;N;;;;;
1D284;CHINESE LUTE TABLATURE SYMBOL I-4;So;0;L;;;;;N;;;;;
1D285;CHINESE LUTE TABLATURE SYMBOL II-0;So;0;L;;;;;N;;;;;
1D286;CHINESE LUTE TABLATURE SYMBOL II-1;So;0;L;;;;;N;;;;;
1D287;CHINESE LUTE TABLATURE SYMBOL II-2;So;0;L;;;;;N;;;;;
1D288;CHINESE LUTE TABLATURE SYMBOL II-3;So;0;L;;;;;N;;;;;
1D289;CHINESE LUTE TABLATURE SYMBOL II-4;So;0;L;;;;;N;;;;;
1D28A;CHINESE LUTE TABLATURE SYMBOL III-0;So;0;L;;;;;N;;;;;
1D28B;CHINESE LUTE TABLATURE SYMBOL III-1;So;0;L;;;;;N;;;;;
1D28C;CHINESE LUTE TABLATURE SYMBOL III-2;So;0;L;;;;;N;;;;;
1D28D;CHINESE LUTE TABLATURE SYMBOL III-3;So;0;L;;;;;N;;;;;
1D28E;CHINESE LUTE TABLATURE SYMBOL III-4;So;0;L;;;;;N;;;;;
1D28F;CHINESE LUTE TABLATURE SYMBOL IV-0;So;0;L;;;;;N;;;;;
1D290;CHINESE LUTE TABLATURE SYMBOL IV-1;So;0;L;;;;;N;;;;;

1D291;CHINESE LUTE TABLATURE SYMBOL IV-2;So;0;L;;;;;N;;;;;
1D292;CHINESE LUTE TABLATURE SYMBOL IV-3;So;0;L;;;;;N;;;;;
1D293;CHINESE LUTE TABLATURE SYMBOL IV-4;So;0;L;;;;;N;;;;;
1D294;CHINESE LUTE TABLATURE SYMBOL SMALL I-0;So;0;L;;;;;N;;;;;
1D295;CHINESE LUTE TABLATURE SYMBOL SMALL I-1;So;0;L;;;;;N;;;;;
1D296;CHINESE LUTE TABLATURE SYMBOL SMALL I-2;So;0;L;;;;;N;;;;;
1D297;CHINESE LUTE TABLATURE SYMBOL SMALL I-3;So;0;L;;;;;N;;;;;
1D298;CHINESE LUTE TABLATURE SYMBOL SMALL I-4;So;0;L;;;;;N;;;;;
1D299;CHINESE LUTE TABLATURE SYMBOL SMALL II-0;So;0;L;;;;;N;;;;;
1D29A;CHINESE LUTE TABLATURE SYMBOL SMALL II-1;So;0;L;;;;;N;;;;;
1D29B;CHINESE LUTE TABLATURE SYMBOL SMALL II-2;So;0;L;;;;;N;;;;;
1D29C;CHINESE LUTE TABLATURE SYMBOL SMALL II-3;So;0;L;;;;;N;;;;;
1D29D;CHINESE LUTE TABLATURE SYMBOL SMALL II-4;So;0;L;;;;;N;;;;;
1D29E;CHINESE LUTE TABLATURE SYMBOL SMALL III-0;So;0;L;;;;;N;;;;;
1D29F;CHINESE LUTE TABLATURE SYMBOL SMALL III-1;So;0;L;;;;;N;;;;;
1D2A0;CHINESE LUTE TABLATURE SYMBOL SMALL III-2;So;0;L;;;;;N;;;;;
1D2A1;CHINESE LUTE TABLATURE SYMBOL SMALL III-3;So;0;L;;;;;N;;;;;
1D2A2;CHINESE LUTE TABLATURE SYMBOL SMALL III-4;So;0;L;;;;;N;;;;;
1D2A3;CHINESE LUTE TABLATURE SYMBOL SMALL IV-0;So;0;L;;;;;N;;;;;
1D2A4;CHINESE LUTE TABLATURE SYMBOL SMALL IV-1;So;0;L;;;;;N;;;;;
1D2A5;CHINESE LUTE TABLATURE SYMBOL SMALL IV-2;So;0;L;;;;;N;;;;;
1D2A6;CHINESE LUTE TABLATURE SYMBOL SMALL IV-3;So;0;L;;;;;N;;;;;
1D2A7;CHINESE LUTE TABLATURE SYMBOL SMALL IV-4;So;0;L;;;;;N;;;;;
1D2A8;CHINESE LUTE SYMBOL PAUSE;So;0;L;;;;;N;;;;;
1D2AB;CHINESE LUTE COMBINING SQUARE;Mn;0;NSM;;;;;N;;;;;
1D2AC;CHINESE LUTE COMBINING DOT;Mn;0;NSM;;;;;N;;;;;
1D2AD;CHINESE LUTE COMBINING LEADING DOT;Mc;0;L;;;;;N;;;;;
1D2AE;CHINESE LUTE COMBINING TRAILING DOT;Mc;0;L;;;;;N;;;;;
1D2AF;CHINESE LUTE CHORD MARK;Mn;0;NSM;;;;;N;;;;;

7.   *Original Lute Scores*

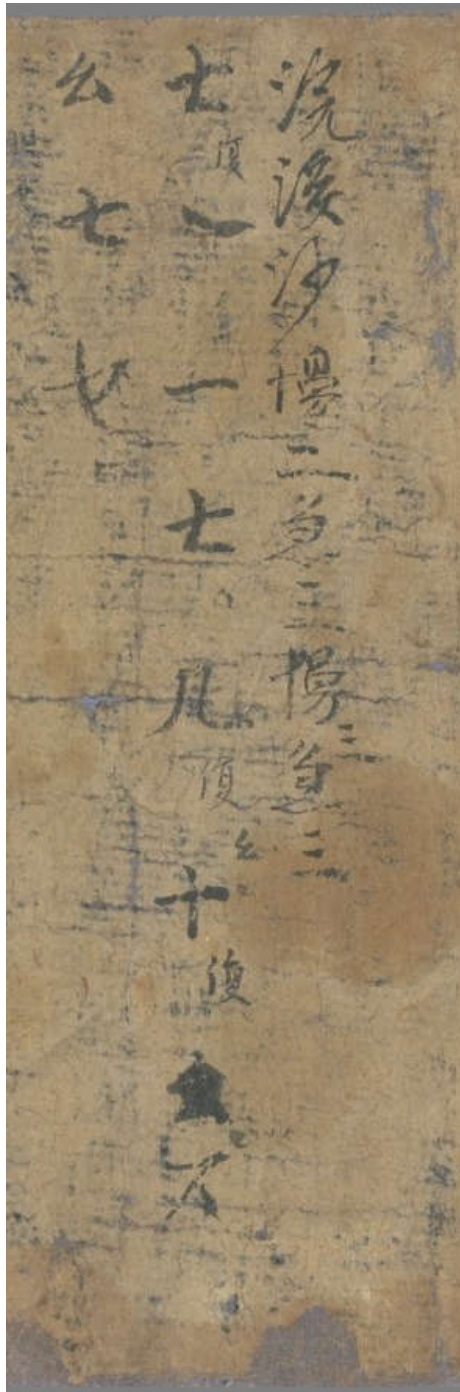**Fig. 12: Tunes 16 (left) and 24 (right) of Dunhuang manuscript Pelliot chinois 3808**
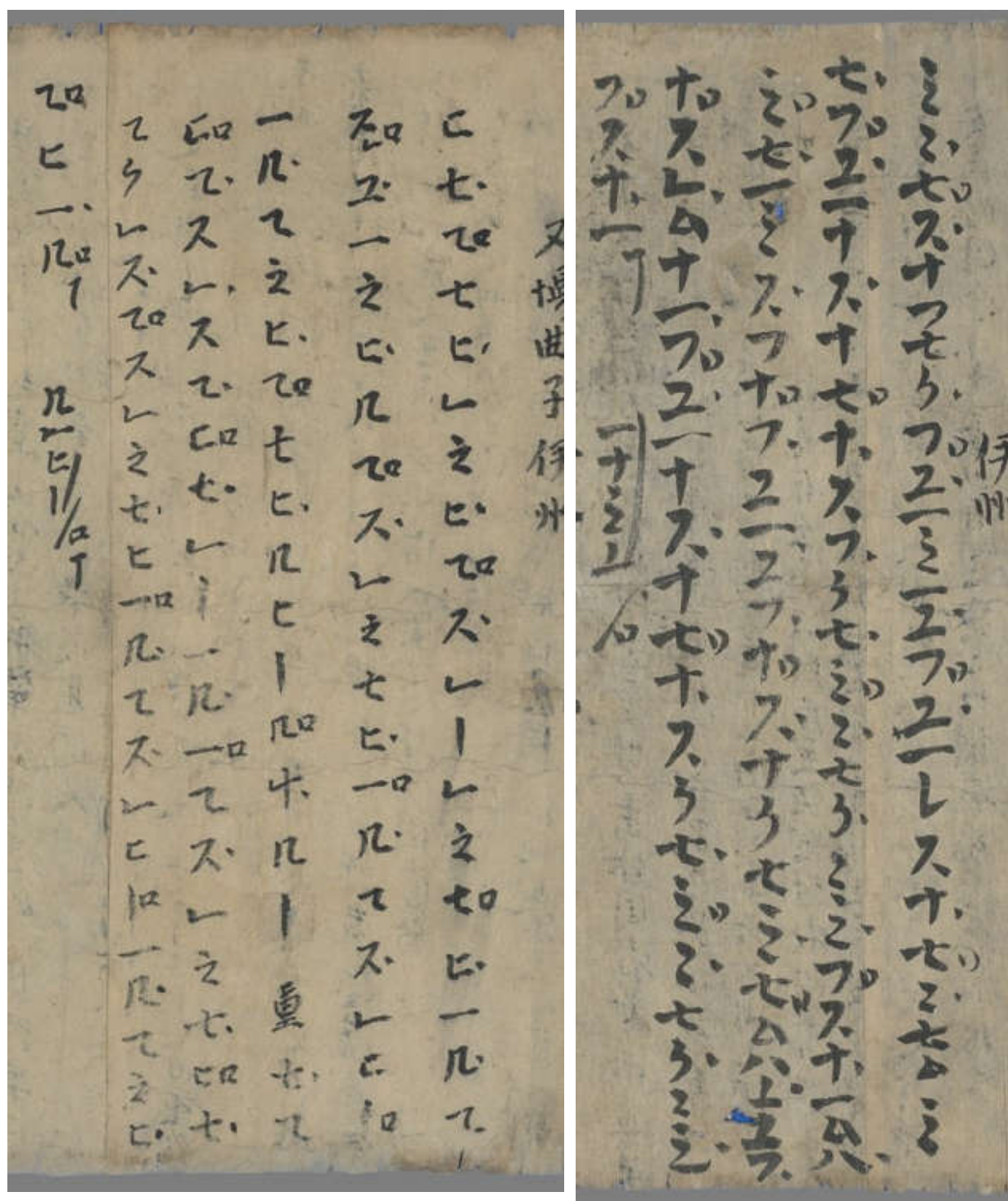
Source: http://idp.bl.uk/database/oo_loader.a4d?pm=Pelliot chinois 3808

Dunhuang manuscript P. 3808 is the most important surviving example of Chinese lute music, comprising the lute tablature for twenty-five tunes (Tunes 1–20 written in one hand, and Tunes 21–25 written in a different hand), as listed below:

1. *pǐn nòng* 品弄 "a tuning piece";
2. [*pǐn*] *nòng* [品]弄 "a tuning piece";
3. *Qīngbēilè* 傾盃樂 "Happily Emptying Glasses";
4. *yòu màn qūzǐ* 又慢曲子 "another slow tune";
5. *yòu qūzǐ* 又曲子 "another tune";
6. *jí qūzǐ* 急曲子 "a quick tune";
7. *yòu qūzǐ* 又曲子 "another tune";
8. *yòu màn qūzǐ* 又慢曲子 "another slow tune";
9. *jí qūzǐ* 急曲子 "a quick tune";
10. *yòu màn qūzǐ* 又慢曲子 "another slow tune";
11. [title missing]
12. *Qīngbēilè* 傾盃樂 "Happily Emptying Glasses";
13. *yòu màn qūzǐ Xījiāngyuè* 又慢曲子西江月 "another slow tune, The Moon on the West River";
14. *yòu màn qūzǐ* 又慢曲子 "another slow tune";
15. *màn qūzǐ Xīnshìzǐ* 慢曲子心事子 "a slow tune, A Matter of the Heart";
16. *yòu màn qūzǐ Yīzhōu* 又慢曲子伊州 "another slow tune, Yizhou";
17. *yòu jí qūzǐ* 又急曲子 "another quick tune";
18. *Shuǐgǔzǐ* 水鼓子 "Water Drums";
19. *jí Húxiāngwèn* 急胡相問 "a quick tune, Asking Each Other";
20. *Chángshānǔ yǐn* 長沙女引 "Introduction to The Girl from the Long Sands";
21. [title missing];
22. *Sǎjīnshā* 撒金砂 "Scattering Gold in the Sand";
23. *Yíngfù* 營富 "Yingfu";
24. *Yīzhōu* 伊州 "Yizhou";
25. *Shuǐgǔzǐ* 水鼓子 "Water Drums".

Fig. 13: Dunhuang manuscript Pelliot chinois 3719

Source: http://idp.bl.uk/database/oo_loader.a4d?pm=Pelliot chinois 3719

This manuscript preserves a short fragment of lute tablature symbols prefixed by the well-known tune title *Huànxīshā* 浣溪沙 "Washing in the Stream". Underneath the title is the instruction 慢三、急三、慢三、急三 "slow three, quick three, slow three, quick three".

Fig. 14: Dunhuang manuscript Pelliot chinois 3539

Source: http://idp.bl.uk/database/oo_loader.a4d?pm=Pelliot chinois 3539

This manuscript lists the twenty tablature signs, divided into five groups of four signs, annotated as follows:

- 散打四声 "four sounds made by free plucking" (i.e. open string);
- 頭指四声 "four sounds made with the index finger" (i.e. index finger pressing the string on the first fret);
- 中指四声 "four sounds made with the middle finger" (i.e. middle finger pressing the string on the second fret);
- 名指四声 "four sounds made with the ring finger" (i.e. ring finger pressing the string on the third fret);
- 小指四声 "four sounds made with the little finger" (i.e. little finger pressing the string on the fourth fret).

Fig. 15: The *Tempyō Lute Score* (*Tempyō Biwa Fu* 天寳琵琶譜)

Source: *Shōsōin no Gakki* 正倉院の楽器 [Musical Instruments of the Imperial Storehouse] (Tōkyo, 1967)

The *Tempyō Biwa Fu* 天寶琵琶譜 "Tempyō Lute Score" is a single-sheet manuscript that is preserved at the Imperial Storehouse (Shōsōin 正倉院) at Nara in Japan. This is the oldest surviving example of Chinese lute music in Japan, being dated to circa 738. The sheet comprises a fragment of a single tune entitled *Fānjiǎchóng* 番假崇 in the *huángzhōng diào* 黃鐘調 mode. This piece is also preserved in the *Fushiminomiya-bon Biwa Fu* manuscript (sheet 15 lines 9-12).

Fig. 16: Part of the *Fushiminomiya Family Lute Score* (*Fushiminomiya-hon Biwa Fu* 伏見宮本琵琶譜)
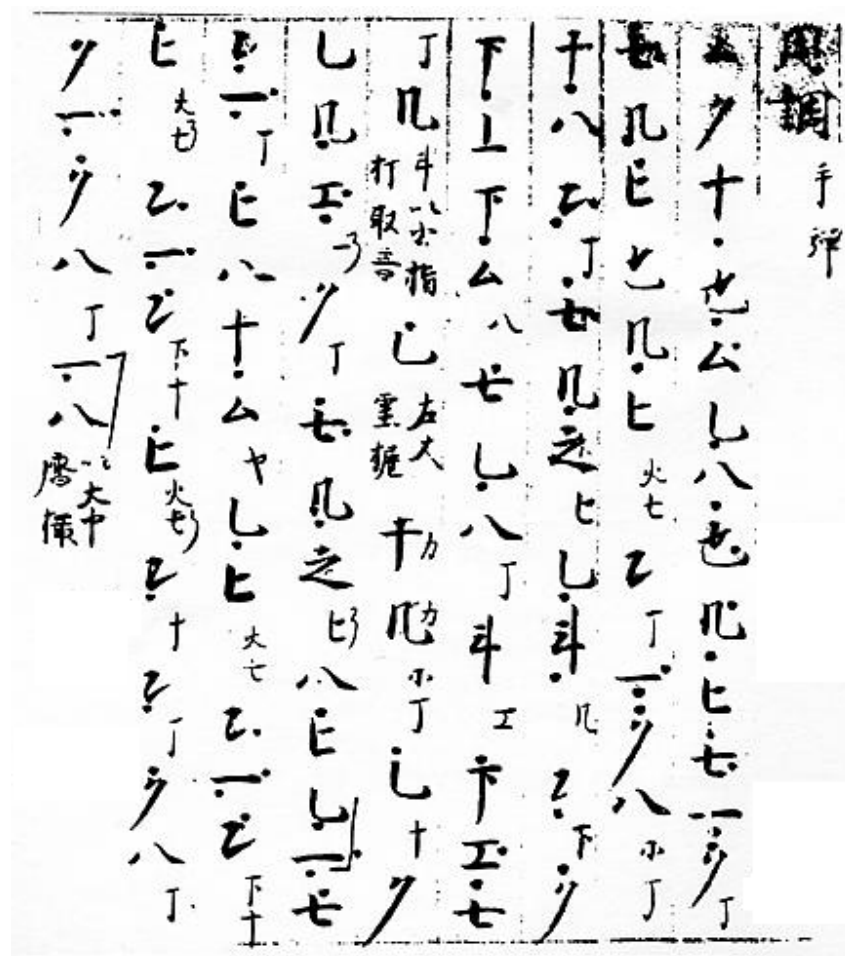
Source : R. F. Wolpert, "A ninth-century Sino-Japanese lute-tutor" (*Musica Asiatica* 1, 1977) p. 164

The *Fushiminomiya-bon Biwa Fu* 伏見宮本琵琶譜 "Fushiminomiya Family Lute Score" is a Japanese manuscript from the Fushiminomiya collection (now part of the Imperial Kunaichō Shoryōbu collection). The text of the manuscript was originally composed by the Chinese lute master Lián Chéngwǔ 廉承武 at Yangzhou in the year 838 for Fujiwara Sadatoshi 藤原貞敏, who was an administrative officer of a Japanese embassy to China during the years 834–841. The existing copy was made for the benefit of Prince Atsumi Shinnō in the years 920–921 by the renowned court musician Prince Sadayasu Shinnō 貞保新王. The manuscript comprises twenty-five sheets of paper glued together to form a single scroll.

The illustration above is the Modal Prelude in the *huángzhōng diào* 黃鐘調, with the instruction to be played with the fingers (手彈) rather than using a plectrum.

Fig. 17: Part of the *Kikutei Family Scroll* (*Kikutei-ke Monjo* 菊亭家文書)
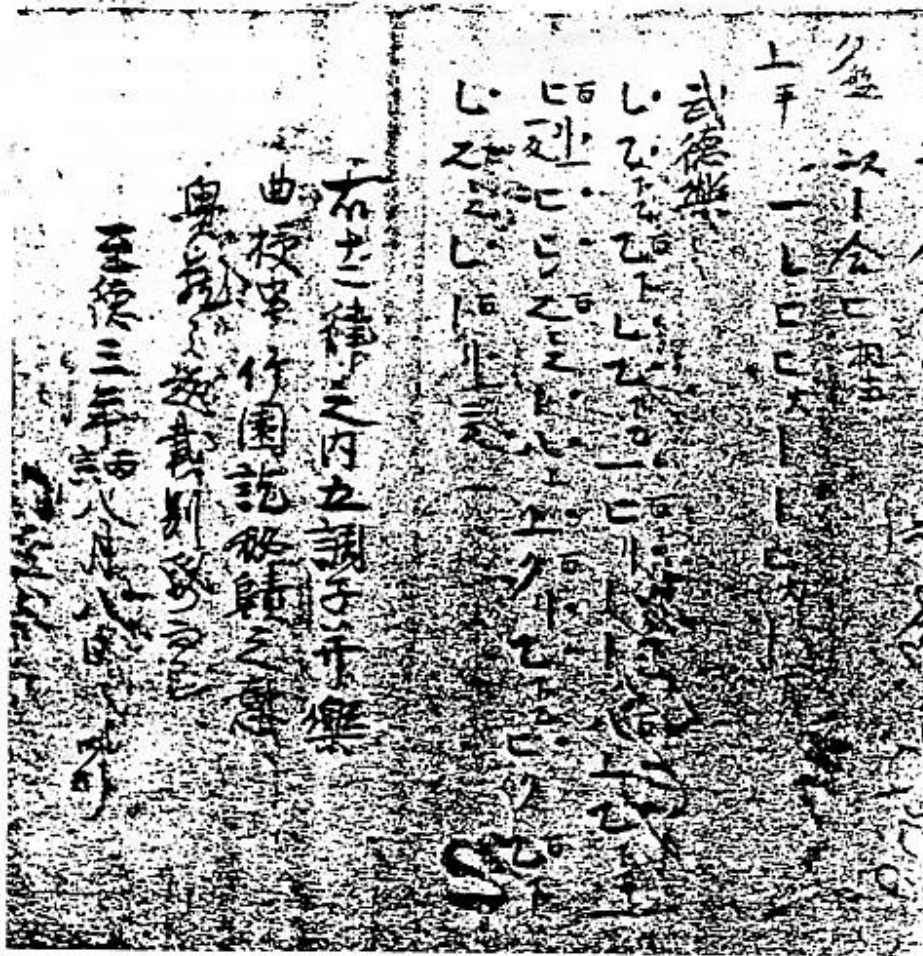
Source: E. J. Markham et al., "Pieces for *biwa* in calendrically correct tunings, from a manuscript in the Heian Museum, Kyōto" (*Musica Asiatica* 5, 1987) p. 194

The *Kikutei-ke Monjo* 菊亭家 "Kikutei Family Scroll" is a composite manuscript scroll covering various musical topics that was obtained by the Heian Museum in 1970. The scroll comprises seventeen sheets, of which sheets 2 – 4 give the tunings for the lute to be used during the first, eighth and fourth lunar months (in imitation of the practise of harmonising the tuning of musical instruments with the calendar in Chinese court music), as well as five pieces for the lute, three tuned for the First Month, one tuned for the Eight Month, and one tuned for the Fourth Month. A colophon to these pieces is dated 1386.

Fig. 18: Part of the *Five-Stringed Zither Score* (*Gogen Kinfu* 五弦琴譜)
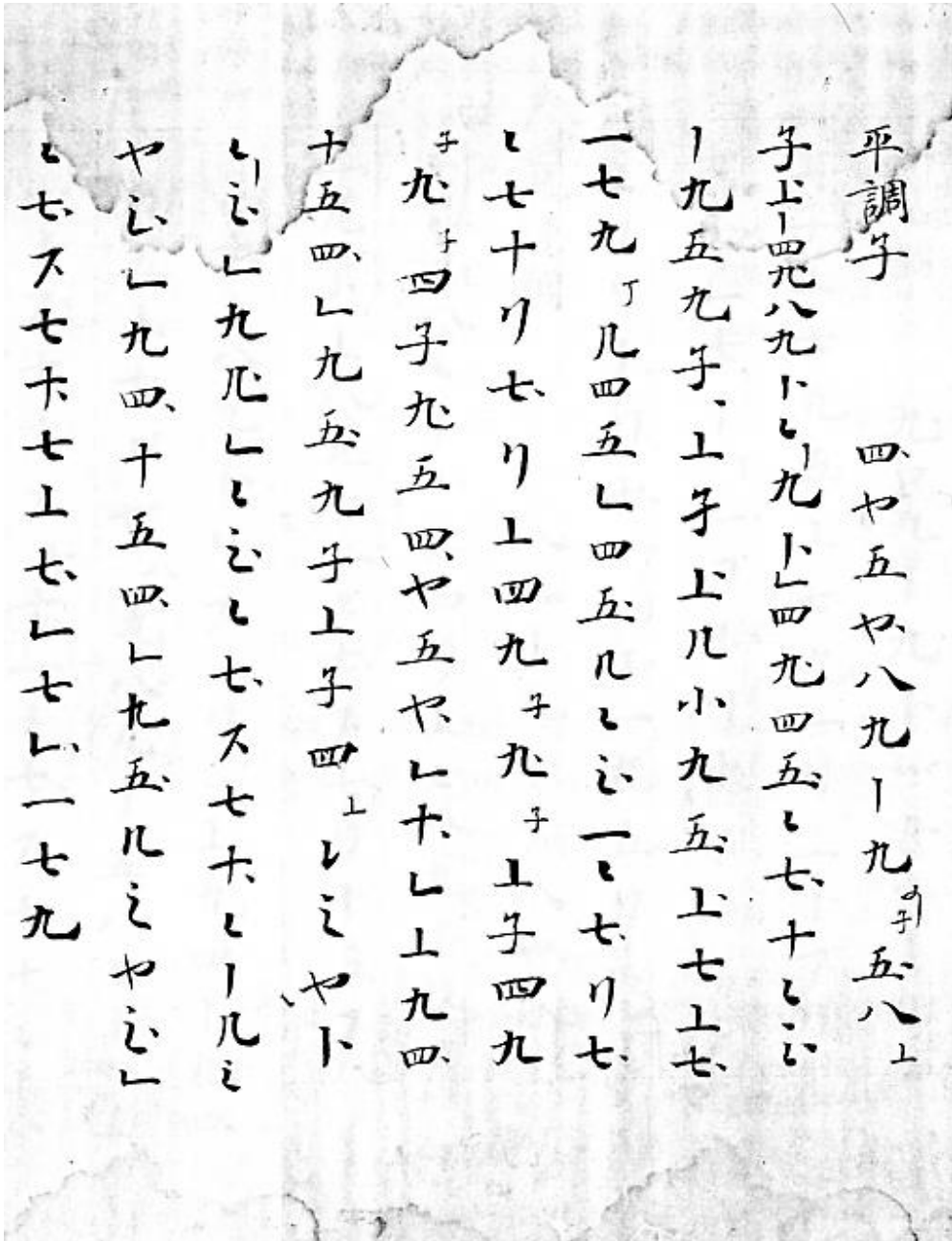
The Japanese scroll manuscript known as the *Gogen Kinfu* 五弦琴譜 "Five-Stringed Zither Score" is preserved at the Yōmei Bunko 陽明文庫 in Kyōto. This is the only known example of a score for the five-stringed lute that uses Chinese lute tablature. The last page the manuscript is dated the "11th day of the 3rd month of the 9th year of the Jōwa reign", which corresponds to the year 842, although the manuscript may have been copied from an earlier Chinese text. The manuscript comprises six modal preludes and twenty-two tunes. The illustration shows the prelude in the *píngdiào* 平調 mode.

8. *Modern Studies of Lute Music*

Fig. 19: Kenzō Hayashi 1957 p. 48

为大小字的成为一組所表现的,常常是关系于同一条弦的缘故. 例如:
"几""フ₂"和第Ⅰ弦有关,"ス"和第Ⅱ弦,"七⸒""之ヒ"和第Ⅲ
弦,"八ₗ""ₗ"和第Ⅳ弦有关.《傾盃乐》(第3)所見到的"乙"是
少有的例外,这一个所謂例外,是由于难以分別之点而說的,因为"乙"
說不定就是"乙". 假定是"乙ₗ",那就是第Ⅱ弦.我想暫时对这个疑問
的解釋留在以后再說.

9. Bibliography

Adachi Chie (Āndá Zhìhuì) 安达智慧. *Lín Qiānsān de 'Dūnhuáng pípápǔ' yánjiū.* 林謙三的《敦煌琵琶谱》研究 = *Kenzo Hayashi's Study on "Tun-huang Musical Scores of pipa".* Masters dissertation, Shanghai Academy of Music, 2013.

Cheng Yingshi (Coralie Rockwell trans.). 1991. "A Report on Chinese Research into the Dunhuang Music Manuscripts"; *Musica Asiatica* 6: 61–72.

Hán Língyún 韩凌云. *Luòrù fánjiān de tiānyīn — Dūnhuáng yuèpǔ' yánjiū* 落入凡间的天音—《敦煌乐谱》研究. Masters dissertation, Xi'an Conservatory of Music, 2013.

Kenzō Hayashi 林謙三 (1899–1976), Pān Huáisù 潘怀素 trans. *Dūnhuáng Pípápǔ De Jiědú Yánjiū* 敦煌琵琶谱的解读研究. Shanghai: Shanghai Yinyue Chubanshe, 1957.

Markham, Elizabeth J., L.E.R. Picken, and R.F. Wolpert. 1988. "Pieces for *biwa* in calendrically correct tunings, from a manuscript in the Heian Museum, Kyōto"; *Musica Asiatica* 5: 191–209.

West, Andrew. 2012. "One to Twenty in Jurchen, Khitan and Lute". 2012-12-18. http://www.babelstone.co.uk/Blog/2012/12/one-to-twenty-in-jurchen-khitan-and-lute.html

Wolpert, R.F. 1977. "A ninth-century Sino-Japanese lute-tutor"; *Musica Asiatica* 1: 111–165.

Wolpert, R.F. 1981a. "The five-stringed lute in East Asia"; *Musica Asiatica* 3: 97–106.

Wolpert, R.F. 1981b. "A ninth-century score for five-stringed lute"; *Musica Asiatica* 3: 107–135.

10.   *Proposal Summary Form*

<table>
<tr><td colspan="2" align="center">SO/IEC JTC 1/SC 2/WG 2
PROPOSAL SUMMARY FORM TO ACCOMPANY SUBMISSIONS
FOR ADDITIONS TO THE REPERTOIRE OF ISO/IEC 10646[1]
Please fill all the sections A, B and C below.
Please read Principles and Procedures Document (P & P) from http://www.dkuug.dk/JTC1/SC2/WG2/docs/principles.html for guidelines and details before filling this form.
Please ensure you are using the latest Form from http://www.dkuug.dk/JTC1/SC2/WG2/docs/summaryform.html .
See also http://www.dkuug.dk/JTC1/SC2/WG2/docs/roadmaps.html for latest <i>Roadmaps</i>.</td></tr>
</table>

A. Administrative

1. **Title:**	*Proposal to encode old Chinese lute notation*
2. Requester's name:	*Andrew West and Eiso Chan (Chén Yǒngcōng 陈永聪)*
3. Requester type (Member body/Liaison/Individual contribution):	*Individual contribution*
4. Submission date:	*2017-09-07*
5. Requester's reference (if applicable):	
6. Choose one of the following:	
This is a complete proposal:	*YES*
(or) More information will be provided later:	

B. Technical – General

1. Choose one of the following:
   - a. This proposal is for a new script (set of characters):   *YES*
     - Proposed name of script:
   - b. The proposal is for addition of character(s) to an existing block: *NO*
     - Name of the existing block:
2. Number of characters in proposal: *46*
3. Proposed category (select one from below - see section 2.2 of P&P document):

A-Contemporary		B.1-Specialized (small collection)	*X*	B.2-Specialized (large collection)	
C-Major extinct		D-Attested extinct		E-Minor extinct	
F-Archaic Hieroglyphic or Ideographic			G-Obscure or questionable usage symbols		

4. Is a repertoire including character names provided?   *YES*
   - a. If YES, are the names in accordance with the "character naming guidelines" in Annex L of P&P document?   *YES*
   - b. Are the character shapes attached in a legible form suitable for review?   *YES*
5. Fonts related:
   - a. Who will provide the appropriate computerized font to the Project Editor of 10646 for publishing the standard?
     - *Andrew West*
   - b. Identify the party granting a license for use of the font by the editors (include address, e-mail, ftp-site, etc.):
     - *Andrew West*
6. References:
   - a. Are references (to other character sets, dictionaries, descriptive texts etc.) provided?   *YES*
   - b. Are published examples of use (such as samples from newspapers, magazines, or other sources) of proposed characters attached?   *YES*
7. Special encoding issues:
   - Does the proposal address other aspects of character data processing (if applicable) such as input, presentation, sorting, searching, indexing, transliteration etc. (if yes please enclose information)?   *YES*

8. Additional Information:

Submitters are invited to provide any additional information about Properties of the proposed Character(s) or Script that will assist in correct understanding of and correct linguistic processing of the proposed character(s) or script. Examples of such properties are: Casing information, Numeric information, Currency information, Display behaviour information such as line breaks, widths etc., Combining behaviour, Spacing behaviour, Directional behaviour, Default Collation behaviour, relevance in Mark Up contexts, Compatibility equivalence and other Unicode normalization related information. See the Unicode standard at http://www.unicode.org for such information on other scripts. Also see Unicode Character Database (http://www.unicode.org/reports/tr44/) and associated Unicode Technical Reports for information needed for consideration by the Unicode Technical Committee for inclusion in the Unicode Standard.

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[1] Form number: N4102-F (Original 1994-10-14; Revised 1995-01, 1995-04, 1996-04, 1996-08, 1999-03, 2001-05, 2001-09, 2003-11, 2005-01, 2005-09, 2005-10, 2007-03, 2008-05, 2009-11, 2011-03, 2012-01)

C. Technical - Justification

1. Has this proposal for addition of character(s) been submitted before? *NO*
   If YES explain

2. Has contact been made to members of the user community (for example: National Body,
   user groups of the script or characters, other experts, etc.)? *NO*
   If YES, with whom?
   If YES, available relevant documents:

3. Information on the user community for the proposed characters (for example:
   size, demographics, information technology use, or publishing use) is included? *NO*
   Reference:

4. The context of use for the proposed characters (type of use; common or rare) *Rare*
   Reference:

5. Are the proposed characters in current use by the user community? *YES*
   If YES, where? Reference:

6. After giving due considerations to the principles in the P&P document must the proposed characters be entirely
   in the BMP? *NO*
   If YES, is a rationale provided?
   If YES, reference:

7. Should the proposed characters be kept together in a contiguous range (rather than being scattered)? *YES*

8. Can any of the proposed characters be considered a presentation form of an existing
   character or character sequence? *NO*
   If YES, is a rationale for its inclusion provided?
   If YES, reference:

9. Can any of the proposed characters be encoded using a composed character sequence of either
   existing characters or other proposed characters? *NO*
   If YES, is a rationale for its inclusion provided?
   If YES, reference:

10. Can any of the proposed character(s) be considered to be similar (in appearance or function)
    to, or could be confused with, an existing character? *NO*
    If YES, is a rationale for its inclusion provided?
    If YES, reference:

11. Does the proposal include use of combining characters and/or use of composite sequences? *YES*
    If YES, is a rationale for such use provided? *YES*
    If YES, reference:
    Is a list of composite sequences and their corresponding glyph images (graphic symbols) provided?
    If YES, reference:

12. Does the proposal contain characters with any special properties such as
    control function or similar semantics? *NO*
    If YES, describe in detail (include attachment if necessary)

13. Does the proposal contain any Ideographic compatibility characters? *NO*
    If YES, are the equivalent corresponding unified ideographic characters identified?
    If YES, reference: