Unicode Technical Note No. 42: Tangut Character Additions and Glyph Corrections

Andrew West and Viacheslav Zaytsev

Version 2

2019-12-21

Contents

1. I	Introduction	2
2. <i>A</i>	Additional Tangut Ideographs	11
2.1	Tangut Ideographs 187ED, 187EE, and 187EF	11
2.2	2 Tangut Ideograph 187F0	16
2.3	3 Tangut Ideograph 187F1	18
2.4	4 Tangut Ideographs 187F2 and 187F3	24
2.5	5 Tangut Ideographs 187F4, 187F5, 187F6, and 187F7	35
3. 7	Tangut Glyph Corrections	
3.1	1 Tangut Component 134 (23 Tangut ideographs)	44
3.2	2 Tangut Component 350 (4 Tangut ideographs)	55
3.3		
3.4		
3.5		
3.6		
3.7		
3.8	0 0 1	
3.9		
3.1		
3.1	8 8 1 1 1 8 1 F	
3.1	. 0 0 . F	
3.1	- 0	
3.1	0 0 1	
3.1	0 0 1	
3.1	0 0 1	
3.1	9	
3.1	. O O . P	
3.1		
3.2	0 0 1	
3.2	0 0 1	
3.2	0 0 1	
3.2	0 0 1	
3.2	0 0 1	
3.2	0 0 1	
3.2	0 0 1	
3.2	0 0 1	
3.2	0 0 1	
3.2	29 Tangut Ideograph 18380	107

3.30	Tangut Ideograph 18438	108
	Tangut Ideograph 18488	
	Tangut Ideograph 18493	
	Tangut Ideograph 187B0	
	nical Documents	
	ography	
	ut Sources	
	owledgements	
	on History	

1. Introduction

Since the finalization of the encoding of the set of 6,125 Tangut ideographs and 755 Tangut components in ISO/IEC 10646:2014 Amendment 2 and Unicode version 9.0 in 2016 a number of additional Tangut ideographs and components have been identified and proposed for encoding. This technical note documents these additional Tangut ideographs (see Table 1) and Tangut components (see Table 2). This technical note also documents glyph corrections for a number of Tangut ideographs and components in the original Unicode 9.0 code charts (see Table 3 and Table 4).

Note that the character additions and glyph changes proposed in WG2 N4957 and WG2 N5064 are not discussed in detail in this technical note, but are only summarised in the tables below. In these tables, the column labelled "U.V." or "Unicode Version" gives the version of the Unicode Standard in which the character was encoded or the glyph change was implemented.

Table 1: Summary of Additional Tangut Characters

No.	Code Point	Glyph	IDS	Radical/ Strokes	' Source		See also	U.V.
001	U+187ED	鴷	□ 剂 □ 冊 刻	195.14	Li Fanwen 2012b #6075	2.1	N4724	11.0
002	U+187EE	褦	Ⅲ 計 刹 炙	308.14	Li Fanwen 2012b #6076	2.1	N4724	11.0
003	U+187EF	鵥	□□ 背 爻	415.13	Li Fanwen 2012b #6077	2.1	N4724	11.0
004	U+187F0	諦	□青□↔□	308.17	Vajrayana. IOM Tang. 293	2.2	N4724	11.0
005	U+187F1	背折	二片背	415.11	Disunification from U+187F1	2.3	N4724	11.0

No.	Code Point	Glyph	IDS	Radical/ Strokes	Source	Section	See also	U.V.
006	U+187F2	揺	□井□↔□↑↑	42.15	Hevajra's Abhisamaya col. 223	2.4	N4851 N4896	12.0
007	U+187F3	辞	⊟→Ⅲ 片片	185.12	Hevajra's Abhisamaya col. 144	2.4	N4851 N4896	12.0
008	U+187F4	瀦	□广□ 多肯	73.11	Three Generations. IOM Tang. 27 folio 2a col. 5	2.5	N4851 N4896	12.0
009	U+187F5	鱦	□ 食 計 팉	383.18	Three Generations. IOM Tang. 27 folio 22a col. 3	2.5	N4851 N4896	12.0
010	U+187F6	元	□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□	79.14	Three Generations. IOM Tang. 27 folio 29b col. 3	2.5	N4851 N4896	12.0
011	U+187F7	翿	□靋梋	79.19	Three Generations. IOM Tang. 27 folios 36a through 38a	2.5	N4851 N4896	12.0
N/A	U+18D00	厖	□ □ □ □ □ □ □ □ □ □	17.7	Disunification from		N5031 N5064	13.0
N/A	U+18D01	珳	皿叉芒	87.9	Disunification from U+175F6	N/A	N5031 N5064	13.0
N/A	U+18D02	緂	□	262.10	Disunification from U+17F0D	N/A	N5031 N5064	13.0
N/A	U+18D03	颒	皿 灸 反	267.9	Disunification from U+17F8A	N/A	N5031 N5064	13.0
N/A	U+18D04	狘	□ \$ K	267.11	Disunification from U+17FA5	N/A	N5031 N5064	13.0
N/A	U+18D05	絜	皿麦麦	316.10	Disunification from U+18139	N/A	N5031 N5064	13.0
N/A	U+18D06	莈	□ 爻 爻	316.11	Disunification from U+18147	N/A	N5031 N5064	13.0
N/A	U+18D07	颩	□ 页 灸	485.12	Disunification from U+184F1	N/A	N5031 N5064	13.0
N/A	U+18D08	榖	□帯灸	674.14	Disunification from U+18736	N/A	N5031 N5064	13.0

Table 2: Summary of Additional Tangut Components

Code Point	Glyph	Component	Strokes	Source	Section	See also	U.V.
U+18AF3	¥7	756	2	Homonyms folios 4–5	N/A	N4957	13.0
U+18AF4		757	8	Homonyms folios 4–5	N/A	N4957	13.0
U+18AF5	祀	758	7	Homonyms folios 4–5	N/A	N4957	13.0
U+18AF6	記	759	8	Homonyms folios 4–5	N/A	N4957	13.0
U+18AF7	刻	760	6	Homonyms folios 4–5	N/A	N4957	13.0
U+18AF8	炙	761	7 Homonyms folios 4–5 N/		N/A	N4957	13.0
U+18AF9	芸	762	10	Homonyms folios 4–5	N/A	N4957	13.0
U+18AFA	×	763	2	Disunification from U+8843	N/A	N5031 N5064	13.0
U+18AFB	Ž	764	2	Disunification from U+18856	N/A	N5031 N5064	13.0
U+18AFC	纟	765	3	Disunification from U+1888C	N/A	N5031 N5064	13.0
U+18AFD	×	766	3	Disunification from U+1890A N/A		N5031 N5064	13.0
U+18AFE	支	767	4	Disunification from U+18915	N/A	N5031 N5064	13.0
U+18AFF	灵义	768	4	Disunification from U+1893B	N/A	N5031 N5064	13.0

Table 3: Summary of Tangut Ideograph Glyph Corrections

Code Point	Original Glyph	New Glyph	Original Radical/ Strokes	New Radical/ Strokes	Section	See also	Unicode Version
U+17013	清	清	1.9	1.10	3.8	N4723	10.0
U+17097	矮	婑	2.12	2.12	3.2	N5126	
U+1709D	遂	义	2.12	2.13	3.9	N5126	
U+17159	腅	膨	17.10	17.10	3.1	N4850 N4896	11.0
U+171CA	有	有	26.7	26.7	3.10	N5126	
U+172BA	滑	缙	36.9	36.9	3.4	N5126	
U+172EA	虢	쮔	36.11	36.11	3.4	N5126	
U+17326	컜	왰	36.15	36.15	3.4	N5126	
U+1732C	搅	媛	36.17	36.18	3.11	N5126	
U+1732E	ك	経	37.10	37.10	3.12	N4850 N4896	11.0
U+17336	雅	雅	41.8	41.8	3.1	N4850 N4896	11.0
U+17378	厑	厑	47.10	47.9	3.13	N4850 N4896	11.0
U+173C6	魣	魣	65.12	65.13	3.14	N5126	
U+173D5	姚	姚	68.10	147.11	3.15	N5126	

Code Point	Original Glyph	New Glyph	Original Radical/ Strokes	New Radical/ Strokes	Section	See also	Unicode Version
U+173E1	缑	賴	68.11	68.11	3.1	N4850 N4896	11.0
U+173EB	緱	頗	68.12	68.12	3.1	N4850 N4896	11.0
U+173EC	緋	婔	68.12	68.12	3.1	N4850 N4896	11.0
U+173F4	嫶	樵	68.13	68.13	3.1	N4850 N4896	11.0
U+173FB	纀	皹	68.15	68.15	3.1	N4850 N4896	11.0
U+173FF	纀	牂	68.16	68.16	3.1	N4850 N4896	11.0
U+17403	繉	煽	68.20	68.20	3.1	N4850 N4896	11.0
U+174DF	颏	햷	75.14	75.14	3.16	N5126	
U+174F7		巍	75.14	75.14	3.4	N5126	
U+17538	泛	麓	75.19	75.19	3.17	N5126	
U+1753F	1批	能	76.8	76.8	3.18	N5126	
U+17540	拼	捐	76.8	76.8	3.18	N5126	
U+1756E	靋	元	79.14	79.14	3.19	N4850 N4896	11.0
U+176E4	誮	誮	106.13	106.13	3.13	N4850 N4896	11.0
U+17712	辦	辦	106.13	106.14	3.20	N4723	10.0

Code Point	Original Glyph	New Glyph	Original Radical/ Strokes	New Radical/ Strokes	Section	See also	Unicode Version
U+177B7	雜	毲	106.18	106.18	3.4	N5126	
U+177DA	類	翡	107.11	107.10	3.6	N5126	
U+1788A	能	龍	134.9	134.9	3.1	N4850 N4896	11.0
U+1788B	髲	棧	134.11	134.11	3.1	N4850 N4896	11.0
U+1788C	龓	龓	134.13	134.13	3.1	N4850 N4896	11.0
U+1788D	搖	摊	134.14	134.14	3.1	N4850 N4896	11.0
U+1795D	頦	絠	141.11	141.11	3.10	N5126	
U+17A87	ে類	類	141.15	141.14	3.5	N5126	
U+17B16	稍	粮	145.12	145.12	3.1	N4850 N4896	11.0
U+17B17	犅	楩	145.15	145.15	3.1	N4850 N4896	11.0
U+17B5B	献	献	155.14	155.14	3.1	N4850 N4896	11.0
U+17C20	謂	謂	177.11	177.11	3.4	N5126	
U+17CFC	豵	豵	194.13	194.12	3.21	N5126	
U+17D15	紙	紙	200.9	200.9	3.22	N5126	
U+17D36	形袋	蝬	206.12	206.13	3.23	N4850 N4896	11.0

Code Point	Original Glyph	New Glyph	Original Radical/ Strokes	New Radical/ Strokes	Section	See also	Unicode Version
U+17D9F	盤	盤	216.12	216.12	3.24	N4723	10.0
U+17E7D	辯	辯	245.12	245.12	3.4	N5126	
U+17F0D	緂	緂	262.10	262.10	N/A	N5031 N5064	13.0
U+17F8A	须	颒	267.9	267.9	N/A	N5031 N5064	13.0
U+17F8B	毵	鈼	267.9	267.9	3.1	N4850 N4896	11.0
U+17FA5	緂	緂	267.11	267.11	N/A	N5031 N5064	13.0
U+17FBB	粧	粧	267.13	267.13	3.1	N4850 N4896	11.0
U+180D6	毲	毲	412.14	412.14	N/A	N5031 N5064	13.0
U+18111	靗	鬷	308.15	308.16	3.17	N5126	
U+1814A	氚	氚	316.12	316.12	3.25	N5126	
U+181B2	祇	飆	328.11	328.11	3.26	N4850 N4896	11.0
U+181C0	좲	줾	328.13	328.13	3.27	N4850 N4896	11.0
U+1820D	菲	菲	348.10	348.10	3.1	N4850 N4896	11.0
U+18215	氮	觌	350.12	350.12	3.2	N5126	
U+18216	荻	亥	350.12	350.12	3.2	N5126	

Code Point	Original Glyph	New Glyph	Original Radical/ Strokes	New Radical/ Strokes	Section	See also	Unicode Version
U+18217	鶖	靴	350.12	350.12	3.2	N5126	
U+1823D	骸	敝	369.14	369.14	3.1	N4850 N4896	11.0
U+18259	願	願	376.13	376.13	3.10	N5126	
U+182E6	郯	郯	412.10	301.9	3.28	N5126	
U+18380	ᇑ	黼	431.13	431.14	3.29	N5126	
U+183B3	詳	鈼	436.10	436.10	3.1	N4850 N4896	11.0
U+1841D	羧	敍	436.14	436.14	3.1	N4850 N4896	11.0
U+18438	對	襚	436.16	436.15	3.30	N5126	
U+18488	膏	璫	458.13	325.13	3.31	N4850 N4896	11.0
U+18493	毲	巍	458.15	458.15	3.32	N5126	
U+184F1	赕	颩	485.12	485.12	N/A	N5031 N5064	13.0
U+185F2	毵	毵	553.12	553.12	3.3	N5126	
U+18620	到	鴷	565.15	565.15	3.4	N5126	
U+1865D	豼	鶖	568.16	568.16	3.4	N5126	
U+18702	戜	戜	651.11	651.10	3.5	N5126	

Code Point	Original Glyph	New Glyph	Original Radical/ Strokes	New Radical/ Strokes	Section	See also	Unicode Version
U+18736	款	摐	674.14	674.14	N/A	N5031 N5064	13.0
U+18761	新多	新 多	688.11	688.10	3.6	N5126	
U+18762	新芝	款	688.15	688.14	3.6	N5126	
U+187B0	菱俊	数	719.16	719.15	3.33	N5126	
U+187C6	影	新	729.15	729.15	3.1	N4850 N4896	11.0
U+187D0	女子 サフ	翌	736.12	736.11	3.7	N5126	
U+187D1	送	劉	736.17	736.16	3.7	N5126	
U+187D2	发 登 世 凡	発	736.21	736.20	3.7	N5126	

Table 4: Summary of Tangut Component Glyph Corrections

Code Point	Component	Original Glyph	New Glyph	Original Strokes	New Strokes	Section	See also	Unicode Version
U+18885	134	丰	丰	4	4	3.1	N4850 N4896	11.0
U+18A28	553	三亥	灵	7	7	3.3	N5126	
U+18A8A	651	亞文	云爻	8	7	3.5	N5126	
U+18AAF	688	新		9	8	3.6	N5126	
U+18ADF	736	发 世	芝金	11	10	3.7	N5126	

2. Additional Tangut Ideographs

2.1 Tangut Ideographs 187ED, 187EE, and 187EF

Prof. Li Fanwen has identified three previously unknown Tangut characters in the Tangut translation of the *Classic of Filial Piety* (Chinese *Xiào Jīng 孝經*). These characters are found in the cursive manuscript version in the collection of the Institute of Oriental Manuscripts [IOM] of the Russian Academy of Sciences (Saint Petersburg, Russia) [Tang. 1, Inv. No. 1, old Inv. No. 2627], as shown in Fig. 3 & Fig. 4 and Fig. 5 & Fig. 6.

The regular forms of these three characters were published by Li Fanwen in 2012a, in a paper dedicated to Prof. Kychanov under the heading "Three new Tangut characters" (see Fig. 1).

(牙音 na 音雅) 1192 80 ода (кит. я 雅) Кит. 《大雅》云: 『無念爾祖, 聿脩厥德。』 (《孝經》開宗明義章第一) 6075 1224 (正齒音 zia 音 82 社) 鴷 6076 Кит. 富貴不離其身,然後能保其社稷,而和其民人 в соч. алтарь (кит. шэцзи 社稷) (《孝經》諸侯章 第三) 9824 (齒頭音 tsjwak 22 音稷) 襥 Kur. 富貴不離其身,然後能保其社稷,而和其民人 в соч. алтарь (кит. 6077 *шэизи* 社稷) (《孝經》諸侯章 第三)

Fig. 1: Li Fanwen 2012a p. 212

Li Fanwen subsequently included these three characters as nos. 6075, 6076 and 6077 in the 2012b abridged edition of his 2008 *Tangut-Chinese Dictionary* (see Fig. 2). Nos. 6076 and 6077 are written slightly differently in these two publications, but based on the cursive forms in the original manuscript, and their presumed character construction, it would seem that the character form for no. 6077 in the 2012 dictionary is correct, but the character form for no. 6076 in the 2012 dictionary is slightly wrong, and should be as given in the 2012 paper, with $\frac{1}{3}$ rather than $\frac{1}{3}$ in the middle.

No. 6075 \overline{a} is used to transcribe Chinese $y\check{a}$ \overline{m} in the title of the $D\grave{a}$ $Y\check{a}$ 大雅 section of the Book of Songs.

补

(喉音 ya 音雅) 1192

80

(雅)也。

6074

影腦貓轆舞將辯疑亂霧構發錫 《大雅》云:无念尔祖, 聿脩厥德(《老經》开宗 朋义章 第一)

1274 (正齿音 žia 音社)

(社) 也。

6076

横荒新薮胀乾斑煅斑 襁 暖桶懶板 **够搬毁缓燃散**

富贵不离其身,然后能保其社稷,而和 其人民(《孝经》诸侯章第三)

1824

(齿头音 tsiwak 音稷)

(稷) 也。

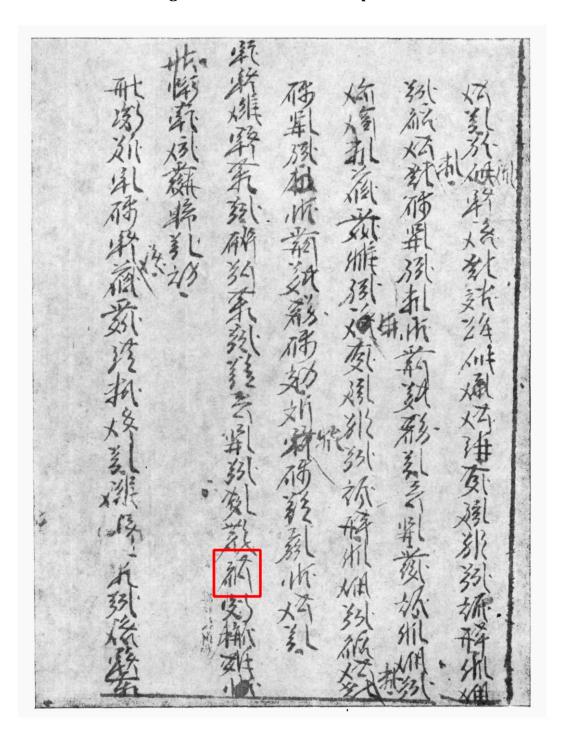
横截 黄 薮 艇 蘣 斑 艇 斑 黻 衫 潢 彌 辙 敍 **够搬戮缀皴骸**

富贵不离其身,然后能保其社稷,而和 其人民(《孝经》诸侯章第三)

"6074" is a typo for "6075"

Note. The quality of the scanned image shown here corresponds to the quality of the original. The whole of page 722 with these additions (补遗) and a few characters before it (it is the last page of dictionary) was included as an image inside the book by the publisher. It means that the text layout of this page was changed to a scanned/edited picture during the final stage of the publishing process (we believe that this was done in order to add these three additional characters at the request of the author) and that is the reason why the printing quality of this page only is so bad (it contains visible halftone screen pattern and can only be read with difficulty).

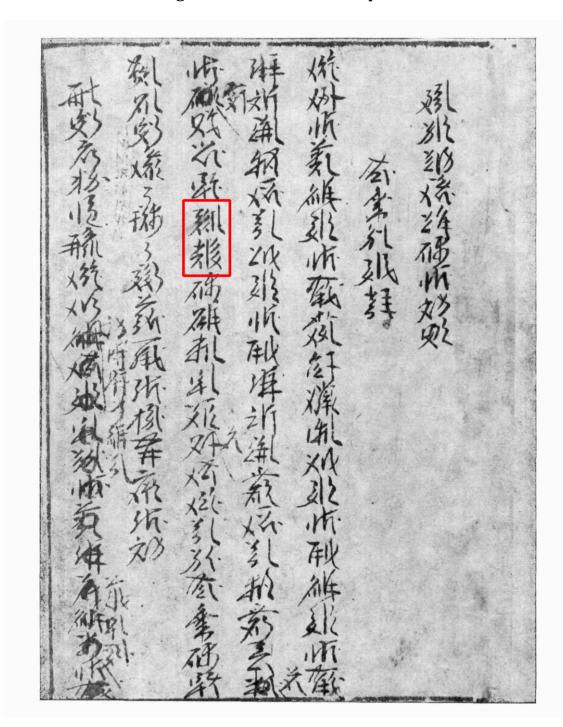
Fig. 3: Kolokolov et al. 1966 p. 145



145

灁

Fig. 4: Kolokolov et al. 1966 p. 150



150

黻 and 黻

Fig. 5: ECHW 11 p. 8: photo 45-7

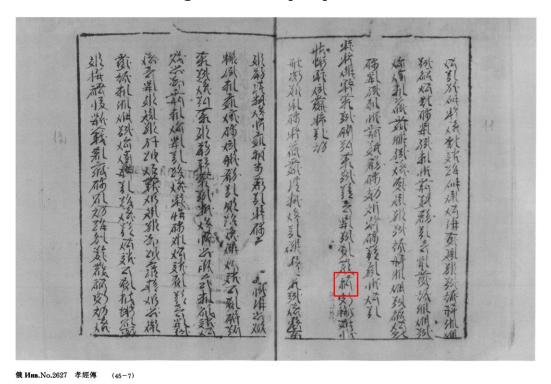
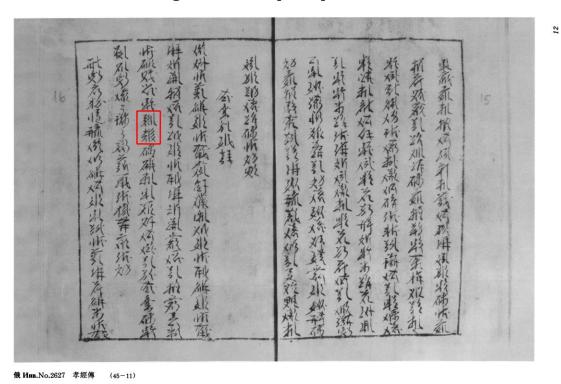


Fig. 6: ECHW 11 p. 12: photo 45-11

灁



黻 and 黻

2.2 Tangut Ideograph 187F0

Prof. Sun Bojun has drawn our attention to a recently-identified Tangut character in a Tangut Buddhist manuscript in the collection of the Institute of Oriental Manuscripts of the Russian Academy of Sciences (Saint Petersburg, Russia) [Tang. 293, Inv. No. 1149, old Inv. No. 4900] (Tangut title 級耐藏席發訊; translated into Chinese by modern scholars as Fānyán Jīngāngwáng chénggēn 番言金剛王乘根; see p. 594 of Prof. Kychanov's 1999 catalogue, No. 697).

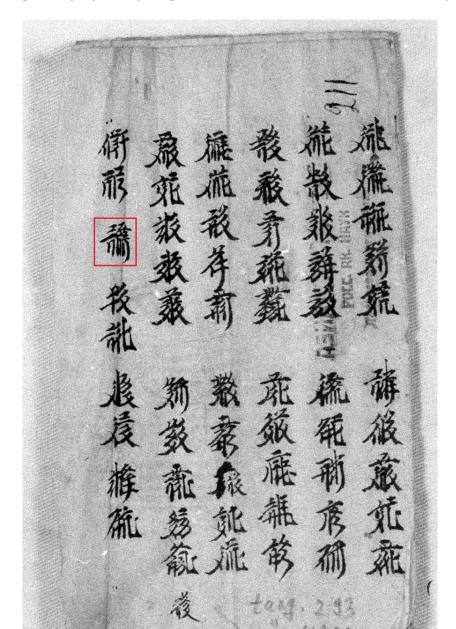


Fig. 7: Vajrayana (Tang. 293, Inv. No. 1149, old Inv. No. 4900)

뺾

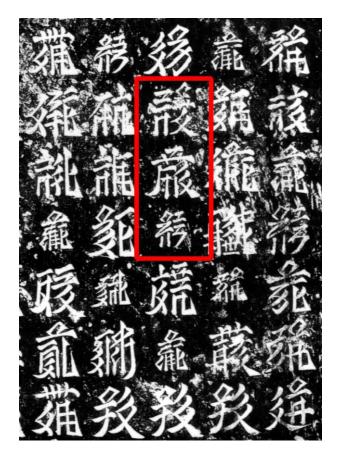
This character occurs at the end of the last page as part of the Tangut transcription of the Sanskrit title of this text, the *Vajrayānamūlāpatti* ('Root downfalls of Vajrayana') by Aśvaghoṣa (see Fig. 7):

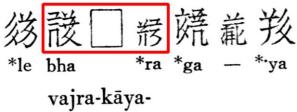
假弱 講 後敝 狠缓 精前

Sanskrit language: *Vajrayānamūlāpatti*

The character \vec{n} stands for the Sanskrit word vajra, and is constructed from the left side of \vec{n} (ba), the top and left of \vec{n} (dzji), and the left side of \vec{n} (rjar), the three parts together transcribing vajra. In the mid 14th-century Tangut inscription on the east wall of the Cloud Platform at Juyong Pass in Beijing, the Sanskrit word vajra is transcribed once using these three characters \vec{n} (see Fig. 8), and so \vec{n} in the manuscript can be regarded as a portmanteau abbreviation for these three characters. Cf. with newly identified character \vec{n} used for the same purpose (abbreviation for vajra) and discussed in section 2.4 of this document.

Fig. 8: Juyong Pass East Wall col. 10: rubbing and Nishida's transcription (Murata 1957 rub. IV & p. 182)



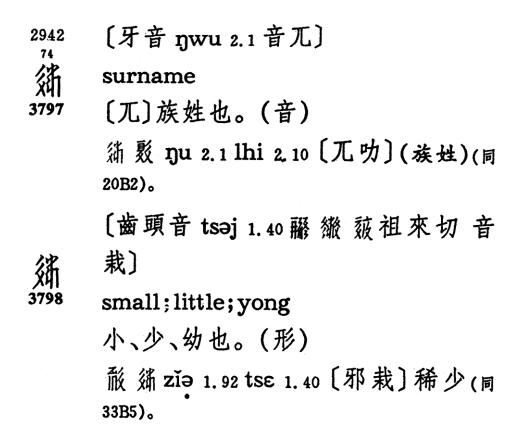


證證影=vajra

2.3 Tangut Ideograph 187F1

In the past some modern scholars considered the component 3 to be a cursive variant of 3, and characters with the 4 component were sometimes normalized to use the 4 component. For example, in Li Fanwen's 1997 *Tangut-Chinese Dictionary* the characters U+178EB 3 and U+178C5 3 are both written identically, using the 4 component (see Fig. 9).

Fig. 9: Li Fanwen 1997 p. 705



However, in the revised 2008 edition of Li Fanwen's Tangut-Chinese Dictionary the two characters U+178EB and U+178C5 are clearly distinguished with different right hand components (see Fig. 10).

Fig. 10: Li Fanwen 2008 p. 613

2942 [牙音 ŋwu 2.1 音兀]
a surname
[兀]族姓也。(音)

貓髮 ŋu 2.1 lhi 2.10[兀叻](族姓)(同 20B2)。

貓科舖[兀]:族姓(同丁21A72背注)。

【齒頭音 tsəj 1.40 翩纖茲祖來切音栽]
small;little;young
小、少、幼也。(形)

祕緒 zǐə 1.92 tsɛ 1.40[邪栽]微少(同 33B5)。

It seems that the character U+18307 $\mbox{\dag}\mbox{\dag}\mbox{l}$ unifies two different characters with the $\mbox{\dag}\mbox{l}$ and $\mbox{\dag}\mbox{l}\mbo$

- 精 niọ [Kychanov nọn] (Initial class III, rising tone, rime 63): 'an ear of grain.'
- $\sharp ku$ [Kychanov kon] (Initial class V, rising tone, rime 4) : either a transcription of the Chinese surname Gu $\check{\mathbb{H}}$, or 'millet sprouts'.

These are both rare characters with few attestations, and in some modern dictionaries the two characters have been treated as a single character. This is the case in both the 1997 and 2008 editions of Li Fanwen's *Tangut-Chinese Dictionary*, where the two characters are both included under entry No. 5990 (see Fig. 11 and Fig. 12). As a result of this mistaken unification, the two characters have been encoded as a single character (U+187F1).

Fig. 11: Li Fanwen 1997 p. 1085

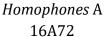
Fig. 12: Li Fanwen 2008 p. 943

Although the 2008 edition of Li Fanwen's dictionary gives the main reading as ku, a note to the entry gives the alternative reading nio, and so it is clear that this entry in Li Fanwen's dictionary covers both meanings and readings of the character.

In original Tangut texts the two meanings and readings of these characters are distinguished by their glyph forms. In the Homophones (T'ongȳn 同音), where the character is read as nio 'ear of grain', the right hand component is clearly U+188BF \ddagger (4 strokes) in all editions (see Fig. 13).

Fig. 13: L5990 [nio] in editions of Homophones







Homophones B2 17A47



Homophones B5 17A47

However, in the manuscript *Combined Edition of Homophones and Sea of Writing (Tóngyīn Wénhǎi Bǎoyùn hébiān* 同音文海寶韻合編), where the character is read as *ku*, the right hand component is U+18927 \$ (5 strokes) (see Fig. 14).

Fig. 14: L5990 [ku] in Homophones and Sea of Writing



13.111

Although the right hand component is not entirely clear in this manuscript text, the character composition given beneath the head character states that the character is constructed from the left side of 'rice' and the bottom part of 'sprout' 記載新祉. This indicates that the right hand of this character (ku) is U+18927 \sharp (bottom component of \sharp), not U+188BF \sharp as shown in *Homophones* for the character read nio. This same glyph form (\sharp) also occurs in one of the *Odes*, where from context it would seem to represent the ku reading ("millet, barley and wheat") (see Fig. 15).

Fig. 15: L5990 [ku] in Odes No. 5 folio 6a



Odes 5:06A7

In light of this evidence, a new character with the $\dagger \dagger$ glyph shape should be encoded. The existing U+18307 $\dagger \dagger$ should be unchanged in glyph shape and source reference.

2.4 Tangut Ideographs 187F2 and 187F3

Hevajra's Abhisamaya (Fig. 16) is a Yuan dynasty Tangut manuscript scroll of unknown provenance. The manuscript is 27×312 cm in dimension, and consists of 236 columns of 23-26 characters per column.

Fig. 16: Hevajra's Abhisamaya. Lot 2368 of the June 2017 Beijing Auction



Note: We have added column numbers for convenience.

This manuscript, which is now in the ownership of an anonymous private collector, was sold at auction in Beijing on 4 June 2017 for a price of RMB 2,300,000 (approximately USD 338,000), about three times the estimate of RMB 750,000–850,000 (approximately USD 110,000–125,000).¹

This text has been studied by Li Ruoyu 李若愚 in an academic article (September 2016) and in his PhD dissertation (April 2017). Li has identified two new characters (權 and 裔) used in this text as an abbreviation for the Sanskrit word *vajra*.

According to Li Ruoyu (see Fig. 25), the character \vec{R} is an idiosyncratic creation for the word vajra, composed from the top and left of \vec{R} (ndzi = -j-), and the left side of \vec{R} (ria = -ra). However, without the left side component \ddagger or \vec{R} representing the va- of vajra this character construction is incomplete. Although it is possible that this is a deliberate

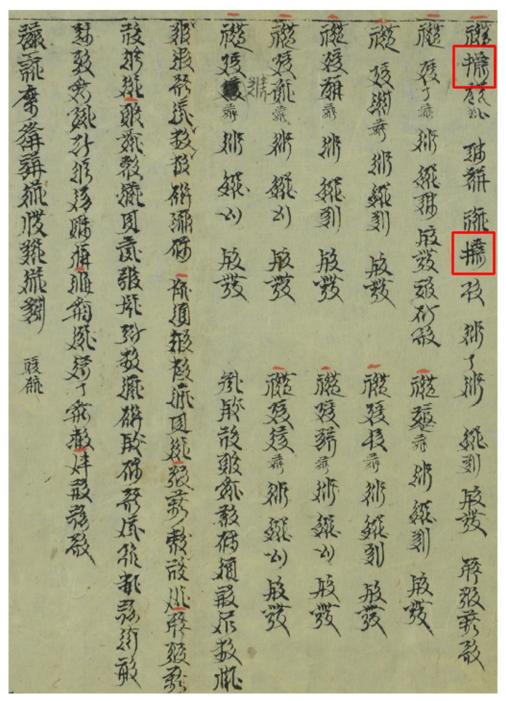
¹ Lot 2368 of the Spring 2017 Art Auction held by the Beijing Taihejiacheng Auction Company. See http://www.thjc.cn/web/auctionShow/viewAuctionItem?auctionItemId=86972&fromPage for details.

² Tibetan text published in Drogön Chögyal Phagpa 2007 pp. 413-451. See Fig. 26 and Fig. 27.

alternative form for vajra, as it only occurs once it is more likely that \vec{R} is a scribal error for \vec{R} . Even though \vec{R} may be an error, it should be encoded as it is required by scholars studying this important Buddhist text.

Fig. 17: Hevajra's Abhisamaya. Cols. 223-232 of the original manuscript showing 捺

232 231 230 229 228 227 226 225 224 223

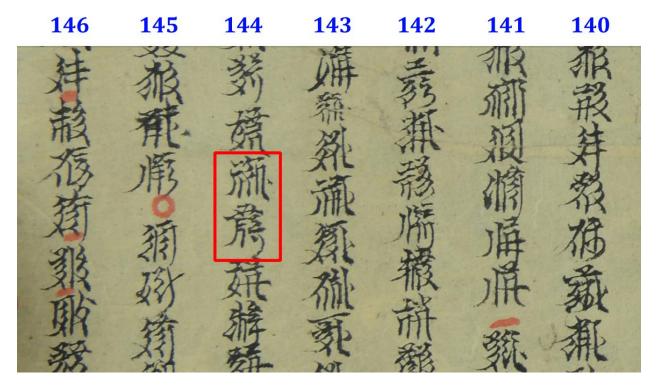


Column 223: om **vajra**kartari he**vajrā**ya hūm hūm phaṭ svāhā

瀡<u>艜</u>櫈覹 臹荒 旐<u>艜</u>裧 獬 鄉 艞刻 枝 叢

Fig. 18: *Hevajra's Abhisamaya*. Close-up of Fig. 17

Fig. 19: Hevajra's Abhisamaya. Cols. 140-146 of the original manuscript showing 旅辞



Column 144: om bhagavām mahākāru[ni]ka hevajra saparivāra ...

搅找旗炙頌鵲馍縈[菀]斌鳽戏撬雜靴炙粉...

Note that all the manuscript examples write the component \dagger in \dagger and \dagger as \dagger , with an extra horizontal stroke, but this is an obvious scribal error which we do not follow.

Fig. 20: Li Ruoyu 2016 p. 208: *Hevajra's Abhisamaya*. Transcription of Cols. 222–228

卷尾部分 西夏文原文:

校注:

- (3)根本心咒(解 級 裔), 西夏字面义为"近心真", 对应藏文 nye ba'i snying po, 在佛经中常译作"根本心咒,本尊心咒"。

Fig. 22: Li Ruoyu 2017 p. 96: Hevajra's Abhisamaya.

Transcription of Tangut text (Col. 223) with Literal translation into Chinese, Transcription of Tibetan text, Free translation into Chinese, and Notes

揣 燒飄掰 雜 颃 揣 後 鄉 鄉 鄉 鄉 敝刻 枝带" 释衱ذذ。

"om vajra karta ri he vajrā ya hūm hūm hūm phat svāhā" 近心真也。

om vajra karta ri he vajra ya hūm hūm hūm phata svāhā/ nye ba'i snying po'o

"oṃ vajra^[2] karta ri he vajrā ya hūṃ hūṃ hūṃ phaṭ svāhā",根本心咒^[3]也。

注释:

- [1] 心咒, 西夏文作"韬态", 字面意思是"心真", 对应藏文 snying po (精华; 藏; 要 旨),在佛书中常译作"心咒"。《甘露泉》作"心咒"。
- [2] vajra, 西夏文作"精", 仔细分析字形我们发现该俗体字是西夏文"找裔影"(vajra) 的省写,即是"找"字的左半部加上"意"字的上半部和下半部的左边,另外加上"影"字 的左半边构成的俗体字,用来对音 vaira 一词。

Fig. 23: Li Ruoyu 2017 p. 73: Hevajra's Abhisamaya. Transcription of Tangut text (Col. 144) with Literal translation into Chinese

pandha bam" 谓咒以自于入。 次复 ghasmarī 鸣钟持湚配, 從祇龍福福紙繃幅, 從祇義雍, ga vām ma hā kā ru ka he vajra sa

pa ri vā ra ghasma va śaṃ ku ru ho" 谓咒以智佛自入喜以居思。

Fig. 24: Li Ruoyu 2017 p. 74: *Hevajra's Abhisamaya*. Transcription of Tibetan text, and Free translation into Chinese (for Col. 144)

baṃ zhes brjod pas rang la thim/ de nas/ sma rī dril bu 'dzin pa mang po spros/ dril bu'i sgra thams cad la khyab par bsam zhing/ dril bu'i phyag rgya byas la/ oṃ bha ga vāṃ ma hā kā ru ṇi ka he vajra sa pa ri vā ra ghasma rī va śaṃ ku ru hoḥ zhes brjod pas ye zhes pa rnams rang la mnyes bzhin du bzhugs par bsam mo//

思自心中射出^[1]多个 gaurī 母,皆持铁钩^[2],以钩触诸智尊^[3]心,挽于近旁^[4],身结铁钩印,语^[5] "ye hye hi bha ga vān ma hā kā ru ṇi ka he vajra sa pa ri vā ra",于后二处^[6]亦合,诵咒"gau rī ā karṣa ya ja",使诸智尊至于己处。次思射出多个红色 caurī 母,皆持羂索^[7],以羂索触诸智尊颈,挽于近旁,以诵咒"cau rī pra be śa ya hūṃ",至于胜妙殿。次思射出多个黄色 vetālī 母,皆持铁链^[8],触诸智尊之足,入于己身,结铁链印,以诵咒"ve tā lī pandha baṃ"入于己身。复次思射出多个 ghasmarī 母,皆持铃^[9],铃声遍及一切,结铃印,诵咒"oṃ bha ga vāṃ ma hā kā ru ka he vajra^[10] sa pa ri vā ra ghasma va śaṃ ku ru ho",使智尊欢居于己。

注释:

Fig. 25: Li Ruoyu 2017 p. 75 Note 10 for p. 74 (see Fig. 24 above)

[10] vajra, 西夏文作"^喬"。该字不见于西夏字书, 系译经人临时自造的合体俗字, 实为"裔帮"(jra)二字的省写, 以"裔"字的上半部和下半部的左边, 另外加上"帮"字的左半边构成。

Fig. 26: Drogön Chögyal Phagpa 2007 p. 432: Tibetan text (for Col. 223)

Sanskrit transliteration for Tangut (Col. 223): Tibetan:

om vajrakartari hevajrāya hūm hūm hūm phaţ svāhā

oM **badz+ra** karta ri he **badz+rA** ya hU~M hU~M hU~M phaT swA hA/ ଝାଁ ସର୍ଗ୍ର'ମ୍ବ୍ର'ସ୍ଟ୍ର୍ୟୁଟ୍ସ୍ଟ୍ର'ଞ୍ଜୁ'ଞ୍ଜୁ'ଞ୍ଜୁ'ସ୍

Fig. 27: Drogön Chögyal Phagpa 2007 p. 425: Tibetan text (for Col. 144)

पर्ट्रावश्यात्रेन्त्राम् नेश्वात् स्राक्षात्रास्त्राम् विष्णान्त्राम् विष्णान्त्रम् विष्णान्तिः विष्णान्त

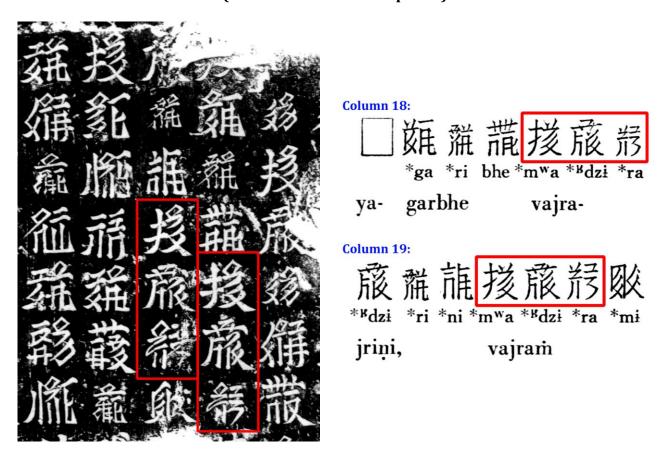
Sanskrit transliteration for Tangut (Col. 144): Tibetan:

oṃ bhagavāṃ mahākāru[ṇi]ka **hevajra** saparivāra ...

oM b+ha ga wAM* ma hA kA ru Ni ka **he badz+ra** sa pa ri wA ra ... ፠ଁ হ্ল'আ'শ্ব্ৰ'ঝ'ন্ত'শূ'ন্ত'লি'নি'ড়ি'বেছ্ৰ'ম'

^{*} Zha lu Monastery edition: wAn শ্বর্ instead of wAM শ্ব্রু, i.e. b+ha ga wAn হ্লুগোশ্বর = Sanskrit bhagavān

Fig. 28: Juyong Pass East Wall cols. 17–21: rubbing and Nishida's transcription (Murata 1957 rub. IV & p. 183)



找菔脂=vajra

2.5 Tangut Ideographs 187F4, 187F5, 187F6, and 187F7

This is an important text for the study of Buddhism under the Western Xia, and has been studied by Prof. Arakawa Shintarō (2001), Prof. Evgeny Ivanovich Kychanov (2004), Prof. Sun Bojun (2011), and other scholars. Sun Bojun 孫伯君 recently pointed out to us that there are four unencoded Tangut characters in the text, which she requests should be encoded. These four characters all have a unique graphic construction, and cannot convincingly be taken to be corrupt or mistaken forms for any existing encoded Tangut character.

2.5.1 Tangut Ideograph 187F4

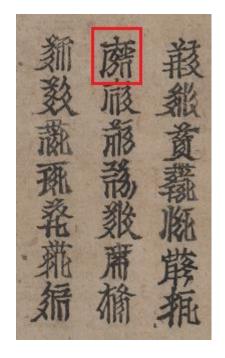


Fig. 29: Three Generations (Tang. 27) folio 2a cols. 4-6: 謗

The character bottom middle and right components occur as the bottom part of pho \overline{s} "conceited". The character occurs before tsio \overline{n} "to give as a present". It is possible that \overline{s} is a mistake for tsio \overline{n} "presently, in a moment".

2.5.2 Tangut Ideograph 187F5

The character 織 occurs once, on folio 22a col. 3 (see Fig. 30). We do not know of any published study that discusses it.





The character has the same left and right components as po f "name of a ghost". The middle and right also occur as the character tsha f "ghost". As f occurs immediately after f "if "ghost", it would seem to be a character meaning some sort of ghost.

2.5.3 Tangut Ideograph 187F6

The character $\frac{1}{3}$ occurs once, on folio 29b col. 3 (see Fig. 31). We do not know of any published study that discusses it.

The character is similar in construction to character $t\acute{s}h\acute{j}e$ \vec{a} "to pull, to tug", but with the component $\vec{\beta}$ in place of \vec{J} . The bottom part also occurs as the character $n\dot{a}i$ \vec{a} "lubrication". As \vec{a} occurs immediately after \vec{J} in \vec{J} "self", it is possible that the character is constructed from the top and bottom right of $t\acute{s}h\acute{j}e$ \vec{a} "to pull, to tug", and the bottom left of \vec{J} in \vec{J} "self". Cf. the phrase \vec{J} \vec{J} "pulling at oneself" on folio 36A quoted in section 2.5.4 below. It is even possible that \vec{J} is a mistake for $t\acute{s}h\acute{j}e$ \vec{J} "to pull, to tug".

Fig. 31: Three Generations (Tang. 27) folio 29b cols. 2-4: 霾



2.5.4 Tangut Ideograph 187F7

The character 和 occurs twenty times on folios 36a through 38a, ten times in a poem entitled kai ts, ts,

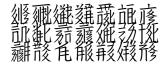
Each poem consists of ten stanzas of three seven-character lines covering fifteen columns. Both poems are transcribed and translated in Arakawa 2001 (see Fig. 34 and Fig. 36). In both poems the unknown character occurs in a refrain which comprises the third line of each stanza. The refrain is slightly different in each poem, but both refrains start with the unknown character 瓣 followed by *ndzie* is "to teach".

The reading of the character \vec{m} is unknown, and its meaning is uncertain. The left side of this character does not occur as a component of any other character, but is the whole of the character $t \sin \vec{m}$ "to pull, to tug". The right side component \vec{m} occurs in characters relating to dried meat, cheese, and verbs relating to moisture, so it is not obvious what it represents semantically (it is possible that it is a phonetic component).

On the first occurrence of the unknown character in each poem it is followed by two small-sized Tangut characters, which would seem to be a gloss for the reader on this unfamiliar character: t sh e u l 滿城, literally "to damage" and "drunkenness", which we take to mean "drunken to the point of incapacity" ("blind drunk" in colloquial English). This gloss does not seem to have any bearing on the character if it is interpreted as meaning "guidance", so it is possible that other interpretations should be considered.

As the character ndzie % "to teach" can also mean "master, teacher" (as a homophonic alternative for ndzie % "master, teacher"), we suggest an alternative possible interpretation of the two characters % as a sobriquet for the subject of the poem, the Drunken Master. Our tentative translation of the first stanza of each poem is given below.

First stanza of poem entitled *kai tsə tśia lə ndie* 緩줐藏酸瓤 "Pain of desire and *rūpa* [material objects] hindering the way" (cf. Arakawa's Japanese translation shown in Fig. 34):

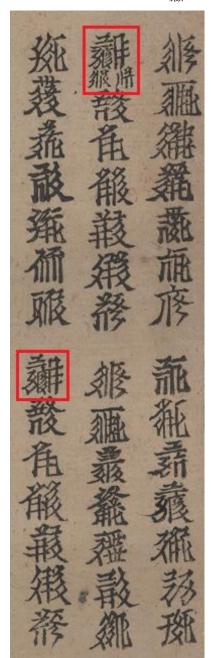


Grieving for somebody who renounces the world and follows the way, At the boundary pulling at oneself like a mad dog, Drunken Master's hard work, what does he hope to achieve?



Fame and fortune echo as sweet as other [things], Emptiness and no fortune encircling me, Drunken Master's grief and woe, what does he hope to achieve?

Fig. 32: Three Generations (Tang. 27) Fig. 33: Three Generations (Tang. 27) folio 36a cols. 1-3: 瀨 folio 37a cols. 3-5: 瀨



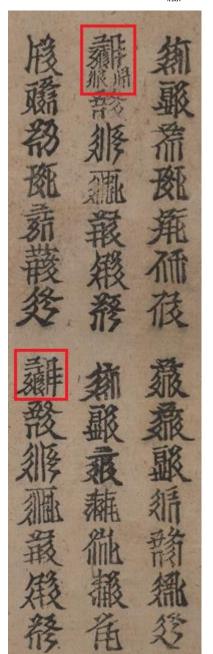


Table 5: Three Generations (Tang. 27). All occurrences of $\frac{1}{2}$ on folios 36 through 38

	Poem 1	Poem 2		
36A2	魏	黏	37A4	
36A3	隸	隸	37A5	
36A5	瓣	鄰	37A7	
36A6	黐	翻	37B1	
36B1	離	立	37B3	
36B2	翻	隸	37B4	
36B4	翻	瓣	37B6	
36B5	鄰	隸	37B7	
36B7	隸	隸	38A2	

Poem 1		Poem 2		
37A1	瓣	隸	38A3	

Although the character $\frac{1}{2}$ occurs twenty times in the text, because it was printed using moveable type, some of the type sorts for this character were reused for printing on two or more folios. This can be clearly seen in the cases of defective characters resulting from damage to the type sort, such as the two characters at 36A2 and 37A4 which share the same broken top horizontal stroke, and the three characters at 36B7, 37B7 and 38A2 which share the same broken middle horizontal stroke. In the case of the characters at 36A2 and 37A4 it seems that the two following small characters $\frac{1}{2}$ were cut on the same type sort as the character $\frac{1}{2}$.

Fig. 34: Arakawa 2001 p. 218: *Three Generations* (Tang. 27). Transcription and Translation of folio 36a cols. 1–2

36a-1郷 郷 瀬 麓 祇 商祇 邦 র 蘋 郷 弱 形2ngo 2de:' 1ni: 1phI 1ca: 1jenq 2myeq'22myI' 2'a 1'e: 1chi:' 1khwI: 2'aq 2syu悲痛なるかな、出家し^{性70} 道を行う者境に自らを引き出し、狂犬^{性71} の如し

Fig. 35: Arakawa 2001 page 218 footnotes 70-73

^{建70} 西夏語の語順・意味では「家を-捨てる」となっている。

^{雄71} 西夏語の語順では「犬-狂った」と形容詞の後置修飾である。

^{準72} 声調・声母・韻母不明であるので推定音は??? で表記せざるを得なかった。

^{性73} この字形は各種<u>西夏</u>語字書『文海』、『同音』などに確認できない。意味は前の行(36a-

¹⁾ に現れる字形 [4] 「引き出す」から推定した。

^{性74} 字形が確認しづらいが 4版 「酔う」(『夏漢』3547, p. 660) と判読できる。

Fig. 36: Arakawa 2001 p. 220: *Three Generations* (Tang. 27). Transcription and Translation of folio 37a cols. 2-4

「名利人滅憂(名利が人を滅ぼすことを憂う)」

- 37a-2 類 嶽 嵌 厳 魁 2me:' 1genq 2dzwo: 2le:' 1syI' 名利が人を滅ぼすことを憂う

3. Tangut Glyph Corrections

3.1 Tangut Component 134 (23 Tangut ideographs)

Tangut Component 134 ‡ is written with a slanting first stroke in Li Fanwen's 2008 dictionary and most other modern sources, as shown for example by U+1788A 杭 (on left side), U+173E1 娥 (in middle), and U+183B3 荻 (on right side):

Original Glyph	Nishida 1966	Sofronov 1968	Li Fanwen 1986	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008
U+1788A	69-051	2965	3582	2004/2082	5037	4044
帕	牦	能	純	能	瓶	帕
U+173E1	202-084	5608	1572	0895/0942	2677	2503
辫	椴	凝	猴	緂	煅	賴
U+183B3	236-045	2754	4706	4704/4859	0461	5435
詳	鲜	韩	鲜	詳	莽	挲

However, original Tangut sources almost all show that the first stroke is horizontal rather than slanting (i.e. \dagger rather than \dagger). In contrast, the similar Component 258 \dagger has a very distinct slanting first stroke. A comparison of characters with these two components from the *Homophones* is shown below.

Component 134 (original glyph)	U+1788A	U+173E1	U+183B3
Component 258	U+17E89	U+17899	U+17C0B

There are a total of 23 encoded Tangut characters with Component 134 \sharp , and evidence for their correct glyph forms is presented below. These examples convincingly indicate that the first stroke of the component \sharp should be horizontal rather than slanting. The only example with a slanting first stroke is one instance from *Sea of Writing* for U+1788B.

Character	Homophones A	Homophones B2	Homophones B5	Sea of Writing	Pearl in the Palm
U+17159 熊 (熊)	03B66		04851	1 63.242	
U+17336 計 (計)	計 18A65	19A16	19A16		
U+173E1 ((24A26	25A12	25A12	放	A 32:1A
U+173EB 旅 (旅)	城 ○ 菲 49A67	49861		1 90.262	B 22:4D

Character	Homophones A	Homophones B2	Homophones B5	Sea of Writing	Pearl in the Palm
U+173EC	27B22	28A12	28A12	新 4 4 4 1 90.262	
U+173F4 (旗)	37B18	新 38A36		1 82.222 3 7.211	A 30:3C B 30:3C
U+173FB / 模 (類)	娘 \$40B72	投 41A46		3 19.222	

Character	Homophones A	Homophones B2	Homophones B5	Sea of Writing	Pearl in the Palm
U+173FF / / / / / / / / / /	编 49A43	州 旗 49B35		1 18.223	
U+17403 / 編 (編)	表 35B22	我 36A55		1 27.121	
U+1788A 能 (能)	能。10A46	施 施 11A47	施。 11A47	1 66.162	
U+1788B 核 (核)	36B72	投 37B31		1 20.121	

Character	Homophones A	Homophones B2	Homophones B5	Sea of Writing	Pearl in the Palm
U+1788C 慌 (慌)	7施 07A22	抗 抗 10A24	/施 / 施 10A24	推 業 就 1 20.171	A 13:2A B 13:2A
U+1788D 熊 (熊)	指 18A25	技 構 15A24	技 植 第 15A24	1 18.223	
U+17B16 ((級 69B42	税 10B34	独 和 10B34	1 79.171	
U+17B17 作類 (作類)	獲 3 3 4 4 5 6 9 9 8 4 9	作 4 10B33	第 10B33	1 82.121	
U+17B5B i i i i i i i i i i i i i	海 32B66	35B11			A 19:2C B 19:2C

Character	Homophones A	Homophones B2	Homophones B5	Sea of Writing	Pearl in the Palm
U+17F8B	新 類 19A75	20A17	20A17	(株)	
U+17FB9 純 U+17FBB 純 (純) (see 3.1.1)	流 33A75	33B75	33B75		
U+1820D ====================================	A ghost chara	acter, not attested	in any original Tan ascertain	gut source as fai	as we can
U+1823D 熊 (熊)	32867	35A78		版 級 級 1 52.212	A 35:6B B 35:6B
U+183B3 詳 (詳)	11A17	12A17	計 12A17	接	

Character	Homophones A	Homophones B2	Homophones B5	Sea of Writing	Pearl in the Palm
U+1841D		38A66		後 業 1 51.132	
U+187C6 要上 (要上)		38B25		1 63.242	

3.1.1 Tangut Ideograph 17FBB

U+17FBB (L2008-2146) is an erroneous form of U+17FB9 (L2008-2175) that is only listed in Li Fanwen 1986, Li Fanwen 1997 (see Fig. 37 & Fig. 39), and Li Fanwen 2008 (see Fig. 38 & Fig. 40). It is probably a mistake based on the glyph of the B2 edition of *Homophones* where the three horizontal strokes of Component 98 only just cross the vertical stem.

Original Glyph	Sofronov 1968	Li Fanwen 1986	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008
U+17FB9	5664		3788/3922	4505	2175
純	辞包		雉	純	維
U+17FBB		3533			2146
) 		毵			雑

Fig. 37: Li Fanwen 1997 p. 408

[齒頭音 tsu 2.1 音租]

(不識)

Fig. 38: Li Fanwen 2008 p. 355

純 2146

(訛體,正體見 2175 雉 214150。)



2141 50 **純** [齒頭音 tshwu 2.1 音粗]

shame; disgrace

耻也。(名)

Fig. 40: Li Fanwen 2008 p. 360

純

〔齒頭音 tshwu 2.1 音卒〕

for a particular person, occasion, purpose, etc.

專心、虔誠也。(形)

U+1820D # (L2008-0831) is a ghost character, not attested in any original Tangut source as far as we can ascertain. It was included in Li Fanwen's dictionary because it was discussed by earlier scholars such as A. I. Ivanov (1878–1937) and Wang Jingru (1903–1990), as shown in Fig. 41, Fig. 42, Fig. 43, Fig. 44, and Fig. 45.

Fig. 41: Li Fanwen 1997 p. 163

[舌頭音 no(聲調不詳)音那]



surname

彌藥也。(名)

(按:王靜如認為"級 莊其音[米拿],伊鳳間曾謂為蒙古、西藏稱西夏之詞。余按藏文作 mi-nyog 及 me-nyag 二音"(國83)。此字其它詞書未見,疑有筆誤。《同音》及《文海》上"彌樂"二字為級 發 mi 2.28 nǐa 2.18,而非級 莊。謹錄于此,供讀者参考。)

Fig. 42: Li Fanwen 2008 p. 142



[舌頭音 no(聲調不詳)音那] a nation

彌藥也。(名)

Fig. 43: Wang Jingru 1932 p. 77

西夏國名考

王 靜 如

Fig. 44: Wang Jingru 1932 p. 83

西夏自稱之名爾之同音是及羅是外尚有級及級影等名。級字輒對中國之"番"(18)據伊鳳閣(A.Ivanov)所論其音 mi,以有即西夏之 mi (人) 其音為人。(19級 報 其音米 拏,伊鳳閣曾謂為蒙古.西藏稱西夏之詞。余按藏文作 mi-nyag 及 me-nyag 二音。

637

與羅君美書

. Ivanof

mi 之 化 名 按 提 君 意 恰 Odogson 相 掌 物 字 崇 H Ī 議 美 與 卽 質 小 卽 古 葫 世 但 中 由 與 帶 臺 者 弫 名 米 珠 手 鄙 炎 西 諾 字 細 藏 上 第 雅 羅 相 鑒 级 稱 翀 弫 多 中 對 八 便 顶 怕 預 君 未 之 來 國 西 字 可 鑚 備 久 藏 美 自 浦 夏 頭 以 有 研 研 未 音 尔 Vainos 書 小 萄 也 民 音 規 葫 究 語 查 是 叉 亞 族 拏 定 桃 西 談 種 西 古寫本抱朴子(下 就 第 夏 也 細 從 日 無 無 名 夏 時 深 是 希 八 字 字 明 亞 米 翀 翀 目 有 漢 臘 篇 字 字 此 渴 矣 所 那 偶 幷 字 移 字 發 以 有 乃 頭 頭 西 種 有 mi. 蒲 番 音 藏 前 外 麥 來 亦 加 見 V 諾 國 應 翀 者 卽 叫 西 桃 刮 有 鄰 夏 相 與 字 在 目 文 對 頭 節 津 也

Although we have not been able to find primary evidence for U+1820D, we think it is best to modify the glyph from $\hat{\sharp}$ to $\hat{\sharp}$ in order to be consistent with all other characters with the $\hat{\sharp}$ component.

Fig. 46: Mixed Characters folio 10b



3.2 Tangut Component 350 (4 Tangut ideographs)

There are ten Tangut ideographs with Component 350 $\,\bar{\slash}\,$ on either the left or right side.

Original Glyph	Sofronov 1968	Li Fanwen 1986	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008	Corrected Glyph
U+17097	1570	0123	0135/0141	3090	1970	U+17097
矮	歧	婑	矮	滚	姟	婑
U+170A4	1606	0154	0152/0158		1971	no change
烫	凝	扊	矮		烫	
U+17D17	3071	3596	3143/3261	3089	2330	no change
版	擬	擬	报	粮	紡	
U+17F10	3312	3352	3622/3754	3087	2345	no change
貕	彼	緮	貕	額	貕	
U+1814C	4731	4406	4171/4314	3088	0360	no change
狠	荻	荻	狠	頦	狠	
U+18215	0048	5119	4360/4510	3696	1196	U+18215
觌	魏	젫	巍	3	頦	觌
U+18216	0050	5116	4361/4511	2243	0706	U+18216
荻	荻	荻	玆	滅	荻	荻
U+18217	0048	5118	4363/4513	3722	0787	U+18217
靴	靴	毵	鄧化	豼	豼	靴
U+18218	0049	5117	4362/4512	2106	1760	no change
荻	荻	毅	荻	溪	荻	
U+18725			5804/6001		6029	no change
维 爱			類		新 麦	

For six of these ten Tangut ideographs, Component 350 $\bar{\chi}$ is consistently written as Component 11 = above Component 141 $\bar{\chi}$ in original Tangut sources, matching the glyph forms given in the Unicode 9.0 code charts. These six characters and their character constructions as given in *Sea of Writing* or *Combined Edition of Homophones and Sea of Writing* are listed below:

- U+1814C \overline{w} mbiu 'to crawl' derived from \overline{w} ngwe 'knee' + | | | ld| 'hand' + | | nd| ito walk'
- U+17F10 �� kwân 'to close' derived from 㯳 ni̯an 'shallow' + 蓺 śi̯wə 'time'
- U+18218 颏 śi̯wə 'time' derived from 蕪 viei 'to go' + 猷 śi̯wə 'to contact'
- U+17D17 馥 pin 'to come and go'

Evidence for 6 Tangut ideographs written with Components 11/141:

	Homophones A	Homophones B1/B2	Homophones B5	Sea of Writing	Other Sources	Other Sources
U+170A4 汉 亥	談 載 0 06B32	及	展 載。 07B11		Mixed Characters 15B8.05	Homophones and Sea of Writing C B13
U+17D17 抗変	04B47		05B43		Homonyms 11A1.03	Forest of Categories 5:21A2

	Homophones A	Homophones B1/B2	Homophones B5	Sea of Writing	Other Sources	Other Sources
U+17F10 須亥	海 新 第 26B14	多数数 数数数 B2 29A78	多数 数 数 29A78	彩	Pearl in the Palm 30:2A	Forest of Categories 3:14A2
U+1814C 灵陵	 0 版 05A33		06A24	我 我 孩 孩 孩 孩 了 7.112	Mixed Characters 15B8.05	
U+18218 泵仪	減 36B74	教 B2 37B34		私報	Homonyms 13B1.07	Forest of Categories 3:05A5
U+18725 #元					Homophones and Sea of Writing A 12.062	

On the other hand, for the remaining four Tangut ideographs, Component 350 is consistently written as Component 11 = above Component 144 % in original Tangut sources. Furthermore, these four ideographs form a distinct set with related meanings and/or character constructions, unrelated to the other six Tangut ideographs:

- U+18215 巍 śio 'to drive away' derived from 就 kan 'to drive away' + 风 na 'to drive'
- U+18217 就 kan 'to drive away' derived from $rac{s}{i}o$ 'to drive away' + $rac{s}{i}o$ 'to walk' + $rac{s}{i}o$ 'mbon 'rapid'

Note that the glyph forms for Component 350 in these four characters in *Homophones* Edition A superficially look like Component 11 = above Component 141 $\frac{1}{2}$, but in fact the bottom component is a variant form of Component 144 (i.e. $\frac{1}{2}$ rather than $\frac{1}{2}$) because there is no disjoint between the 2nd and 4th strokes as is seen in Component 141. See N5031 Tables 4 and 5 for more information on the distinction between Component 141 ($\frac{1}{2}$) and $\frac{1}{2}$ which is encoded as U+18AFC in Unicode 13.0.

Evidence for 4 Tangut ideographs written with Components 11/144:

Character	Homophones A	Homophones B1/B2	Homophones B5	Sea of Writing	Other Sources	Other Sources
U+17097 類 (類)	談 認 22A68	凌 夏 B2 23A47	接 國 23A47			
U+18215	36B41	製 B1 37A71		以 東		Forest of Categories 4:03B1

Character	Homophones A	Homophones B1/B2	Homophones B5	Sea of Writing	Other Sources	Other Sources
U+18216 夏 校 (夏 校)	談 09B65	發 B2 10B37	承 10B37		Homonyms 09A7.02	Forest of Categories 4:07A7
					Dissected Rimes of the Five Sounds A 01B1	Homophones and Sea of Writing A 2.101
U+18217 就 (靴)	養 24B23	落 B2 25A67	表 25A67	和	Homonyms 14A2.04	Forest of Categories 3:10B5

3.3 Tangut Component 553 (1 Tangut ideograph)

Tangut Component 553 $\overline{ \ \ \ }$ only occurs in the single Tangut ideograph 185F2 $\overline{ \ \ \ }$ no 'steady'.

Original Glyph	Sofronov 1968	Li Fanwen 1986	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008	Corrected Glyph
U+18A28	4390	5446	5302/5478	4869	0248	U+18A28
三亥	毵	瑟	毵		毵	三乡
U+185F2	4390	5446	5302/5478	4869	0248	U+185F2
裠	毵	瑟	毵		毵	ᇎ

In the Unicode 9.0 code charts, Component 553 is written as Component 79 $^{=}$ above Component 141 $\,\%$, but original Tangut sources show that it should be written as Component 79 $^{=}$ above Component 144 $\,\%$.

Evidence for U+185F2

Homophones A	Homophones B1	Homophones B2	Homophones B5	Homonyms
15A12	15B71	15B71	15B71	12A4.05
美国	黏	薤和	菱 龍	麵

Three Generations 14B1	<i>Odes</i> 3:05A6	Forest of Categories III 16A6
燕	題	薤

3.4 Tangut Component 565 (9 Tangut ideographs)

There are 27 Tangut ideographs which include Component 565 $\frac{1}{1}$. In the Unicode 9.0 code charts this component is written in two slightly different glyph forms, following the practice in Li Fanwen's 2008 *Tangut-Chinese Dictionary*: for 19 ideographs Component 565 is written as Component 185 $\stackrel{47}{}$ above Component 47 $\stackrel{47}{}$ [$\stackrel{47}{}$]; but for 8 ideographs this component is written as Component 324 $\stackrel{47}{}$ above Component 19 $\stackrel{47}{}$ [$\stackrel{47}{}$]. We shall refer to these forms as Components 565A and 565B respectively.

The differences between Components 565A and 565B are illustrated below. For Component 565A, the first stroke (7) extends into the gap between the two vertical strokes, and additionally the two vertical strokes are not actually vertical, but slant inwards. On the other hand, for Component 565B, the first stroke (7) extends over the left vertical stroke, and the two vertical strokes are actually vertical. The first stroke of component 565B may join with the following horizontal stroke (joined form) or there may be a gap between the first stroke and the following horizontal stroke (disjoined form), but in both cases the first stroke remains above the left vertical stroke, which is the significant feature that distinguishes Component 565B from Component 565A.

Differences between Components 565A and 565B

Component 565A	Component 565B (joined form)	Component 565B (disjoined form)
	為	徽
U+1861E	U+17F67烷	U+17EEB 織
Homophones B2 21B12	Homophones B2 25B34	Homophones B2 12A24

The differences in stroke formation highlighted above indicate that Component 565B is not merely a slightly cursive version of Component 565A, but the two components are essentially different in conception. Moreover, an analysis of the 27 Tangut ideographs with Component 565 indicates that there is a systematic semantic difference between the two forms of Component 565, as discussed below. Furthermore, nine of the 19 Tangut ideographs currently written with Component 565A should be written with Component 565B.

A. 19 Tangut ideographs written with Component 565A:

Original Glyph	Sofronov 1968	Li Fanwen 1986	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008	Corrected Glyph
U+172BA	4295	0792	0630/0667		3024	U+172BA
缙	绮	辨	缙		缙	缙
U+172EA	4296	0853	0674/0712	3846	2725	U+172EA
鵍	鄉	觥	氚	淵	軄	鵍
U+17326	4297	0904	0732/0772	4338	1998	U+17326
别处	採	艞	織	滯犯	왰	쮔
U+174F7	2043	1088	1156/1212	3847	4686	U+174F7
雜	熟	雜	兖	灔	雜	驇
U+17533	2075	1149	1216/1272	4218	4702	no change
麓	횂	횂	횂	灔	麓	
U+177B7	0902	2591	1803/1875	3851	4240	U+177B7
雜	婲	嬔	燕	繡	雜	毲
U+17AA3	3602	3246	2524/2624	0812	3220	no change
綃	絣	繗	綃	貓	縃	
U+17AE6	3861	3323	2586/2687	2559	3320	no change
纘	緩	織	緞	癥		
U+17C20	4485	1897	2908/3023	0813	1011	U+17C20
謂	斋	語	謂	清	謂	謂
U+17E7D	1301	4456	3486/3613	0814	2950	U+17E7D
辯	脪	艄	辯	贈	辯	辯
U+18562	1891	5264	5168/5339	0815	5541	no change
	餴	網	辞	澣	餚	

Original Glyph	Sofronov 1968	Li Fanwen 1986	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008	Corrected Glyph
U+1861A	4858	5586	5343/5519	1596	0998	no change
到	旁	弱	帮	芦	弱	
U+1861B	4855	5587	5344/5520	5406	0171	no change
龍	龍	蘸	雜	訊	龍	
U+1861D	4859	5590	5346/5522	2561	1087	no change
酸	酸	發	豫	證	酸	
U+1861E	4857	5589	5347/5523	1447	1846	no change
群	矟	献	帮	剂	部	
U+1861F	4856	5591	5348/5524	2275	1648	no change
證	靛	黻	龍	荒	戠	
U+18620	5058	5593	5349/5525	0194	1033	U+18620
到	新	齎	鶖	誵	鴷	翻
U+18621	4860	5592	5350/5526	4217	0758	no change
靗	秘	騺	靗	強	靗	
U+1865D	5046	5503	5405/5581	3852	0796	U+1865D
쮔	魏	靴	氚	貀	煭	豵

B. 8 Tangut ideographs written with Component 565B:

Original Glyph	Sofronov 1968	Li Fanwen 1986	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008	Corrected Glyph
U+17A28	3860	3145	2405/2502	3849	2757	no change
氚	剎	繖	氚	貀	氚	
U+17CB6	5092	2243	3053/3170	3845	1209	no change
飜	郗	纁	剎	蘊	飜	

Original Glyph	Sofronov 1968	Li Fanwen 1986	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008	Corrected Glyph
U+17EEB	3282	4565	3585/3717	3844	2789	no change
氚	觎	剎	谻	艦	氚	
U+17F67	4050	3420	3710/3843	3850	2758	no change
氚	郷	蝌	谻	貀	氚	
U+1816C	4778	4422	4198/4341	3848	0792	no change
氚	雜	就	့	濷	鵚	
U+1847C	4575	5128	4909/5073	3853	0794	no change
鵚	豵	熱	鶔	瓢	鶖	
U+18619	5056	5585	5342/5518	3843	0742	no change
配	祀	訛	飛	剖	配	
U+1861C	5057	5588	5345/5521	0153	0479	no change
鴷	割	刮	稍	劑	鴷	

Based on the character constructions given in *Sea of Writing* and *Combined Edition of Homophones and Sea of Writing*, ten of the Tangut ideographs written with Component 565A can be divided into three chains of semantically-related characters.

Chain A (6 characters):

- U+17533 轍 źa 'ancestor' derived from 藏 via 'father' + 黻 źa 'Tangut ancestor'
- U+18621 黻 źa 'Tangut ancestor' derived from 黻 źa 'enemy' + 䅟 ngi 'son' + 胾 ngiẹ 'to blush'
- U+1861B 龍 kew 'Big Dipper' derived from 微 źa 'Tangut ancestor' + 維 kew (surname)
- U+1861E 黼 ka 'month' derived from 黻 źa 'Tangut ancestor' + 鬴 ka 'palate'
- U+1861F 黻 $\acute{z}a$ 'enemy' derived from 黻 $\acute{z}a$ 'Tangut ancestor' + 饋 mbi 'enemy'
- U+18562 婧 mbɪ 'enemy' derived from 厳 nôn 'evil' + 黻 źa 'enemy'

Chain B (3 characters):

Chain C (1 character):

• U+17AA3 鑽 phon 'conceited' derived from 縈 rie 'scholar' + 藏 nga 'hollow' (top and bottom middle parts are the source for the right side of U+17AA3)

Original Tangut sources confirm that all these ten characters are indeed correctly written with Component 565A.

The eight Tangut ideographs written with Component 565B form two chains of semantically-related characters.

Chain D1 (3 characters):

- U+1847C 穨 rụo (surname) [derived from 穨 rụo 'to circle']

Chain D2 (5 characters):

- U+17F67 鷽 khwâ 'to enclose' derived from 绢 ldiə 'land' + 乳 'wo 'circle'
- U+1816C 瓢 thī 'to enclose' derived from 菆 thī (place name) + 乿 'wo 'circle'
- U+17EEB 織 viuo 'nest' derived from 薪 viuo 'nest' + 織 'wo 'circle'
- U+17CB6 纁 tśêw 'padding' derived from 乳 'wo 'circle' + 谻 vịuo 'nest'

- U+17326 痲 pho 'lake' derived from 翰 źię 'water' + 鼎 'wo 'circle' + 祇 khwe? 'circle'

- U+17C20 請 śê 'to collect' derived from 酸 śjow 'to gather' + 氣 ruo 'to circle'
- U+17E7D 贈 tśai 'to encircle' derived from ស tśia 'to encircle' + 鷽 ruo 'to circle'

The 17 Tangut ideographs belonging to Chain D should all be written with the same form of Component 565, but in the Unicode 9.0 code charts, eight are written with Component 565B and nine are written with Component 565A. The original Tangut sources are not consistent in their depiction of this component, but the *Homophones* B editions do consistently show Component 565B for the 17 characters belonging to Chain D, contrasting with Component 565A for the ten characters belonging to Chains A, B and C. Homophones Edition A does not preserve this distinction, and uses Component 565A for all 27 Tangut ideographs. However, Homophones Edition A is generally less reliable than Edition B with respect to glyph forms, and there are many other examples where the correct glyph form in Edition B is written incorrectly in Edition A. As to *Sea of Writing*, the distinction between 565A. As *Homophones* Edition B is the most reliable and complete source for Tangut glyph forms, it is reasonable to follow the distinction between Components 565A and 565B shown in *Homophones* B, and therefore modify the code chart glyphs for the nine Tangut ideographs belonging to Chain D which use Component 565A to use Component 565B.

Evidence for 10 Tangut ideographs correctly written with Component 565A:

Character	Homophones A	Homophones B	Sea of Writing	Other Sources	Other Sources
U+17533 談	52A22	B2 52A75	福 龍 龍 184.151	Odes 2:03A8	
U+17AA3 紅育	新 3 3 3 0 0 6 A 6 8	分辨 嘉 B5 07A53			

Character	Homophones A	Homophones B	Sea of Writing	Other Sources	Other Sources
U+17AE6 類交	教 45A63	設 B2 45B57	養養 養養 純純 154.121	Homonyms 11B2.01 Three Generations 05A6	Pearl in the Palm 19:6C Mixed Characters 16A2.06
U+18562 於 育	05A53	B5 06A42	(A)	Homonyms 13A1.01	Proverbs 08A1
U+1861A 辛豆 T ろ	32A58	那 B2 31A31	III 15.211	Homonyms 07A3.02	Mixed Characters 16A2.03

Character	Homophones A	Homophones B	Sea of Writing	Other Sources	Other Sources
U+1861B 学院	24A44	清 高 B2 25A28	推 能 I 53.122	Mixed Characters Or.12380/1843 (C)	
U+1861D 至久 几 交	談 32A57	B2 31A32	III 15.212	Homonyms 07A3.02	Three Generations 03A7
U+1861E 音析	20B33	新 <u>森</u> B2 21B12	(A)	Odes 2:02B1	
U+1861F 骨茂	52A27	B2 52A78	於 新 124.161	Homonyms 10B6.08	Proverbs 09A7

Character	Homophones A	Homophones B	Sea of Writing	Other Sources	Other Sources
U+18621 音处 П 公	(表) (表) (表) (52A28	版 B2 52B11	議 議 議 I 24.162	Homonyms 10B6.08	Pearl in the Palm 08:3E

Evidence for 8 Tangut ideographs correctly written with Component 565B:

Character	Homophones A	Homophones B	Sea of Writing	Other Sources	Other Sources
U+17A28 紅	49824	提 B2 50A17		Homonyms 12A2.06	Three Generations 37A3
U+17CB6 瓢	37A73	A A B2 38A21	新 編 編 1 53.272		
U+17EEB 能	11A23	B2 12A24			

Character	Homophones A	Homophones B	Sea of Writing	Other Sources	Other Sources
U+17F67 次 配	24B52	多 B2 25B34			
U+1816C 元	480 12825	B2 13B12	138.111		
U+1847C 烈	翻 49B25	B2 50A18		Grains of Gold 04B6	
U+18619 育 【	39A75	程 B2 42A17	III 8.161		
U+1861C 預刻	41A66	B2 41B36	高級 設 I 49.221		

Evidence for 9 Tangut ideographs which should be written with Component 565B:

Character	Homophones A	Homophones B	Sea of Writing	Other Sources	Other Sources
U+172BA 第 (新)	辨 和 44A24	新		Pearl in the Palm A 04:3C	Mixed Characters 14B2.05
U+172EA	今 6 成 44B54	展 B2 45A44	第一条	Homonyms 07A7.03	Odes 5:01B5
U+17326	% % 06A56	接 B2 09A12	155.273	Homonyms 13B5.10	Pearl in the Palm A 12:2D
U+174F7 驇 (雜)	類 類 28A36	操 解 B2 28B43	系 系 系 系 系 系 系 系 32.232	Pearl in the Palm A 28:4B	Mixed Characters 14B2.05

Character	Homophones A	Homophones B	Sea of Writing	Other Sources	Other Sources
U+177B7 就 (黨)	28A35	基 B2 28B42			
U+17C20	39A73	B2 39B56	A		
U+17E7D 辯 (評)	解 取 41A44	B2 41B18	清		
U+18620 門刻 (門刻)	部 和 09A11	B2 09B36		Three Generations 37A3	

Character	Homophones A	Homophones B	Sea of Writing	Other Sources	Other Sources
U+1865D 就 (就)	数 55A63		翻然	Homonyms 09B7.06	
			III 11.261		

3.5 Tangut Component 651 (2 Tangut ideographs)

Original Glyph	Sofronov 1968	Li Fanwen 1986	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008	Corrected Glyph
U+18A8A		840-B1	5546			U+18A8A
芸文		菱	3			芸文
U+17A87	3457	3205	2494/2594	2468	3331	U+17A87
ে類	缝	缎	緩	缓	েেেেেে	類
U+18702	4538	5514	5546/5730	4355	0249	U+18702
烮	乾	祀	乳	刻	戜	翌

In the Unicode 9.0 code charts Component 651 is written as Component 28 $^{-}$ above Component 412 $\, \crew{\sharp} \,$, but original Tangut sources show that this component should be written as Component 28 $^{-}$ above Component 301 $\,\crew{\sharp} \,$.

Evidence for U+17A87:

Homophones A 04B23	Homophones B5 05B18	Sea of Writing I 5.172	Pearl in the Palm A 10:4D
發	级。	後 教 報	緩

Grains of Gold 03A1	<i>Odes</i> 3:05B8	Forest of Categories 3:36A1	Repentance Dharma B11.044: 53-34.09
被	被	授	粮

Evidence for U+18702:

Homophones A 34A34	Homophones B2 34B34	Sea of Writing III 16.171	Mixed Characters 08B4.03
熟		范 教 教 教 教 教 教 教 教 教 教 教 教 教 教 教 教 教 教 教	為和

3.6 Tangut Component 688 (3 Tangut ideographs)

There are two Tangut ideographs with Component 688 章: U+18761 杉 *ldo* 'flame', and U+18762 鬏 *tshiwa* 'to burn'. U+177DA 髹 *ldo* 'flame' is a related glyph variant of U+18761.

Original Glyph	Sofronov 1968	Li Fanwen 1986	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008	Corrected Glyph
U+18AAF			5660		1052-A1	U+18AAF
撕			執		新	赤
U+177DA	5344	2635	1545/1611	0023	5944	U+177DA
粉	蘇	騲	新季	獅	鹅	新
U+18761			1545/1612	1516	5947	U+18761
游 多			類	游	新 多	新多 #3
U+18762	5346	2644	5660/5846		5983	U+18762
新美	馥	赮	黻		新芝	新芝

In the Unicode 9.0 code charts, Component 688 is written as Component 296 % above Component 107 $_{+++}$, but original Tangut sources show that this component should be written as Component 192 % above Component 107 $_{+++}$ (only a single example of U+177DA shows the same glyph form as the code charts). Likewise, U+177DA should be written with Component 192 instead of Component 296.

Evidence for U+177DA:

Homophones A 52A11	Sea of Writing I 92.262	Mixed Characters 03A6.05	Three Generations 09B2	Repentance Dharma B11.040: 61-6:08
據	植	循环	黎	黎

Evidence for U+18761:

Sea of Writing I 75.242	Forest of Categories 3:31B6	Thousand Names of the Buddha of the Past B11.052: 57-2.10
ST.	蒋	数

Evidence for U+18762:

Homophones A	Homophones B2	Sea of Writing I	Homonyms
40B76	41A52	75.242	13B5.03
裁 数	殺	松熟靴	孤。

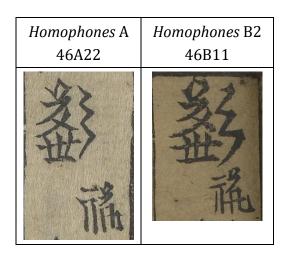
3.7 Tangut Component 736 (3 Tangut Ideographs)

There are three Tangut ideographs written with Component 736: U+187D0 *萎 xạ* 'to hum', U+187D1 *蓋 xan* (transliteration), and U+187D2 *xwe 蠚* (surname).

Original Glyph	Sofronov 1968	Li Fanwen 1986	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008	Corrected Glyph
U+18ADF			5758		1053-B3	U+18ADF
发			益		发世	泛册
U+187D0	2640	4238	5758/5953	1529	5495	U+187D0
送	美美	33	至	<u></u> 孝	发	经
U+187D1	2639	4246	5758/5954	4961	5493	U+187D1
发 <u></u>	超几	瓷	菱 元	芝芸	爱司	当几
U+187D2	2130	4247	5760/5955	5515	5494	U+187D2
发 型 型R	毵	統	发盘 金R	瓷	发 型 亚R	ジ 発 金R

In the Unicode 9.0 code charts Component 736 is written as Component 412 $\mspace54$ above Component 216 $\mspace54$ in each case. All three ideographs are uncommon, so we have only been able to find eleven examples in original Tangut texts for these three characters, but ten out of the eleven examples show Component 736 written as Component 301 $\mspace54$ above Component 216 $\mspace54$. Only a single example for U+187D2 in the *Homophones* Edition B shows Component 412 $\mspace54$ above Component 216 $\mspace54$.

Evidence for U+187D0:



Evidence for U+187D1:

Homophones A 46A23	Homophones B2 46B12	Mixed Characters 14A7.03	Forest of Categories 3:04A6
鑫乱	经血频	唱製	鑑

Evidence for U+187D2:

Homophones A 45B73	Homophones B2 46A63	Sea of Writing I 93.141	Mixed Characters 14A7.02	Grains of Gold 06A5
翻旗	经配練和	る	凝糊	魏

3.8 Tangut Ideograph 17013

Original Glyph	Sofronov 1968	Li Fanwen 1986	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008	Corrected Glyph
U+17013	1124	2273	1992/2070	1514	0147	U+17013
清	蕹	蒲	看	乔	清	清

In modern sources it is not always clear exactly how U+17013 霜 śiei 'to request' is written. In the font used for Li Fanwen's 2008 *Tangut-Chinese Dictionary* (and for the ISO/IEC 10646 and Unicode code charts), this character is written with a single dot on the right of the Z-shaped stroke, and the central vertical stroke extends up into the Z-shaped stroke.

However, original printed Tangut sources clearly show that this character is written with an extra dot in the centre of the Z-shaped stroke, and with the central vertical stroke not extending into the Z-shaped stroke.

Evidence for U+17013:

Homophones A 40B58	Homophones B2 41A34	Pearl in the Palm A 34:3B	Mixed Characters 15B2.02	Homonyms 14A6.02
清飙	看新	播	雁彌	蒲

Three Generations 41A5	<i>Odes</i> 4:08B2	Proverbs 10A1	Forest of Categories 3:01B6
猜	蒲	看	看

3.9 Tangut Ideograph 1709D

Original Glyph	Sofronov 1968	Li Fanwen 1986	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008	Corrected Glyph
U+1709D	1536	0165	0143/0149	4143	2711	U+1709D
义	鮅	嬎	遂	逖	嬎	义
U+187AF	1536	5384	5653/5839	4142	5436	no change
烮	魁	黈	黈	對	戭	

Tangut ideograph 1709D $\mbox{1709D}$ $\mbox{1709D}$ $\mbox{1709D}$ $\mbox{1709D}$ $\mbox{1709D}$ in U+187AF $\mbox{1709D}$ in U+187AF is written as Component 691 $\mbox{1709D}$ in U+1709D. Although the original Tangut sources are not consistent as to whether the component in question is 691 or 719 (and in some cases seem to have a form intermediate between 691 and 719), it is certain that the component should be the same in both characters, and on the basis of the *Homophones* evidence, it would seem best to modify U+1709D to match U+187AF, both using Component 719.

Evidence for U+1709D and U+187AF:

Homophones A 38B75-76	Homophones B2 41B76-77	Sea of Writing III 8.131	Sea of Writing III 8.132	<i>Odes</i> 4:05B6	Forest of Categories 4:14B1
(基) (D) (D) (D) (D) (D) (D) (D) (D) (D) (D	U+1709D U+187AF	U+1709D	U+187AF	U+1709D	U+187AF Grains of Gold 08A3 U+187AF

3.10 Tangut Ideographs 171CA, 1795D, and 18259

Original Glyph	Sofronov 1968	Li Fanwen 1986	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008	Corrected Glyph
U+171CA	2897	0280	0422/0438	0105	3836	U+171CA
弃	有	前	剪	甫	有	有
U+1795D	3696	2919	2212/2304	0106	2637	U+1795D
頦	銷	絠	頦	須	頦	頦
U+18259	1641	5172	4430/4582	0107	4570	U+18259
願	願	廟	射	願	願	願

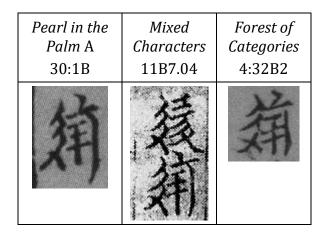
Evidence for U+171CA:

Homophones A 12B45	Homophones B2 13B32	Homophones B5 13B32	Homonyms 12B6.06	Mixed Characters 12A2.03
南美	郭	莉。黄	朝	菱軒

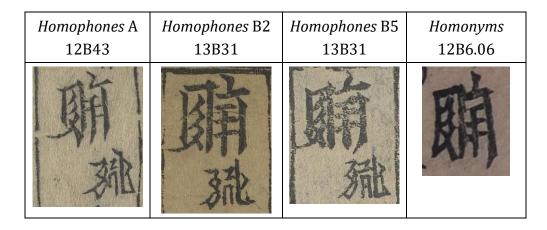
Pearl in the	Forest of
Palm A	Categories
12:6A	3:09B3
莉	事

Evidence for U+1795D:

Homophones A	Homophones B1	Homophones B2	Homophones B5	Sea of Writing I
14B12	15A68	15A68	15A68	11.141
森和	纳级	续	角人	領 氣雜



Evidence for U+18259:



3.11 Tangut Ideograph 1732C

Original Glyph	Sofronov 1968	Li Fanwen 1986	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008	Corrected Glyph
U+1732C	4208	0910	0733/0773	2401	3066	U+1732C
緩	纀	뱵	纀	淡溪	缓	媛
U+182F7	2121	4676	4586/4738	2400	5651	no change
類	鍍	獲	類	刻登	類	

Tangut ideograph 1732C 獺 ndia 'moisture' is written with Component 36 \lessgtr on the left, and U+182F7 থ ?' 'to force' on the right, but in the Unicode 9.0 code charts Component 412 \checkmark in U+182F7 is incorrectly written as Component 301 \checkmark in U+1732C. Original Tangut sources show that Component 412 is correct.

Evidence for U+1732C:

Homophones A	Homophones B1	Homophones B2	Homophones B3	Homophones B5
19B15	20A27	20A27	20A27	20A27
戏数	殺数	纖纖	後数	幾幾

Homonyms	Sea of Writing III
08A4.01	20.242
雅。	

3.12 Tangut Ideograph 1732E

Original Glyph	Sofronov 1968	Li Fanwen 1986	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008	Corrected Glyph
U+1732E	4141	0493	3161/3280	1205	1543	U+1732E
鑄	為	淼	籍	绛	经	爲

The top-right component of U+1732E $\mbox{\ensuremath{\mbox{\ensuremath}\ensuremath{\mbox{\ensuremath}\ensuremath{\mbox{\ensuremath}\ensuremath$

Evidence for U+1732E:

Homophones A	Homophones B2	Homophones B3	Homophones B5
09A52	09B72	09B72	09B72
森	維務	雜為	雜

Sea of Writing I 91.132	Homonyms 07A2.06	Pearl in the Palm A 23:1B	Grains of Gold 10A1
游游	看	禁	淮

Note that the similar character U+1732D \mathack{n} ku 'so' is different from U+1732E in this respect, and does not have an extended left-slanting stroke. Even though in some sources shown below the left-slanting stroke just touches the \mathack{n} component, unlike U+1732D it never crosses it in U+1732E. The code chart form of U+1732D is correct as it is, and does not need any modification.

Evidence for U+1732D:

Homophones A 28B14	Homophones B1 29A18 (1 st folio)	Homophones B1 29A18 (2nd folio)	Homophones B2 29A18	Homophones B3 29A18
統備	務	為	發	縫殿

Homophones B4 29A18	Homophones B5 29A18	Sea of Writing I 6.111	Homonyms 08A1.02	Pearl in the Palm A 06:4E	Grains of Gold 10A2
移	入 為 激発	簽	海		雜

3.13 Tangut Ideographs 17378 and 176E4

Original Glyph	Sofronov 1968	Li Fanwen 1986	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008	Corrected Glyph
U+17378			0015/0016	4241	0486	U+17378
脠			TKE.	邴		彨
U+176E4	0688	2389	1648/1719	4242	4110	U+176E4
誮	龙	蕊	誮	誮	誮	誮

U+17378 $\stackrel{?}{\mathbb{M}}$? $\stackrel{?}{a}$ 'horse with white hooves' is included in Kychanov's 2006 dictionary and Li Fanwen's 2008 dictionary. A variant form with a single horizontal line across the top which is attested in the A edition of the *Homophones* is encoded as U+1700F $\stackrel{?}{\mathbb{M}}$. The form given in Li Fanwen 2008 (and thus in the code charts) seems to be based upon the glyph for the character in the definition for an entry for a different character in the *Sea of Writing* (I 36.152). However, this is not a good example to rely on as it is not the main entry for this character (the main entry is not in the extant copy of *Sea of Writing*), and the glyph is not well-written. In another entry in *Sea of Writing* (I 11.153), in the *Homophones* B edition, and in other Tangut sources this character is shown with a single unbroken horizontal stroke above the left and middle components, so we believe that the form with two horizontal strokes on the top is a mistake. The correct form of the character is given in Han Xiaomang 2004.

Evidence for U+17378:

Homophones A 07B15	Homophones B2 08A53	Homophones B5 08A53	Sea of Writing I 11.153	Sea of Writing I 36.152	Mixed Characters 08B5.01	
1000 0 静	一一一一一一一一一一一一一一一一一一一一一一一一一一一一一一一一一一一一一一	旅。神	THE	花	稱磁	
U+1700F	U+17378					

U+176E4 藏 ?ā 'shed' is a homophone of U+17378 滅, and the bottom part of the character should be derived from U+17378 (with "wood" above as the semantic element). However, the glyph used in Li Fanwen 2008 does not match either the original or corrected glyph for U+17378. U+176E4 only occurs in a very few sources, but on the whole they do show that the bottom part of U+176E4 should match the corrected glyph for U+17378, with a single horizontal stroke extending two-thirds of the way across the character (note that the shorter horizontal stroke in the *Homophones* A and B5 examples is still longer than would be expected for the $\hat{\parallel}$ component). One of the two examples in *Proverbs* seems to show the horizontal stroke broken into two, but this is anomalous.

Evidence for U+176E4:

Homophones A	Homophones B2	Homophones B5	Proverbs	Proverbs
07B14	08A52	08A52	04A1	19A7
滋鄉	整殊	茂雄	燕	施

3.14 Tangut Ideograph 173C6

Original Glyph	Sofronov 1968	Li Fanwen 1986	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008	Corrected Glyph
U+173C6	3126	1551	0877/0922	0404	2052	U+173C6
魣	街	餅	餠	ぼ	魣	魣

In the Unicode 9.0 code charts, Tangut ideograph 173C6 M xwan (transliteration) is written with Component 436 M in the middle. This is a very common character, and in the great majority of Tangut texts it is written with Component 522 M in the middle. It is occasionally written with Component 436, for example in the manuscript copy of the *Thousand Names of the Buddha of the Present* shown below, but Component 522 is undoubtedly the correct form.

Evidence for U+173C6:

Homophones A 45B46	Homophones B2 46A37	Sea of Writing I 32.161	Homonyms 14A4.03	Pearl in the Palm A 19:3E
份施	人人人人人人人人人人人人人人人人人人人人人人人人人人人人人人人人人人人人人人人	係機能	衛	

<i>Odes</i> 3:02B4	Forest of Categories 3:01A4	Thousand Names of the Buddha of the Present Or.12380/2288: 02	Thousand Names of the Buddha of the Present XX-2540: 03	Thousand Names of the Buddha of the Present B11.047: 18-9.06
街	衡	衛	衡	道

3.15 Tangut Ideograph 173D5

Original Glyph	Sofronov 1968	Li Fanwen 1986	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008	Corrected Glyph
U+173D5	5645	2725	2652/2756	4087	2774	U+173D5
姚	数	鍅	玆	郊	姚	姚

In the Unicode 9.0 code charts, Tangut ideograph 173D5 $\not x$ re 'weapon' is written with Component 68 $\not x$ on the left. This is a very rare character, only attested in *Homophones* and *Mixed Characters*, but both *Homophones* Editions A and B show that the left side component should be Component 147 $\not x$.

Evidence for U+173D5:

Homophones A 48A76	Homophones B1 48B72	Homophones B2 48B72	Mixed Characters 22A1.03
姚翁	人人人人人人人人人人人人人人人人人人人人人人人人人人人人人人人人人人人人人人人	人人人	後

3.16 Tangut Ideograph 174DF

Original Glyph	Sofronov 1968	Li Fanwen 1986	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008	Corrected Glyph
U+174DF	2007	1091	1134/1188	0225	4934	U+174DF
媊	繭	藾	頦	獺	薊	햷
U+17943	3509	2980	2184/2275	0224	2205	no change
纲	纲	絪	紁	潮	纲	

Tangut ideograph 174DF $\not \equiv ngw$, 'fourth' is written with Component 75 $\vec{}$ over U+17943 $\not \bowtie ld$, if 'four', but in the Unicode 9.0 code charts the positioning of the horizontal stroke is incorrect and needs to be modified to match U+19943. Original Tangut sources confirm that the horizontal stroke extends above the vertical stroke on the right.

Evidence for U+174DF:

Homophones A	Homophones B1	Homophones B2	Homophones B3	Homophones B4	Homophones B5
21A68	29A52	29A52	29A52	29A52	29A52
潮漏	新輔	· 瑜	為無	越華	調學

Sea of Writing I	Mixed Characters
87.252	15A1.02
机 裁 裁 裁	瀬浦

3.17 Tangut Ideographs 17538 and 18111

Original Glyph	Sofronov 1968	Li Fanwen 1986	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008	Corrected Glyph
U+17538	2052	1151	1215/1271	4145	4699	U+17538
灔	翹	剎	薇	灔	灔	證
U+18111	4349	3905	4117/4258	4144	0757	U+18111
靗	义	融	卍	灔	靗	靗

Tangut ideograph 17538 譈 mba (surname) is written with Component 75 $\stackrel{\leftarrow}{}$ on the top, and U+18111 澂 mba 'to help' as a phonetic on the bottom, but the middle component of the two characters is written slightly differently in each character. U+17538 is written with Component 691 $\stackrel{>}{}$, whereas U+18111 is written with Component 644 $\stackrel{>}{}$. Original Tangut sources (in particular Homophones Edition B) show that the component used for both U+17538 and U+18111 is actually Component 690 $\stackrel{>}{}$. Component 690 is used in eleven other Tangut ideograhs, whereas Component 644 is only used in U+18111, so Component 690 is undoubtedly correct. This is further confirmed by U+1810D $\stackrel{>}{}$ 0 mba (transliteration) which is written with Component 690.

Evidence for U+17538 and U+18111:

Homophones A 07A14–15	Homophones B2 07B61-62	Homophones B5 07B61-62	Three Generations 10B4	<i>Odes</i> 5:07B6
漁漁へ	融 義 教 ,	激光彩彩	離	秘
U+18111 U+17538	U+18111 U+17538	U+18111 U+17538	U+17538	U+18111

3.18 Tangut Ideographs 1753F and 17540

Original Glyph	Sofronov 1968	Li Fanwen 1986	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008	Corrected Glyph
U+1753F	2181	1187	1226/1282	3808	5412	U+1753F
1批	能	祉	徿	শ	1批	訛
U+17540	2187	1186	1227/1283	1094	5294	U+17540
捐	存	倂	孫	裕	捐	捐

In the Unicode 9.0 code charts, Tangut ideograph 1753F $\mathring{\parallel} lw$, 'ceremony' is written with Component 76 $\mathring{\parallel}$ on the left, and Component 47 $\mathring{\parallel}$ in the middle, but original Tangut sources show that Component 76 should overhang the middle component.

Tangut ideograph 17540 \H o 'kind of grass' is written with Component 76 \H on the left and Component 260 \H on the right, but original Tangut sources show that Component 76 should overhang the right-side component.

Evidence for U+1753F:

Homophones A 48B56	Homophones B1 49A45	Homophones B2 49A45	Mixed Characters 15B2.05	Proverbs 09B5
船	和	和通	別組	他

Evidence for U+17540:

Homophones A 44B41	Homophones B2 45A32	Mixed Characters 08A4.01
孫幾	稱鄉	舜併用

3.19 Tangut Ideograph 1756E

Original Glyph	Sofronov 1968	Li Fanwen 1986	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008	Corrected Glyph
U+1756E	4415	1390	1272/1329	3292	1361	U+1756E
元	蔙	乘	羄	蒗	靋	元

U+1756E \vec{n} tśhie 'to pull' is written incorrectly in all modern sources except Sofronov 1968. Based on the original Tangut sources, the lower right component should be written with Component 680 \vec{g} not as $|\vec{g}|$ (a combination that is not found in any other Tangut character).

Evidence for U+1756E:

Homophones A 38B74	Homophones B2 39A65	Sea of Writing I 19.222	Sea of Writing I 19.222	Sea of Writing I 74.271
一種	透暖。	養素脈	透	藏

Proverbs 12A4	Three Generations 36A1
蓬	癒

3.20 Tangut Ideograph 17712

Original Glyph	Sofronov 1968	Li Fanwen 1986	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008	Corrected Glyph
U+17712	0908	2409	1614/1711	0454	4201	U+17712
鞴	淵	蒜	鞴	蒲	鞴	鞴

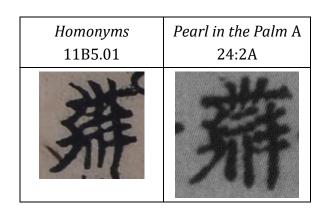
In the Unicode 9.0 code charts, Tangut ideograph 17712 $\stackrel{.}{m}$ kha 'casket' is written with Component 47 $\stackrel{.}{\Pi}$ in the bottom centre. U+17712 is a rare character, and we only know of three attestations in original Tangut texts, once in *Homophones*, once in *Pearl in the Palm*, and once in *Homophones* In *Homophones* Edition B and *Pearl in the Palm*, the character is written with Component 99 $\stackrel{.}{\Pi}$ in the bottom centre, but *Homophones* Edition A and *Homonyms* both show Component 47.

U+17712 *kha* 'casket' is evidently constructed using the left and middle components of U+1765D 楠 *kha* 'sound' as a phonetic. Both characters are read *kha*, and U+1765D is the character immediately preceding U+17712 in *Homophones*. In the A edition both U+1765D and U+17712 are written with the f component, whereas in the B edition both characters are written with the f component, indicating that in both characters the component is written the same.

U+1765D kha ith ith ith ith items (in the left side of U+1764F <math>ith ith items (in the left side) of U+1764F ith ith items (in the left side) of U+186CB ith items (in the left side) of U+1765D ith items (in the left side) of ith items (in the left side) which indicates that the left side of U+1765D ith ith items (in the left side) of ith items (in the left side)

Evidence for U+17712:

Homophones A	Homophones B1	Homophones B2	Homophones B5
27A13-14	27835-36	27B35-36	27B35-36
U+1765D U+17712	U+1765D U+17712	U+1765D U+17712	U+1765D U+17712



3.21 Tangut Ideograph 17CFC

Original Glyph	Sofronov 1968	Li Fanwen 1986	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008	Corrected Glyph
U+17CFC	5429	1979	3118/3235	4351	0397	U+17CFC
豵	毯	毲	雜	瓡	豵	豵

In the Unicode 9.0 code charts, Tangut ideograph 17CFC \Re *giew* 'to fall' is written with Component 412 \Im in the centre, but *Homophones* Editions A and B show that it is written with Component 301 \Im . The character does not survive as a head character in *Sea of Writing*, but in definitions in *Sea of Writing* it is also written with Component 301.

Evidence for U+17CFC:

Homophones A	Homophones B1	Homophones B2	Homophones B5	Sea of Writing I
24B37	25B15	25B15	25B15	6.162
一个	発	熱。胤	教。削	萩

3.22 Tangut Ideograph 17D15

Original Glyph	Sofronov 1968	Li Fanwen 1986	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008	Corrected Glyph
U+17D15	3075	3598	3141/3259	5557	2531	U+17D15
紙	絥	紙	紙	紙	掀	掀
U+1734E	0646	1245	0772/0814	5558	0537	no change
揪	採	徠	矫	採	揪	
U+17358		1249	0775/0817	5559	0538	no change
揪		揪	楙	揪	揪	

The three Tangut ideographs 17D15 mathrew pa 'respect', 1734E mathrew pa 'deep blue and green' and 17358 mathrew pa 'butterfly' all have the same right side component (Component 97 mathrew pa joined with Component 10 mathrew pa), but the first stroke of Component 97 in U+17D15 is written as a slanting stroke rather than a horizontal stroke that U+1734E and U+17358 both have.

In the original Tangut sources, *Homophones* Editions A and B consistently show a horizontal stroke for all three characters, whereas in *Sea of Writing* the stroke appears to be slightly slanting. However, the slant of this stroke is the same as seen in the horizontal first stroke of Component \dagger in U+1734E and U+17358 in *Sea of Writing*, so it can be considered to be nominally a horizontal stroke. For consistency, the glyph for U+17D15 should be changed to match those of U+1734E and U+17358.

Evidence for U+17D15:

Homophones A	Homophones B5	Sea of Writing I
05A65	06A57	27.252
掀	撤	掀機

3.23 Tangut ideograph 17D36

Fig. 47: Nishida 1966 p. 335

18-083

授 *lofi 《上衣》:流風音類,小類42(49A2),注齿 鴉 *ku 《外衣》:文字要素 **, タ, タ に分析できる(B2).

U+17D36 occurs in the A edition of *Homophones*, and U+17D69 occurs in the B edition of *Homophones*. Examining the original printed editions of *Homophones* it can be seen that the bottom right component is the same in both characters, and U+17D36 should indeed be written as shown by Nishida.

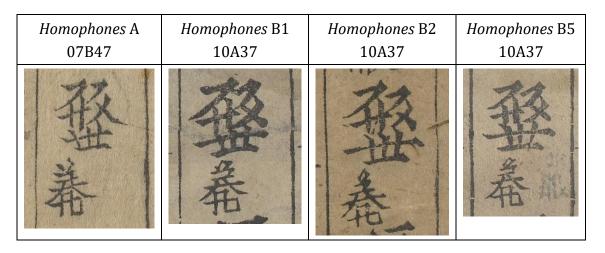
Evidence for U+17D36 and U+17D69:

Homophones A 49A28	Homophones B1 49B21	Homophones B2 49B21
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	戏》	一个人
U+17D36	U+17D69	U+17D69

3.24 Tangut Ideograph 17D9F

Original Glyph	Sofronov 1968	Li Fanwen 1986	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008	Corrected Glyph
U+17D9F	4826	4221	3286/3406	0049	0906	U+17D9F
<u> </u>	婺	發	臸	稻	報	盤

Evidence for U+17D9F:



Sea of Writing I	Pearl in the Palm A	<i>Odes</i>
11.121	29:1B	5:02A5
發級	盛	整

3.25 Tangut Ideograph 1814A

Original Glyph	Sofronov 1968	Li Fanwen 1986	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008	Corrected Glyph
U+1814A	4715	4405	4915/5080	3806	0273	U+1814A
氚	菰	颏	磃	流	殈	菰

In the Unicode 9.0 code charts, Tangut ideograph 1814A \overline{m} lei (surname) is written with Component 316 $\overline{3}$ on the left, but original Tangut sources show that it should be Component 454 $\overline{3}$. That this is the correct glyph form for U+1814A is confirmed by Sea of Writing, which gives the character construction as the middle of U+1737E \overline{m} viei (surname) (i.e. $\overline{3}$) and the right side of U+17873 \overline{m} lei 'beautiful'. Of the modern sources, only Han Xiaomang gives the correct glyph form.

Evidence for U+1814A:

Homophones A 50A68	Homophones B2 50B58	Sea of Writing I 43.151
强险	就強敵	和流脈

Pearl in the Palm A	Homonyms	Mixed Characters
11:2A	12A2.08	12B5.01
基础	痲	数割

3.26 Tangut Ideograph 181B2

Original Glyph	Sofronov 1968	Li Fanwen 1986	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008	Corrected Glyph
U+174F3 続	2092 続	1078	1154/1210 謊	5179 荒	4336 純	no change
U+181B2 羆	5234 孤	4059 純	4261/4408	5171 福	0984 祇	U+181B2 稱

According to the *Sea of Writing* U+174F3 藊 *na* 'fat' is constructed from the top part of U+174F0 藏 *na* 'deep' and the whole of U+181B2 祇 *tshwu* 'fat' (藏鄉稱蘇). Therefore the bottom part of U+174F3 should be identical to the whole of U+181B2. However, this is not the case in Li Fanwen's 2008 *Tangut-Chinese Dictionary*, and therefore in the ISO/IEC 10646 and Unicode code charts, where the middle vertical stroke is different in the two characters. Modern sources are inconsistent in the way that these two characters are written:

Original Tangut sources also show a mixture of glyph forms with long and short middle vertical strokes for U+174F3 and U+181B2 (see next page for examples). However, within a single source the two characters are written the same. *Sea of Writing, Homophones* Edition B, *Mixed Characters*, and *Proverbs* show a short vertical stroke for both characters; whereas only *Homophones* Edition A shows a long a vertical stroke for both characters. In texts that only have U+181B2, *Pearl in the Palm* consistently writes it with a short middle vertical stroke, but *Odes* consistently writes it with a long middle vertical stroke.

It seems that both ways of writing the characters (with a long or a short middle vertical stroke) are acceptable, but the two characters should be written consistently with respect to each other. As *Sea of Writing, Homophones* Edition B, *Mixed Characters, Proverbs*, and *Pearl in the Palm* all write U+181B2 with a short middle vertical stroke, the glyph for U+181B2 should be changed to match U+174F3, as shown above.

Evidence for U+181B2 and U+174F3:

Sea of Writing I 22.261	Sea of Writing I 06.261	Mixed Characters 17A3.03	Proverbs 15B7	Proverbs 26A1
龍龍龍	發 統 統 就 就 就 就 就 就 就 就 就 就 就 就 就 就 就 就 就	稲	硫統	稨
U+174F3	U+181B2	U+181B2 U+174F3	U+181B2 U+174F3	U+181B2

Homophones A 12A31	Homophones B2 13A21	Homophones B5 13A21	Homophones A 33A77	Homophones B2 35B24
福的	一種瓶	森	へへ	在航
U+174F3	U+174F3	U+174F3	U+181B2	U+181B2
U+181B2	U+181B2	U+181B2	U+174F3	U+174F3

Pearl in the Palm A 13:1D	Pearl in the Palm A 17:3B	Pearl in the Palm A 22:5D	<i>Odes</i> 3:04A5	<i>Odes</i> 4:03A6
飆	飆	桶	補	雁

3.27 Tangut Ideograph 181C0

Original Glyph	Sofronov 1968	Li Fanwen 1986	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008	Corrected Glyph
U+181C0 酬	5203	4079	4275/4422 -4423	0586 解	0525 좲	U+181C0 翻
,,,,,	गम	艄	稱稱	,,,,	(1/1/)	11/1/1

U+181C0 \not if thio 'shaft of a cart or carriage' is an uncommon character that only occurs in a very few Tangut sources. The Unicode 9.0 code chart glyph does not exactly match the form given in any original Tangut source, as the right hand component is different. Li Fanwen's 2008 *Tangut-Chinese Dictionary* has Component 256 \not on the right side, whereas Tangut sources either have Component 328 \not or Component 322 \not . As \not is attested in two sources (*Homophones B* and *Odes* No. 3) and \not in only one source (*Homophones A*), the glyph for U+181C0 should be changed to have \not on the right side.

Evidence for U+181C0:

Homophones A	Homophones B2	<i>Odes</i>
36A33	36B63	3:04A3
翻麵	補機	

3.28 Tangut Ideograph 182E6

Original Glyph	Sofronov 1968	Li Fanwen 1986	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008	Corrected Glyph
U+182E6	2626	4649	4560/4712	1578	5617	U+182E6
郯	别	毅	郯	学	郯	類

Evidence for U+182E6:

Homophones A 55A64	Homonyms 11B1.01	Three Generations 07A1	<i>Odes</i> 2:01A4
激素	类。	那	

3.29 Tangut Ideograph 18380

Original Glyph	Sofronov 1968	Li Fanwen 1986	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008	Corrected Glyph
U+18380	2491	4963		0781	5527	U+18380
ᇑ	靗	黼		氚	뻬	뻬

In the Unicode 9.0 code charts, Tangut ideograph 18380 $\stackrel{\text{iii}}{\text{iii}}$ $\stackrel{\text{iii}}{\text{iii}}$ is written with Component 177 $\stackrel{\text{iii}}{\text{iii}}$ on the right. There are very few sources for this character, but both the A and B editions of *Homophones* have Component 285 $\stackrel{\text{iii}}{\text{iii}}$ on the right side. The only source we have found which shows Component 177 for U+18380 is one edition of *Mixed Characters*, however another edition of *Mixed Characters* held at the British Library has Component 155 $\stackrel{\text{iii}}{\text{iii}}$ instead. As *Homophones* is the most reliable primary source, the default glyph for U+18380 should use Component 285 $\stackrel{\text{iii}}{\text{iii}}$. The other two glyph forms should be represented as IVS variants.

Evidence for U+18380:

Homophones A 40B57	Homophones B2 41A33	Mixed Characters 09B6.05	Mixed Characters Or.12380/1843 (J)
新續	新機	额	

3.30 Tangut Ideograph 18438

Original Glyph	Sofronov 1968	Li Fanwen 1986	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008	Corrected Glyph
U+18438	2669	4821	4831/4989	1526	5483	U+18438
對	辫	戮	辫	對對	縈	類

In the Unicode 9.0 code charts, Tangut ideograph 18438 \not \$\vec{z}\$ 'to continue' is written with Component 106 \$\vec{++}\$ above Component 32 \$\vec{z}\$ on the right. There are very few occurrences of this character in original Tangut sources, but both the A and B editions of *Homophones* show that the right side should be written with Component 106 \$\vec{++}\$ above Component 6 \$\vec{z}\$.

Evidence for U+18438:

Homophones A 50B41	Homophones B1 51A35	Homophones B2 51A35
務	微	教施

3.31 Tangut Ideograph 18488

Original Glyph	Sofronov 1968	Li Fanwen 1986	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008	Corrected Glyph
U+18488	5185	4119	4237/4384	1295	1510	U+18488
聋	清	請	清	帬	聋	塔

In the Unicode 9.0 code charts, U+18488 $\stackrel{?}{a}$ ·u 'healthy' is written with Component 458 $\stackrel{\#}{=}$ plus 7 additional strokes, following Li Fanwen 2008 and Kychanov 2006, whereas it should be Component 325 $\stackrel{\#}{=}$ plus 8 strokes, as shown in Han Xiaomang 2004. Tangut sources all show that the bottom right component should be Component 479 $\stackrel{?}{a}$, and Sea of Writing gives the character construction as the surrounding part of U+18192 $\stackrel{?}{a}$ ·u 'to exchange' and the right side of U+17E61 $\stackrel{!}{k}$ kie 'brave', which confirms the structure of the character.

Evidence for U+18488:

Homophones A 41B34	Homophones B2 42A45	Sea of Writing I 10.252	Sea of Writing I 76.251	Sea of Writing I 79.231
清魚	積嫩	海 扇 瓶	建	刺野

3.32 Tangut Ideograph 18493

Origi Glyp		Sofronov 1968	Li Fanwen 1986	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008	Corrected Glyph
U+184	193	5167	5076	4932/5097	3927	0975	U+18493
到		丸	蘇	鶔	菰	毲	雜

In the Unicode 9.0 code charts, Tangut ideograph 18493 $\stackrel{?}{m}$ pa 'to congeal, to scar' has Component 458 $\stackrel{\#}{}$ at the top, but it is written slightly differently to other ideographs with Component 458, apparently following the form given in *Sea of Writing*. However, the character construction given in *Sea of Writing* indicates that the top component derives from the top part of U+18496 $\stackrel{?}{m}$ *low* 'to gather', and U+18496 is written with the normal form of Component 458 in both *Sea of Writing* and *Homophones*.

Evidence for U+18493 and U+18496:

	Homophones A	Homophones B	Homophones B	Sea of Writing	Mixed Characters
U+18493 菜	08B41	B2 09A68	B5 09A68	施 義 他 統 184.231	17A8.02
U+18496 戦	松 47B51	B1 48A42	B2 48A42	後 就 就 158.251	

3.33 Tangut Ideograph 187B0

Original Glyph	Sofronov 1968	Li Fanwen 1986	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008	Corrected Glyph
U+187B0	2616	5750	5657/5843	2104	5761	U+187B0
数仪	裁	薮	쵗	談	数	薆仪

In the Unicode 9.0 code charts, Tangut ideograph 187B0 % \emph{lie} (surname) is written with Component 719 % on the left, but original Tangut sources show that this should be Component 691 %.

Evidence for U+187B0:

Homophones A 49B14	Homophones B1 49B73	Homophones B2 49B73	Mixed Characters 12B5.01
製製	穀鄉	教補	孤教

4. Technical Documents

- N4588R2. Andrew West, Viacheslav Zaytsev, Sun Bojun, Michael Everson. *Tangut glyph corrections*. ISO/IEC JTC1/SC2/WG2 N4588R2 (L2/14-209R). 2014-10-01. http://www.unicode.org/L2/L2014/14209r-n4588.pdf
- **N4723**. Andrew West, Viacheslav Zaytsev, Sun Bojun. *Glyph Corrections for 3 Tangut ideographs*. ISO/IEC JTC1/SC2/WG2 N4723 (L2/16-112). 2016-04-21. http://www.unicode.org/L2/L2016/16112-n4723-tangut-glyph-corr.pdf
- **N4724.** Andrew West, Viacheslav Zaytsev, Sun Bojun. *Proposal to encode five additional Tangut ideographs*. ISO/IEC JTC1/SC2/WG2 N4724 (L2/16-095). 2016-04-21. http://www.unicode.org/L2/L2016/16095-n4724-tangut.pdf
- **N4850.** Andrew West and Viacheslav Zaytsev. *Corrections for 31 Tangut ideographs and one Tangut component.* ISO/IEC JTC1/SC2/WG2 N4850 (L2/17-313). 2017-09-07. http://www.unicode.org/L2/L2017/17313-n4850-tangut.pdf
- **N4851.** Andrew West and Viacheslav Zaytsev. *Proposal to encode six additional Tangut ideographs.* ISO/IEC JTC1/SC2/WG2 N4851 (L2/17-314). 2017-09-07. http://www.unicode.org/L2/L2017/17314-n4851-tangut.pdf
- **N4896.** Andrew West, Viacheslav Zaytsev, Sun Bojun (18th Sub-project of the Project Chinese Characters Repertoire), and Jerry You. *Tangut Character Additions and Glyph Corrections*. ISO/IEC JTC1/SC2/WG2 N4896 (L2/17-360). 2017-09-22. http://www.unicode.org/L2/L2017/17360-n4896-tangut-add-corr.pdf
- N4957. Andrew West. *Proposal to encode seven additional Tangut components*. ISO/IEC JTC1/SC2/WG2 N4957 (L2/18-194). 2018-06-01. https://www.unicode.org/L2/L2018/18194-tangut-n4957.pdf
- **N5031.** Andrew West and Viacheslav Zaytsev. *Investigation of Tangut unification issues*. ISO/IEC JTC1/SC2/WG2 N5031 (L2/19-064). 2019-02-10. http://www.unicode.org/L2/L2019/19064-tangut-n5031.pdf
- **N5064.** Andrew West, Viacheslav Zaytsev (Institute of Oriental Manuscripts, Russian Academy of Sciences), Jia Changye (Ningxia Academy of Social Sciences), Jing Yongshi (Beifang University of Nationalities), Sun Bojun (Institute of Ethnology and Anthropology, Chinese Academy of Social Sciences). *Proposal to encode nine Tangut ideographs and six Tangut components.* ISO/IEC JTC1/SC2/WG2 N5064 (L2/19-207). 2019-05-27. http://www.unicode.org/L2/L2019/19207-n5064-tangut.pdf
- N5126. Andrew West and Viacheslav Zaytsev. *Additional Tangut Glyph Corrections*. ISO/IEC JTC1/SC2/WG2 N5126 (L2/19-403). 2019-12-21. http://www.unicode.org/L2/L2019/19403-n5126-tangut.pdf

5. Bibliography

- Arakawa 2001. Arakawa Shintarō 荒川慎太郎. "Seikashi no kyakuin ni mirareru inbo ni tsuite: 'Sanze zoku meigen shū bun' shoshū Seikagoshi" 西夏詩の脚韻に見られる韻母について: 『三世属明言集文』所収西夏語詩 [About the rhymes in Tangut verses: Reanalysis of Tangut rhyming poetry in San shi shu ming yan ji wen]; Kyōto daigaku gengogaku kenkyū 京都大学言語学研究 = Kyoto University Linguistic Research vol. 20 (2001): 195–224.
- Drogön Chögyal Phagpa 2007. 'gro mgon chos rgyal 'phags pa = Bāsībā 八思巴 [Drogön Chögyal Phagpa]. sa skya bka' 'bum dpe bsdur ma las 'gro mgon chos rgyal 'phags pa'i gsung 'bum pod dang po bzhugs so [Comparative Edition of the Collected Writings of Sakya: Collected Works of Drogön Chögyal Phagpa. Vol. 1] = sa skya gong ma rnam lnga'i gsung 'bum dpe bsdur ma las 'gro mgon chos rgyal 'phags pa'i gsung pod dang po bzhugs [Comparative Edition of the Collected Works of the Five Founding Fathers of Sakya: Works of Drogön Chögyal Phagpa. Vol. 1] = Sàjiā wǔzǔ quánjí duìkān běn 萨 迦五祖全集对勘本 (17/25) [Comparative Edition of the Collected Works of the Five Founding Fathers of Sakya. Vol. 17/25]. Pe cin = Běijīng 北京: Krung go'i bod rig pa dpe skrun khang = Zhōngguó zàngxué chūbǎnshè 中国藏学出版社, 2007. (Mes po'i shul bzhag = Xiānzhé yíshū 先哲遺书; 19). ISBN 978-7-80057-846-5
- ECHW 7. Shǐ Jīnbō 史金波, Wèi Tóngxián 魏同賢, and E. I. Kychanov (chief eds.). É cáng Hēishuǐchéng wénxiàn 俄藏黑水城文獻 = Памятники письменности из Хара-Хото хранящиеся в России = Heishuicheng Manuscripts Collected in Russia. Vol. 7. Shànghǎi 上海: Shànghǎi gǔjí chūbǎnshè 上海古籍出版社, 1997. ISBN 7-5325-2213-X
- ECHW 9. Shǐ Jīnbō 史金波, Wèi Tóngxián 魏同賢, and E. I. Kychanov (chief eds.). É cáng Hēishuǐchéng wénxiàn 俄藏黑水城文獻 = Памятники письменности из Хара-Хото хранящиеся в России = Heishuicheng Manuscripts Collected in Russia. Vol. 9. Shànghǎi 上海: Shànghǎi gǔjí chūbǎnshè 上海古籍出版社, 1999. ISBN 7-5325-2628-3
- ECHW 10. Shǐ Jīnbō 史金波, Wèi Tóngxián 魏同賢, and E. I. Kychanov (chief eds.). É cáng Hēishuǐchéng wénxiàn 俄藏黑水城文獻 = Памятники письменности из Хара-Хото хранящиеся в России = Heishuicheng Manuscripts Collected in Russia. Vol. 10. Shànghǎi 上海: Shànghǎi gǔjí chūbǎnshè 上海古籍出版社, 1999. ISBN 7-5325-2648-8
- ECHW 11. Shǐ Jīnbō 史金波, Wèi Tóngxián 魏同賢, and E. I. Kychanov (chief eds.). É cáng Hēishuǐchéng wénxiàn 俄藏黑水城文獻 = Памятники письменности из Хара-Хото хранящиеся в России = Heishuicheng Manuscripts Collected in Russia. Vol. 11. Shànghǎi 上海: Shànghǎi gǔjí chūbǎnshè 上海古籍出版社, 1999. ISBN 7-5325-2653-4
- Han Xiaomang 2004. Hán Xiǎománg 韓小忙. *Xīxiàwén zhèngzì yánjiū* 西夏文正字研究 [A Study on Xixia Orthography]. Ph.D. dissertation. Xǐ'ān 西安: Shǎnxī shīfàn dàxué 陕西师范大学, 2004. Advisor, Prof. Lǐ Fànwén 李范文.
- Ivanov 1923. Yī Fènggé 伊鳳閣 [А. И. Иванов]. "Xīxià guóshū shuō" 西夏國書說 [The Language of Hsi-Hsia]; Guólì Běijīng dàxué Guóxué jìkān 國立北京大學國學季刊 = The Kuo-Hsio Chi-K'an: A Journal of Sinological Studies vol. 1 no. 4 (December 1923): 675–686.

- Ivanov 1924. Ivanof, A. [А. И. Иванов]. "Yǔ Luó Jūnměi shū" 與羅君美書 [To Mr. Lo Chün Mei (i.e. Luo Fucheng)]; Shinagaku 支那學 = Shina-gaku (Sinology) vol. 3 no. 8 (July 1924): 73 (637).
- Kolokolov et al. 1966. Колоколов, В. С. [V. S. Kolokolov] and Е. И. Кычанов [Е. І. Кусhanov] (preface, dictionary and indices). Китайская классика в тангутском переводе (Лунь юй, Мэн цзы, Сяо цзин). Факсимиле текстов [Chinese classics in Tangut translation (Lun yu, Meng zi, Xiao jing). Facsimile of the texts]. Москва [Моscow]: Издательство «Наука», Главная редакция восточной литературы ["Nauka" Publishing House, The Chief Editorial Office for Oriental Literature], 1966. (Памятники письменности Востока [Written Monuments of the Orient]; IV).
- **Kychanov 1999.** Кычанов, Е. И. [E. I. Kychanov] (comp.); Нисида, Т. [Nishida Tatsuo 西田龍雄] (introductory paper); Аракава, С. [Arakawa Shintarō 荒川慎太郎] (publication preparation). *Каталог тангутских буддийских памятников Института востоковедения Российской Академии Наук* [Catalogue of Tangut Buddhist monuments at the Institute of Oriental Studies of the Russian Academy of Sciences]. [Kyoto]: Университет Киото [Kyoto University], 1999.
- **Kychanov 2004**. Кычанов, Е. И. [Е. І. Куchanov]. "Несколько предварительных замечаний по поводу тангутского текста «Собрание слов, передаваемых от одного к другому в трёх поколениях»" [Some Preliminary Remarks about the Tangut Text *The Collection of Words Transmitted through Three Generations from One Person to Another*]; Письменные памятники Востока = Written Monuments of the Orient no. 1 (2004, Spring-Summer): 147–159.
- **Kychanov 2006**. Kychanov, E. I. (Е. И. Кычанов) (ed.) and Arakawa Shintarō 荒川慎太郎 (со-ed.). Словарь тангутского (Си Ся) языка. Тангутско-русско-англо-китайский словарь = Tangut dictionary. Tangut-Russian-English-Chinese dictionary. Kyoto: Faculty of Letters, Kyoto University, 2006.
- Li Fanwen 1986. Lǐ Fànwén 李范文. *Tóngyīn yánjiū* 同音研究 [Study of the *Homophones*]. Yínchuān 银川: Níngxià rénmín chūbǎnshè 宁夏人民出版社, 1986.
- **Li Fanwen 1997**. Lǐ Fànwén 李範文 (comp.). *Xià-Hàn zìdiǎn* 夏漢字典 [Tangut-Chinese Dictionary]. Běijīng 北京: Zhōngguó shèhuì kēxué chūbǎnshè 中國社會科學出版社, 1997. ISBN 7-5004-2113-3
- Li Fanwen 2008. Lǐ Fànwén 李範文 (comp.) and Jiǎ Chángyè 賈常業 (rev. and exp.). Xià-Hàn zìdiǎn 夏漢字典 [Tangut-Chinese Dictionary (revised ed.)]. Běijīng 北京: Zhōngguó shèhuì kēxué chūbǎnshè 中國社會科學出版社, 2008. ISBN 978-7-5004-2113-9
- Li Fanwen 2012a. Ли Фань-вэнь [Lǐ Fànwén 李範文]. "Е.И. Кычанов и изучение документов из Хара-Хото" [Е. І. Куchanov and the study of documents from Khara-Khoto]. In Попова, И.Ф. [Irina Popova] (comp. and ed.), Тангуты в Центральной Азии: Сборник статей в честь 80-летия профессора Е.И. Кычанова [Tanguts in Central Asia: a collection of articles marking the 80th anniversary of Prof. Е. І. Куchanov] pp. 206–212. Москва [Моском]: Издательская фирма «Восточная литература» РАН [Publishing firm "Oriental Literature" of the RAS], 2012. ISBN 978-5-02-036505-6

- Li Fanwen 2012b. Lǐ Fànwén 李範文 (comp.). *Jiǎnmíng Xià-Hàn zìdiǎn* 簡明夏漢字典 [Abridged Tangut-Chinese dictionary]. Běijīng 北京: Zhōngguó shèhuì kēxué chūbǎnshè 中國社會科學出版社, 2012. ISBN 978-7-5161-1544-2
- Li Ruoyu 2016. Lǐ Ruòyú 李若愚. "'Xǐ jīngāng xiànzhèng rúyì bǎo': Yuán dìshī Bāsībā zhùzuò de Xīxià yìběn" 《喜金刚现证如意宝》: 元帝师八思巴著作的西夏译本 [Hevajra's Ruyibao: A Tangut Version by Yuan Imperial Preceptor Ba Siba]; Níngxià Shèhuì Kēxué 宁夏社会科学 [Social Sciences in Ningxia] No. 5 (September 2016): 206–212.
- Li Ruoyu 2017. Lǐ Ruòyú 李若愚. Xīxiàwén 'Xǐ jīngāng xiànzhèng rúyì bǎo' kǎoshì 西夏文《喜金刚现证如意宝》考释 [Study of the Tangut version of Hevajra's Wish-Fulfilling Gem of Abhisamaya]. Ph.D. dissertation. Běijīng 北京: Zhōngguó shèhuì kēxuéyuàn yánjiūshēng-yuàn 中国社会科学院研究生院 = Graduate School of Chinese Academy of Social Sciences, 2017. Advisor, Prof. Niè Hóngyīn 聂鸿音.
- Murata 1957. Murata Jirō 村田治郎 (ed.), with contributions of Nagao Gajin 長尾雅人, Ashikaga Atsuuji 足利惇氏, Takata Osamu 高田修, Gō Minoru 江實, Ono Katsutoshi 小野勝年, Fujieda Akira 藤枝晃, Hibino Takeo 日比野丈夫, Kajiyama Yūichi 梶山雄一, Nishida Tatsuo 西田龍雄 and Murata Jirō 村田治郎. Kyoyōkan 居庸關 = Chüyung-kuan: the Buddhist arch of the fourteenth century A. D. at the pass of the Great Wall northwest of Peking. Volume I: Text. [Kyōto]: Kyōto daigaku Kōgakubu 京都大學工學部 = Faculty of Engineering, Kyoto University, 1957.
- Nishida 1966. Nishida Tatsuo 西田龍雄. Seikamoji shōjiten 西夏文字小字典 [Little Dictionary of Tangut Characters]. In Seikago no kenkyū: Seikago no saikōsei to Seikamoji no kaidoku 西夏語の研究: 西夏語の再構成と西夏文字の解讀 = A Study of the Hsi-Hsia language: Reconstruction of the Hsi-Hsia language and decipherment of the Hsi-Hsia script, vol. II pp. 303–507. Tōkyō 東京: Zayūhō kankōkai 座右宝刊行会, 1966.
- **Samosyuk 2006.** Самосюк, К. Ф. (К. F. Samosyuk). *Буддийская живопись из Хара-Хото XII–XIV веков. Между Китаем и Тибетом. Коллекция П. К. Козлова = Buddhist Painting from Khara-Khoto. XII–XIVth centuries. Between China and Tibet. P. K. Kozlov's Collection.* Санкт-Петербург = St. Petersburg: Издательство Государственного Эрмитажа = The State Hermitage Publishers, 2006. ISBN 5-93572-234-8
- **Sofronov 1968**. Софронов, М. В. [М. V. Sofronov]. *Грамматика тангутского языка. Книга 2: Материалы для фонетической реконструкции* [Grammar of the Tangut Language. Volume 2: Materials for the Phonetic Reconstruction]. Москва [Moscow]: Издательство «Наука», Главная редакция восточной литературы ["Nauka" Publishing House, The Chief Editorial Office for Oriental Literature], 1968.
- Sun Bojun 2011. Sūn Bójūn 孙伯君. "Yuándài báiyún zōng yìkān Xīxiàwén wénxiàn zōngkǎo" 元代白云宗译刊西夏文文献综考 [General study of Tangut documents translated and printed during the Yuan dynasty by the White Cloud sect]; *Wénxiàn* 文献 [Documents] No. 2 (2011): 146–157.
- **Terentiev-Katansky et al. 2002**. Терентьев-Катанский, А. П. [А. Р. Terentiev-Katansky] (introductory paper, trans. from Tangut) and М. В. Софронов [М. V. Sofronov] (trans. ed., text reconstruction, preface, study and commentary). *Смешанные знаки* [трёх частей мироздания]: Факсимиле ксилографа [Mixed Characters [of Three Parts of the Universe]: Facsimile of the blockprint]. Москва [Moscow]:

- Издательская фирма «Восточная литература» PAH [Publishing firm "Oriental Literature" of the RAS], 2002. (Памятники письменности Востока [Written Monuments of the Orient]; CXXI). ISBN 5-02-018097-1
- Wang Jingru 1932. Wáng Jìngrú 王靜如. "Xīxià guómíng kǎo" 西夏國名考 [On the Name Shishiah]. In Wáng Jìngrú 王靜如. Xīxià yánjiū 西夏研究 = Shishiah Studies, part 1 pp. 77–88. Běipíng 北平: Guólì Zhōngyāng yánjiūyuàn lìshǐ yǔyán yánjiūsuǒ 國立中央研究院歷史語言研究所 = Academia Sinica, The National Research Institute of History and Philology, 1932. (Guólì Zhōngyāng yánjiūyuàn lìshǐ yǔyán yánjiūsuǒ dān kān jiǎ zhǒng zhī bā 國立中央研究院歷史語言研究所單刊甲種之八 = Academia Sinica, The National Research Institute of History and Philology Monographs. Series A; No. 8).
- YCHW 3. Xiè Yùjié 謝玉傑 and Frances Wood [Wú Fāngsī 吴芳思] (chief eds.). Yīng cáng Hēishuǐchéng wénxiàn 英藏黑水城文獻 = Documents from Khara-Khoto in Britain = Yīngguó guójiā túshūguǎn cáng Hēishuǐchéng wénxiàn 英國國家圖書館藏黑水城文獻 = Documents from Khara-Khoto in the British Library. Vol. 3. Shànghǎi 上海: Shànghǎi gǔjí chūbǎnshè 上海古籍出版社, 2005. ISBN 7-5325-4091-X
- **ZCXW 4**. Shǐ Jīnbō 史金波 and Chén Yùníng 陈育宁 (chief eds.). *Zhōngguó cáng Xīxià wénxiàn* 中國藏西夏文獻 = Tangut Manuscripts Collected in China. Vol. 4. Lánzhōu 蘭州: Gānsù rénmín chūbǎnshè 甘肅人民出版社 = Gansu People's Publishing House; Dūnhuáng wényì chūbǎnshè 敦煌文藝出版社 = Dunhuang Literature and Art Publishing House, 2005. ISBN 7-80587-748-3 (第 1 編)
- **ZCXW 5**. Shǐ Jīnbō 史金波 and Chén Yùníng 陈育宁 (chief eds.). *Zhōngguó cáng Xīxià wénxiàn* 中國藏西夏文獻 = Tangut Manuscripts Collected in China. Vol. 5. Lánzhōu 蘭州: Gānsù rénmín chūbǎnshè 甘肅人民出版社 = Gansu People's Publishing House ; Dūnhuáng wényì chūbǎnshè 敦煌文藝出版社 = Dunhuang Literature and Art Publishing House, 2005. ISBN 7-80587-768-8 (第 2 編)
- **ZCXW 6**. Shǐ Jīnbō 史金波 and Chén Yùníng 陈育宁 (chief eds.). *Zhōngguó cáng Xīxià wénxiàn* 中國藏西夏文獻 = Tangut Manuscripts Collected in China. Vol. 6. Lánzhōu 蘭州: Gānsù rénmín chūbǎnshè 甘肅人民出版社 = Gansu People's Publishing House; Dūnhuáng wényì chūbǎnshè 敦煌文藝出版社 = Dunhuang Literature and Art Publishing House, 2005. ISBN 7-80587-768-8 (第 2 編)

6. Tangut Sources

- Classic of Filial Piety. wa ngɪn 铎陔 [Classic of Filial Piety = Xiào jīng 孝經]. Manuscript, 79 folios. IOM (Tangut fond): pressmark Tang 1, old inventory № 2627. In: Kolokolov et al. 1966, p. 133–211 (facsimile part); ECHW 11, p. 2–46.
- Dissected Rimes of the Five Sounds. ngwə 'ệi we mbịu 飯龍蘞讌 [Dissected Rimes of the Five Sounds = Wǔyīn qiēyùn 五音切韻]. Colophon dated 1173. Manuscript, 39 folios. IOM (Tangut fond): pressmark Tang 21/1, old inventory № 620. Published as Edition A (甲种本) in: ECHW 7, pp. 258–278.
- Forest of Categories. ndie mbo 総核 [Forest of Categories = Lèilín 類林]. Colophons dated 1181. Xylograph edition, folios 01–37 (vol. 3), 01–35 (vol. 4), 13–24 (vol. 5), 01–36 (vol. 6), 01–33 (vol. 7), 01–23 (vol. 8), 01–26 (vol. 9), 04–15 (vol. 10). IOM (Tangut fond): pressmark Tang 11/2, old inventory № 6444; Tang 11/3, old inventory № 2625; Tang 11/4, old inventory № 125; Tang 11/5, old inventory № 126; Tang 11/6, old inventory № 127; Tang 11/7, old inventory № 128; Tang 11/8(1), old inventory № 129; Tang 11/8(2), old inventory № 6686; Tang 11/9, old inventory № 130; Tang 11/10, old inventory № 131. In: ECHW 11, pp. 221–332.
- Hevajra's Abhisamaya. ngiwei ·i̯ə nɪn mi̯uo ·i̯u tsɪn 瀛藏席鋒豨織 [Hevajra's Wish-Fulfilling Gem of Abhisamaya [direct realization] = Xǐ jīngāng xiànzhèng rúyì bǎo 喜金剛現證如意寶]. Manuscript. Sold at the Spring 2017 Art Auction held by the Beijing Taihejiacheng Auction Company (Běijīng tài hé jiā chéng pāimài yǒuxiàn gōngsī 北京泰和嘉成拍卖有限公司) on 4 June 2017 (Lot 2368). Provenance and current owner unknown.
- Homonyms. tshi tsi ·ju ndai mje lew ndi ndza 叕銭厳酸颏配斓敝 [Essential Selection of Often-Transmitted Homonyms and Mixed Characters = Zéyào Chángchuán Tóngmíng Zázì 擇要常傳同名雜字]. Xylograph edition, folios 01–14. Sold at an auction of ancient documents held by the Beijing Debao International Auction Company (Běijīng débǎo guójì pāimài yǒuxiàn gōngsī 北京德宝国际拍卖有限公司) on 23 November 2014 (Lot 65). Provenance unknown. Now in private ownership.
- **Homophones A**. *'ệi lew* 能能 [*Homophones = Tóngyīn* 同音]. Edition A (only one exemplar of this edition exists). Final preface dated 1132. Xylograph edition, folios 01–56. IOM (Tangut fond): pressmark Tang 18/1, old inventory № 207. Published as Edition A (甲種本) in: ECHW 7 pp. 1–28.
- Homophones B1. ·ệi lew 乖能 [Homophones = Tóngyīn 同音]. Edition B Exemplar 1 (one of the exemplars making up ECHW Edition B). Xylograph edition, folios 01–04A, 10–12, 14–15, 20–31, 48–53A, 29 (2nd ex.), 51B (2nd ex.). IOM (Tangut fond): pressmark Tang 18/2, old inventory № 208. Published as Edition B (乙種本) in: ECHW 7 pp. 29–55.
- **Homophones B2**. *'ệi lew* 能能 [*Homophones = Tóngyīn* 同音]. Edition B Exemplar 2 (one of the exemplars making up ECHW Edition B). Xylograph edition, folios 07–51A, 52.

- IOM (Tangut fond): pressmark Tang 18/3, old inventory № 209. Published as Edition B (乙種本) in: ECHW 7 pp. 29–55.
- Homophones B3. 'ệi lew 礼能 [Homophones = Tóngyīn 同音]. Edition B Exemplar 3 (one of the exemplars making up ECHW Edition B). Xylograph edition, folios 07A, 09B, 16A, 17B, 18–24, 25A, 25B, 26A (2 ex.), 26B (2 ex.), 27A (2 ex.), 27B, 28A, 29. IOM (Tangut fond): pressmark Tang 18/7, old inventory № 4775. Published as Edition B (乙種本) in: ECHW 7 pp. 29–55.
- **Homophones B4**. *'ệi lew* 能能 [*Homophones = Tóngyīn* 同音]. Edition B Exemplar 4 (corresponding to ECHW Edition C). Xylograph edition, folios 26B-31A. IOM (Tangut fond): pressmark Tang 18/4, old inventory № 2619. Published as Edition C (丙種本) in: ECHW 7 pp. 55-57.
- Homophones B5. 'ệi lew 乖能 [Homophones = Tóngyīn 同音]. Edition B Exemplar 5 (corresponding to ECHW Edition D) with explanatory notes on the verso side [同音 背隱音義]. Xylograph edition, folios 01–33. IOM (Tangut fond): pressmark Tang 18/15, old inventory № 8365. Published as Edition D (丁種本) in: ECHW 7 pp. 58–121.
- Homophones and Sea of Writing. [Combined Edition of Homophones and Sea of Writing = Tóngyīn Wénhǎi Bǎoyùn hébiān 同音文海寶韻合編]. Manuscript. Edition A. IOM (Tangut fond): pressmark Tang 17/2, old inventory № 4153; Tang 17/12, old inventory № 4781; Tang 17/13, old inventory № 6685; Tang 17/14, old inventory № 8179. Published as Edition A (甲種本) in: ECHW 7 pp. 233–256. Folios are numbered according to the numbers of the photographs in it.
- **Juyongguan**. Yuan dynasty Buddhist inscriptions on the walls of the Cloud Platform at Juyong Pass (*Jūyōngguān Yúntái* 居庸關雲臺), dated 1345. In: Murata 1957, rubbings 4 and 5.
- Mixed Characters. [so rie] ndi ndza [談錄] 風 [Mixed Characters [of Three Parts of the Universe] = Sāncái zázì 三才雜字]. Colophon dated 1187. Xylograph edition, folios 03A-23A. IOM (Tangut fond): pressmark Tang 19/1, old inventory № 210. In: Terentiev-Katansky 2002 pp. 213-240.
- **Mixed Characters**. [so rie] ndi ndza [義錄] 風 [Mixed Characters [of Three Parts of the Universe] = Sāncái zázì 三才雜字]. Xylograph edition, fragments. BL Or.12380/1004–1011, Or.12380/1843 (A-Z, AA-AJ), Or.12380/2236, Or.12380/2400, Or.12380/2401, Or.12380/2402 (A).
- **Odes**. ndio [Odes = $Sh\bar{\imath}$ 詩]. Colophons dated 1185. Xylograph edition, five parts, folios 03B-04B (No. 1), 01-06 (No. 2), 01-06 (No. 3), 01-09 (No. 4), 01-08 (No. 5). IOM (Tangut fond): pressmark Tang 25/1, old inventory № 121. In: ECHW 10 pp. 267-282.
- Pearl in the Palm. mi źą ngwu ndzie mbiu pia ngu nie 級級耐臟雜姓解较 = Fān-Hàn héshí zhǎngzhōngzhū 番漢合時掌中珠 [Tangut-Chinese Timely Pearl in the Palm]. Preface dated 1190. Xylograph edition, folios 01–37. IOM (Tangut fond): pressmark Tang 13 (Exemplar 1–3), old inventory № 214, 215, 216, 217, 218, 685, 4777. Published as Edition A (甲種本) = Ex 2, Edition B (乙種本) = Ex 1 and Edition C (丙種本) in: ECHW 10 pp. 1–37.

- Colophon dated 1187. Xylograph edition, folios 01–31. IOM (Tangut fond): pressmark Tang 35/1, old inventory № 765.
- Repentance Dharma. nɪn viu rại lhọ dźiại rẹw tsị 記乘茲霧ണ機藏 [Repentance Dharma of Kindness and Compassion in the Bodhimanda = Cíbēi dàocháng chànzuìfǎ 慈悲道場懺罪法]. Xylograph, vols. 1, 3–10. NLC: B11.038–B11.046. Published in: ZCXW 4 pp. 87–366; ZCXW 5 pp. 3–186.
- Sea of Writing III. 'iwə ngôn ndza ndie 有精彩 [Sea of Writing. Mixed Category = Wénhǎi zálèi 文海雜類]. Xylograph edition, folios 02A-08A, 09A-12A, 13B-16A, 17B-21A, 22A. IOM (Tangut fond): pressmark Tang 15, old inventory № 213. In: ECHW 7 pp. 166-176.

- Vajrayana. mi ngwu ·jṇ nɪn ·u tśhi̯e 級 i [Root [downfalls] of Vajrayana in Tangut Language = Fānyán Jīngāngwáng chénggēn 番言金剛王乘根]. Manuscript. IOM (Tangut fond): pressmark Tang 293, old inventory № 4900.

Abbreviations

- BL. British Library (London, UK)
- **IOM.** Institute of Oriental Manuscripts of the Russian Academy of Sciences (Saint Petersburg, Russia)
- NLC. National Library of China = Guójiā túshūguǎn 國家圖書館 (Beijing, China)

Note on Homophones (Tongyin) editions

There are two xylographic editions of *Homophones*, A and B. Edition A is only preserved as a single copy at the Institute of Oriental Manuscripts and a single small fragment at the British Library, but there are several different exemplars of Edition B printed from the same or different woodblocks (i.e. original or recarved woodblocks for the same edition). However, Chinese researchers divide *Homophones* into four editions, A, B, C and D (Chinese 甲種本, 乙種本, 丙種本, 丁種本), where Chinese Edition A corresponds to actual Edition A, and Chinese Editions B, C and D are different exemplars of actual Edition B (see ECHW 7). In our previous technical documents on encoding of Tangut script prepared for UTC and WG2 in 2008–2018, for compatibility with the Chinese scheme we referred to the exemplars of Edition B as Editions B, C and D. As the Chinese Edition B is actually a composite of three different exemplars (with different inventory numbers), we specified the exemplars corresponding to Chinese Edition B as B1, B2 and B3. Since 2019 we use a less confusing and more logical scheme of reference, with different exemplars of Edition B referred to as B1 (previously B1), B2 (previously B2), B3 (previously B3), B4 (previously C), B5 (previously D) etc.

Note on Tangut readings

Tangut readings in this document are M. V. Sofronov's reconstructed pronunciations as given in E. I. Kychanov's Tangut dictionary (Kychanov 2006). Where there is no reading for a particular character in Kychanov's dictionary, we use the reading given in Sofronov 1968 if available, with the transcription modified to match the usage in Kychanov 2006.

7. Acknowledgements

The authors of this technical note would like to thank the following experts for identifying new Tangut ideographs and providing relevant source materials.

- Sūn Bójūn 孙伯君
- Jerry You (Yóu Chéngyǔ 游程宇)
- Lǐ Ruòyú 李若愚

8. Version History

Version	Date	Notes
1	2017-10-17	Initial version
2	2019-12-21	Additional glyph corrections for 42 Tangut ideographs and 4 Tangut components