Proposal to Encode the Siddham Script in ISO/IEC 10646

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1   Introduction

Purpose   This is a formal proposal to encode the Siddham script in the Universal Character Set (ISO/IEC 10646). It replaces "Preliminary Proposal to Encode Siddham in ISO/IEC 10646" (N4185 L2/12-011R). The proposed encoding is a collaborative effort between the Script Encoding Initiative (SEI) at the University of California, Berkeley and the Shingon Buddhist International Institute, Fresno, California.

Principles of the Encoding   Siddham is a Brahmi-based writing system that originated in India, but which at present is used primarily in East Asia. It is associated nowadays with esoteric Buddhist traditions in Japan. The technical description for Siddham given here may differ from the traditional analysis and philosophical interpretations of the script and its constituent characters and glyphs. Siddham is structurally an Indic script and its proposed encoding adheres to the UCS model for Brahmi-based writing systems, such as Devanagari and similar scripts. An attempt has been made to encode all distinct characters attested in Siddham records, although more characters may be uncovered through additional research. The characters that are proposed for encoding have been analyzed in accordance with the character-glyph model of the UCS. As a result, the proposed encoding may contain characters that are not part of traditional character repertoires. It may also exclude characters that are traditionally regarded as independent letters, such as conjuncts, which are to be represented in the manner specified by the UCS encoding model for Indic scripts.

Script Name   The script is assigned the name 'Siddham'. It is also known as 'Siddhamātṛkā' and 'Kuṭila', which are specified as aliases in the names list. It has been suggested that 'Siddhamatrika' is more suitable than 'Siddham' because it broadly accommodates historical and regional forms of the script. However, the the script is most commonly known by the identifier 'Siddham'. Expert comments on the name are available in L2/12-221 and L2/12-237.

Unification   The encoding for Siddham is to serve as a unifying block for all regional variants of the script, such as 'Siddhamātṛkā' and 'Kuṭila'. The representative glyphs are based upon Japanese forms of Siddham characters on account of active usage of the script by Japanese Buddhist communities.

Characters Proposed   A total of 85 Siddham characters is proposed for encoding, as shown in the code chart and names list (figures 1 and 2). Character names follow the UCS convention for Brahmi-based scripts. Other characters have been identified, but are not yet proposed for encoding because additional information regarding their usage is required (see Section 4).

Allocation   The Siddham block is allocated to the Supplementary Multilingual Plane (SMP) at the range U+11580..U+115FF.

Font   Representative glyphs are based upon the 'Tenchiji' font designed by the Shingon Buddhist International Institute with assistance from Lee Collins and Peter Lofting. The present author has added new glyphs and made some modifications to existing glyphs.

2   Background

The Siddham script (सिद्धं *siddhaṃ*, सिद्धां *siddhāṃ*; Sans. सिद्धं *siddhaṃ*; Chi. 悉曇文字 *xītán wénzì*; Jap. 悉曇 *shittan*; Kor. 실담 *siltam*) is a Brahmi-based script historically used for writing Sanskrit in China, Japan, and Korea. It is also known in Japan as *bonji* (梵字; Chi. *fànzì*; "Brahmā letters" < Sans. ब्रह्मा *brahmā*). At present, Siddham is used predominantly in Japan, where it is associated with the Shingon (真言) and Tendai (天台) schools of Japanese esoteric Buddhism (密教 *mikkyō*). Siddham was used for writing Buddhist manuscripts, but it is now mainly used for ceremonial and ritualistic purposes, such as the copying of *sūtra*-s and the writing of *mantra*-s and *bījākṣara*-s "seed syllables" associated with esoteric Buddhist practices. It was also used for inscriptions on statuary, amulets, and other artefacts.

Tradition states that the esoteric philosophy for Siddham was introduced in Japan in 806 by the Buddhist monk Kūkai (空海) (774–835), who learned the script in China from Prajñā (Sans. प्रज्ञा; Chi. 般若三藏 Bōrě Sāncáng) (734–c.810), a monk from Kashmir who served the Buddhist community of Chang'an (modern 西安 Xi'an) as an expert of Sanskrit and translator of Buddhist texts (van Gulik 1980: 114; Abe 1999: 117–119). Known better by his posthumous title Kōbō-Daishi (弘法大師), Kūkai was the founder of the Shingon ("True Word") school. Another proponent of Siddham in Japan was Saichō (最澄) (767–822), also called Dengyō-Daishi (伝教大師), who was the founder of the Tendai school.

There are several regional forms of Siddham. The Japanese form is described here and it is presented as the normative form for the encoding. In Japan, Siddham calligraphy is classified as 'formal' or 'informal' based upon the implement used for writing. The 'formal' script is written using a wooden stylus called *bokuhitsu* (木筆; Chi. *mù-bǐ*), while the 'informal' or 'brush' style is written using the common hair-tipped *fude* (筆; Chi. 毛筆 *máo-bǐ*). The 'formal' and 'informal' styles of letters are shown in figures 12–17. The forms of Siddham letters used in Korea (see figures 21–26) differ significantly from those of Japanese and Chinese Siddham. However, given the close relationships between the regional forms and their identities as 'Siddham', it is practical to unify these variants with the proposed script block.

Siddham is most closely related to Sharada (see tables 1 and 2), a Brahmi-based script that originated in Kashmir and that was used throughout northwestern India for producing manuscripts and inscriptions (see Pandey 2009). The use of Sharada spread from India into Central Asia and travelled from there to China with Buddhist monks. Although there are not many records in Central Asian Siddham, an example of it is found on the palm-leaf manuscripts of the Hōryū-ji (法隆寺) temple in Nara, Japan (see figure 6), which were brought there from China in 609. Unlike Siddham written with the *bokuhitsu* or *fude*, the Siddham letters on the Hōryū-ji manuscripts were written with the typical Indian reed-pen. A detailed palaeographical description of the Siddham of these manuscripts was presented by Georg Bühler (1884).

3 Writing System

3.1 Structure

The general structure (phonetic order, *mātrā* reordering, use of *virāma*, etc.) of Siddham is similar to that of Devanagari.

3.2 Directionality

Siddham is written hozitonally left-to-right and also vertically top-to-bottom with lines proceeding from right-to-left. See figure 5 for an example of text written top-to-bottom.

3.3 Virāma

The Siddham sign ◌੍ VIRAMA is identical to the corresponding character in Devanagari. It is used for silencing the inherent vowel of a consonant. The default rendering of VIRAMA is as a visible sign. The VIRAMA is known in Sanskrit as हलन्त *halanta* and in Japanese as 悍達点 *tatatsu-ten*.

3.4 Vowel Letters

Fourteen vowel letters are proposed for encoding:

𑖀	A	𑖉	U	𑖍	VOCALIC L	𑖑	O
𑖁	AA	𑖊	UU	𑖎	VOCALIC LL	𑖒	AU
𑖂	I	𑖋	VOCALIC R	𑖏	E		
𑖃	II	𑖌	VOCALIC RR	𑖐	AI		

Encoding Order   The encoding order for vowel signs follows that of Brahmi-based scripts in the UCS. In the Japanese arrangement for Siddham, the vocalic letters appear at the end of the vowel order.

Graphical variants   Variant forms of vowel letters are attested, eg. 𑖁 AA is also written as 𑖁 (see figure 12). These are to be managed through fonts.

3.5 Vowel Signs

Eleven dependent vowel signs are proposed for encoding:

◌ा	VOWEL SIGN AA	◌ू	VOWEL SIGN UU	◌ৈ	VOWEL SIGN AI
◌ि	VOWEL SIGN I	◌ृ	VOWEL SIGN VOCALIC R	◌ो	VOWEL SIGN O
◌ी	VOWEL SIGN II	◌ॄ	VOWEL SIGN VOCALIC RR	◌ौ	VOWEL SIGN AU
◌ु	VOWEL SIGN U	◌े	VOWEL SIGN E		

Unattested vowel signs   Dependent forms of ꣨ VOWEL LETTER VOCALIC L and ꣩ VOWEL LETTER VOCALIC LL are as of yet unattested. Space has been reserved in the code chart in the event that additional research uncovers such characters.

Encoding Order   The encoding order for vowel signs follows that of Brahmi-based scripts in the UCS. In the Japanese arrangement for Siddham, the signs for the vocalic letters appear at the end of the vowel-sign order.

Graphical variants   There are glyphic variants of vowel signs (see figures 12 and 19), which are to be managed through fonts. One of the most common variants is the use of ◌̍ for ◌̈ VOWEL SIGN AI.

Alternate forms   There is an alternate form for VOWEL SIGN VOCALIC RR. Normally, this sign is written as ◌̣. The two-part form ◌̣ᷩ is also attested; it is a combination of ◌̣ VOWEL SIGN VOCALIC R and ◌ᷩ VOWEL SIGN AA, in which the latter sign acts as a vowel-length mark.

3.6   Vowel-Modifier Signs

Three vowel-modifier signs are proposed for encoding:

1. ◌̇ SIGN ANUSVARA   This sign indicates nasalization.

2. ◌̐ SIGN CANDRABINDU   This signs indicates nasalization.

3. ◌ː SIGN VISARGA   This sign represents post-vocalic aspiration (/h/). In Sanskrit phonology, it indicates an allophone of ꢱ SA or ꢬ RA in word-final position.

Ordering of multiple signs   In certain cases, such as when writing 'seed syllables', a base letter that is combined with the signs ANUSVARA or CANDRABINDU may also be combined with the sign VISARGA, eg. 𑖁ं or 𑖁ँः *āṃḥ*. In such cases the VISARGA is written last: <ꢄ AA, ◌̐ CANDRABINDU, ◌ː VISARGA> → 𑖁ँः *āṃḥ*. Rendering engines should recognize such sequences of combining marks as valid.

3.7   Consonants

Thirty-three consonant letters are proposed for encoding:

ꢒ	KA	ꢑ	NYA	ꢥ	DHA	ꢩ	LA
ꢓ	KHA	ꢔ	TTA	ꢥ	NA	ꢤ	VA
ꢖ	GA	ꢜ	TTHA	ꢦ	PA	ꢥ	SHA
ꢗ	GHA	ꢝ	DDA	ꢨ	PHA	ꢨ	SSA
ꢕ	NGA	ꢞ	DDHA	ꢧ	BA	ꢱ	SA
ꢘ	CA	ꢟ	NNA	ꢩ	BHA	ꢲ	HA
ꢙ	CHA	ꢠ	TA	ꢪ	MA		
ꢚ	JA	ꢡ	THA	ꢫ	YA		
ꢛ	JHA	ꢢ	DA	ꢬ	RA		

Each consonant bears the inherent vowel /a/, represented by 𑀅 A, which is silenced using ◌ VIRAMA. Variant forms of consonants are attested (see figures 13–17); these are to be managed at the font level.

3.8 NUKTA

The sign ◌ NUKTA is used for transcribing sounds for which distinct characters do not natively exist in the writing system (see figure 43). The NUKTA is not a traditional Siddham character, but it is part of 現代悉曇 *gendai shittan* "modern Siddham", which is an extension of Siddham that accommodates the writing of Japanese and English. The name of the character is derived from the Arabic word نقطة *nuqṭah* = *nukta* "dot" and corresponds to characters such as ◌ U+093C DEVANAGARI SIGN NUKTA.

The NUKTA is generally written with a letter that has the closest phonetic proximity to the target sound. For example, in figure 44 it is shown combined with 𑀚 JA (/ʤ/) for representing /z/. The NUKTA is always combined with the letter that it modifies. When it occurs with a consonant that is also combined with a vowel sign, then NUKTA is written immediately after the consonant, eg. <𑀚 JA, ◌ SIGN NUKTA, ◌ VOWEL SIGN U> → 𑀚 *zu*. Its rendering depends upon various typographic considerations.

3.9 Consonant Conjuncts

Consonant clusters in Siddham are written as conjuncts and follow the same model as conjuncts in Devanagari. Conjuncts are represented using VIRAMA, which is written after each consonant in a cluster. They may be written vertically, horizontally, and as independent ligatures.

There are traditional Chinese and Japanese tabulations for Siddham conjuncts. One such classification system was described in the manual *Xītán Zìjì* (悉曇字記) by the Chinese monk Zhì-guǎng (智廣) (d. 806), who organized the various combinations of Siddham consonant clusters into eighteen categories (see figure 45). Examples of several conjuncts are shown in figures 46–61.

Shaping   The shapes of some consonants change when they occur in conjunct-initial position (eg. 𑀓 KA → 𑀓; 𑀭 RA → ◌ *repha*), some are written using post-base forms when they are non-initial (eg. 𑀬 YA → ◌). These ligating forms are illustrated in figures 13–17 (column labeled "in combination") and figures 19–20.

Depth   Siddham conjuncts may represent clusters with large numbers of consonants. For example, a conjunct of six consonants is 𑀭 *rkṣvrya*, which is produced using the sequence <𑀭 RA, ◌ VIRAMA, 𑀓 KA, ◌ VIRAMA, 𑀱 SSA, ◌ VIRAMA, 𑀯 VA, ◌ VIRAMA, 𑀭 RA, ◌ VIRAMA, 𑀬 YA>.

Special Conjuncts   The glyphs 𑀓 *kṣa* and 𑀮 *llaṃ* are often shown as independent letters in Siddham charts. The *kṣa* represents conjuncts of different consonant letters and *llaṃ* represents conjuncts of geminate consonants. Based upon the UCS encoding model, they are not independent letters, but conjuncts. They are to be represented using the following sequences: 𑀓 = <𑀓 KA, ◌ VIRAMA, 𑀱 SSA> (compare Devanagari क्ष *kṣa* = <क KA, ◌ VIRAMA, ष SSA>); 𑀮 = <𑀮 LA, ◌ VIRAMA, 𑀮 LA, ◌ ANUSVARA>.

Default Representation   It is expected that a basic Siddham font will contain the necessary glyphs for properly representing conjuncts. A consonant cluster is depicted with the appropriate conjunct glyph only if such a glyph is available in the font. If the conjunct glyph is unavailable, the bare consonants in the cluster are depicted using their full forms combined with a visible VIRAMA. While these depictions of conjuncts may not be used in Siddham orthography, they are necessary for the representation of the script in plain text. In order to render Siddham text appropriately in the absence of distinct glyphs for any possible conjunct, it is

recommended that a set of condensed forms of letters in conjunct-initial and non-initial positions be available so that arbitrary conjuncts may be rendered in the vertical orientation used in Siddham orthography.

3.10   Consonant-Vowel Combinations

Vowel signs combine with consonant letters and conjuncts as in Devanagari. Some consonant shapes are modified when they are written with vowels (eg. ꦑ KA → ꦑ when combining with ꦘ VOWEL SIGN U: ꦑ *ku*). Some vowel signs are written as contextual forms when they occur with certain consonants. For example, ꦘ VOWEL SIGN U → ꦘ and ꦘ VOWEL SIGN UU → ꦘ when combined with ꦔ NGA, ꦗ JA, ꦛ TTA, ꦜ TTHA, ꦝ DDHA, ꦤ NA, ꦥ PA, ꦮ VA. These signs have specific forms when written with ꦫ RA: ꦫ *ru* and ꦫ *rū*.

3.11   Invocations

One invocation sign is proposed for encoding:

1. ꧞ SIGN SIDDHAM   This sign is written at the beginning of a text (see figures 6 and 38). Palaeographically, the sign corresponds to characters used in other scripts, such as ༓ U+0FD3 TIBETAN MARK INITIAL BRDA RNYING YIG MGO MDUN MA. It represents the Sanskrit word सिद्धम् *siddham* "accomplished" and the phrase सिद्धिरस्तु *siddhirastu* "may there be success". The sign is often glossed as '*oṃ*' (see figure 27). There is a vertically-oriented glyphic variant: ꧞ (see figure 33). In the Japanese tradition, SIDDHAM is analyzed as being formed from the lower portion of ꣼ I.

The syllable *oṃ* is not proposed for independent encoding. It is to be represented using the sequence <ꣽ O, ꣷ CANDRABINDU> → ꣽ. A distinct *oṃ* character is not attested for Siddham.

3.12   Punctuation

Four punctuation characters are proposed for encoding:

1. ꧂ DANDA   This mark is used for marking the end of sentences and other short text sections (see figures 32, 40, 41). It has a graphical variant ꧂ that is used in 'informal' Japanese Siddham. The DANDA corresponds to, but is graphically distinct from, । U+0964 DEVANAGARI DANDA.

2. ꧃ DOUBLE DANDA   This mark is used at the end of paragraphs and larger text blocks (see figures 32, 40, 41). It is also written with an underdot ꧃. The graphical variant ꧃ is used in 'informal' Japanese writing. The DOUBLE DANDA corresponds to, but is graphically distinct from, ॥ U+0965 DEVANAGARI DOUBLE DANDA.

3. ꞏ WORD SEPARATOR ONE   This sign is used for marking boundaries between words. It is written at the head-height and is distinct from the ꞏ middle dot. Usage of WORD SEPARATOR ONE is shown in figure 38.

4. ꘈ WORD SEPARATOR TWO   This sign is used for marking boundaries between words and phrases. Its usage is shown in figures 40, 41, 42, where it appears alongside ꧂ DANDA and ꧃ DOUBLE DANDA.

The following punctuation mark is not proposed for separate encoding:

1. ꞏ   Word and phrase separation is also indicated using a ꞏ middle dot (see figure 39). This mark differs from ꞏ WORD SEPARATOR ONE in terms of its vertical placement. It is to be written using the already encoded · U+00B7 MIDDLE DOT.

3.13   Section Marks

The following 14 characters are used for marking the end of sections: ※ SECTION MARK ONE, ※ SECTION MARK TWO, ※ SECTION MARK THREE, ※ SECTION MARK FOUR, ※ SECTION MARK FIVE, ◎ SECTION MARK SIX, ✕ SECTION MARK SEVEN, ⸙ SECTION MARK EIGHT, ⸙ SECTION MARK NINE, ⸙ SECTION MARK TEN, ⸙ SECTION MARK ELEVEN, ⁝⫾⁝ SECTION MARK TWELVE, ※ SECTION MARK THIRTEEN, ⸙ SECTION MARK FOURTEEN.

The first twelve marks are attested in various Siddham manuals (see figures 32, 33, 35). The last two are attested in a manuscript (see figure 39). The ⁝⫾⁝ SECTION MARK TWELVE is graphically distinct from other section marks, perhaps also functionally, and could be encoded as a completion-of-text mark.

3.14   Repetition Marks

The ꙮ REPETITION MARK ONE, ꙮ REPETITION MARK TWO, and ⴛ REPETITION MARK THREE are used for indicating the repetition of text. They are written after the text that is to be repeated.

The ꙮ REPETITION MARK ONE has the glyphic variants ꙮ and ꙮ (see figures 32, 33, 35). Based upon its graphical shape and function, it is likely that REPETITION MARK ONE is derived from an Indic digit '2' (compare Devanagari २). A common practice in manuscript traditions of northern India is to indicate the repetition of words using digits. The digit used indicates the number of repetitions, eg. '2' for twice, '3' for thrice. As there are no attested digits for Siddham, it appears that the original link between REPETITION MARK ONE and a numeric value was forgotten and the original digit for '2' was preserved as a symbol. This explains the serialized usage of REPETITION MARK ONE in the text excerpt in figure 36 for indicating a triple reading, ie. Devanagari "हूं २ २" instead of "हूं ३" for *hūṃ hūṃ hūṃ*).

The ꙮ REPETITION MARK TWO is used in the vertical version of the *Uṣṇīṣa Vijaya Dhāraṇī Sūtra* shown in figure 5. An excerpt of the *Sūtra* with the repetition marks highlighted is shown in figure 37. Here, the mark appears after ꙮ *ya* (3rd character), another *ya* (7th character), and ꙮ *ra* (10th character). The mark prompts the reader to parse the text as "*jaya jaya, vijaya vijaya, smara smara*". It is possible that REPETITION MARK TWO is used only in a vertical environment. This is supported by the accompanying Japanese annotation, which glosses ꙮ using 〱 U+3031 VERTICAL KANA REPEAT MARK.

The ⴛ REPETITION MARK THREE is shown in several Siddham manuals. It is proposed for encoding because it is a graphically-distinct character.

4   Characters Not Proposed for Encoding

Several characters attested in Siddham sources are not presently proposed for encoding. Additional research is needed for determining the suitability of encoding these characters, which are described below.

4.1   Conjuncts

The glyphs ꙮ *kṣa* and ꙮ *llaṃ* are conjuncts and are to be represented as such (see Section 3.9).

4.2   Digits

There is no traditional set of Siddham digits. There are, however, modern innovations named "Bonji numerals" (see figure 18). These digits require additional research and may be considered for future inclusion.

4.3   Editorial Marks

Siddham manuscripts contain editorial marks, such as those used for indicating the insertion or deletion of text. The characters ꞏꞏꞏ and ⋯ are used for marking deletions (see figure 35). Another character is a caret-like mark that is written below the baseline to indicate the insertion of text. These editorial marks are not unique to Siddham and are used in various Indic manuscript traditions. These characters should be represented using already-encoded characters with similar functions.

4.4   Pedagogical Characters

There are several pedagogical characters used for describing Siddham letters in script manuals. Some of these are discussed below. These characters may be candidates for encoding, but additional research is required regarding their usage and suitability for encoding, as per the UCS encoding model.

Character Strokes   Siddham manuals describe elemental character strokes that are used for writing letters (see figure 65). Some of these are described below.

1. ヽ *myō-ten*   The stroke ヽ is the initial mark made when a brush is pressed upon a surface for writing any Siddham letter (see the stroke order in figures 66 and 67). It is known in Japanese as 命点 *myō-ten* "life mark". The *myō-ten* corresponds to the Chinese simple stroke ヽ (點 *diǎn* "dot"), which is encoded in the UCS as ヽ U+31D4 CJK STROKE D.

2. ⁻ *a-ten*   The stroke ⁻ is shown in some historical and modern Siddham handbooks as a dependent vowel sign of 𑖀 A (see figures 19, 63, 64) or as a 'variation' of the letter (see figure 12). For this reason it is called ア点 *a-ten* "*a* mark" in Japanese. It is a horizontally elongated form of ヽ *myō-ten*. The *a-ten* is not a true 'vowel sign', but a portion of the top-stroke of each consonant letter.

3. ˘ *gyōgatsu-ten*   The stroke ˘ is known in Japanese as 仰月点 *gyōgatsu-ten* "moon-viewing mark" and in Sanskrit as अर्धचन्द्र *ardhacandra* "half-moon". It is the foundational stroke of the sign ँ CAN-DRABINDU, which is produced by writing ं ANUSVARA with *gyōgatsu-ten*. The stroke is considered 荘厳 *shougon* (Sans. अलंकार *alaṃkāra*) "adornment" or "decoration" in that it does not change the phonological value of ANUSVARA. The use of *gyōgatsu-ten* is shown in figure 68, where it appears as an independent graphical element.

   Figure 13 (row 11) shows the below-base character ◡ listed along with ँ CANDRABINDU and ं ANUS-VARA. What is this character? Is this the *gyōgatsu-ten*?

4. ᰰ *u-ten*   The stroke ᰰ is known as ウ点 *u-ten* "*u* mark" in Japanese. It is used for forming characters like 𑖂 I, 𑖄 U, and 𑖅 UU.

5. ○ *en-ten*   The stroke ○ is known as 円点 *en-ten* "circle mark" in Japanese. It is used for forming characters like ं ANUSVARA and ○ TTHA.

'Headless' Letters   Some Japanese treatises on Siddham offer explanations about the phonological properties of Siddham consonants by using 'headless' letters, which are the regular consonants written without the top-stroke (*myō-ten*; Sans. *mātrā*). One such work, the *Shittan Bunsho* (悉曇聞書) of Jiun Sonja (慈雲尊者) (1718–1804), expounds upon the alphasyllabic and alphabetic natures of Siddham consonants by using 'headless' letters. Jiun explains that removing the top-stroke of 𑖎 KA produces the 'headless' form 𑖎 in which the inherent vowel is absent: /ka/ → /k/. According to this view, the inherent vowel /a/ is contained in the top-stroke and eliminating it produces an alphabetic form of a letter. Secondly, when this 'headless' *ka* is combined with a ् VIRAMA as 𑖎, the remaining consonantal value is removed: /k/ → Ø. In

this case, the VIRAMA essentially eradicates the entire letter. A table of 'headless' letters is given by Jōgon (淨嚴) (1639–1702) in his *Shittan Sanmitsushō* (त्रिदं三密鈔), which is presented here in figure 62. While 'headless' forms of Siddham consonants are required for accurately representing Jiun's *Shittan Bunsho*, they are to be considered as glyphic variants of regular letters and are to be managed through fonts.

4.5 *Bījākṣara-s*

A *bījākṣara* or *bīja* "seed syllable" may be written such that the constituent characters are joined to form a highly-stylized ligature (see figures 70, 71, 72, 73). For example, the word 𑖢𑖘 *phaṭ* (<𑖢 PHA, 𑖘 TTA, ◌ VIRAMA>) may be written as 𑖢𑖘 *phaṭ* . A more complex example is a *bīja* of Acala (Sans. अचल; Chi. 不動明王 Búdòng Míngwáng; Jap. Fudō Myōō), which is a ligature formed by joining 𑖮 *hāṃ* and 𑖦 *māṃ*, the last two syllables of his *mantra*, into a monogram written as 𑖮𑖦 or 𑖮𑖦 or 𑖮𑖦 *hāṃmām*.

These types of ligatures cannot be represented in plain text using characters proposed for encoding. They are calligraphic innovations and are to be managed through the application of font features or text attributes.

5   Character Data

5.1   Collation

The primary collating order for Siddham is as follows:

𑖀 A < 𑖁 AA < 𑖂 I < 𑖃 II < 𑖄 U < 𑖅 UU < 𑖆 E < 𑖇 AI < 𑖈 O < 𑖉 AU <
𑖊 VOCALIC R < 𑖋 VOCALIC RR < 𑖌 VOCALIC L < 𑖍 VOCALIC LL < 𑖎 KA < 𑖏 KHA <
𑖐 GA < 𑖑 GHA < 𑖒 NGA < 𑖓 CA < 𑖔 CHA < 𑖕 JA < 𑖖 JHA < 𑖗 NYA <
𑖘 TTA < 𑖙 TTHA < 𑖚 DDA < 𑖛 DDHA < 𑖜 NNA < 𑖝 TA < 𑖞 THA < 𑖟 DA <
𑖠 DHA < 𑖡 NA < 𑖢 PA < 𑖣 PHA < 𑖤 BA < 𑖥 BHA < 𑖦 MA < 𑖧 YA < 𑖨 RA <
𑖩 LA < 𑖪 VA < 𑖫 SHA < 𑖬 SSA < 𑖭 SA < 𑖮 HA < ◌𑖯 SIGN AA < ◌𑖰 SIGN I <
◌𑖱 SIGN II < ◌𑖲 SIGN U < ◌𑖳 SIGN UU < ◌𑖲 SIGN E < ◌𑖴 SIGN AI < ◌𑖲 SIGN O <
◌𑖶 SIGN AU < ◌𑖷 SIGN VOCALIC R < ◌𑖸 SIGN VOCALIC RR < ◌𑖿 VIRAMA

The following signs have secondary weights: ◌𑖼 CANDRABINDU, ◌𑀂 ANUSVARA, ◌: VISARGA, ◌ NUKTA.

5.2   Character Properties

Character properties given in the data format of `UnicodeData.txt`:

```
11580;SIDDHAM LETTER A;Lo;0;L;;;;;N;;;;;
11581;SIDDHAM LETTER AA;Lo;0;L;;;;;N;;;;;
11582;SIDDHAM LETTER I;Lo;0;L;;;;;N;;;;;
11583;SIDDHAM LETTER II;Lo;0;L;;;;;N;;;;;
11584;SIDDHAM LETTER U;Lo;0;L;;;;;N;;;;;
11585;SIDDHAM LETTER UU;Lo;0;L;;;;;N;;;;;
11586;SIDDHAM LETTER VOCALIC R;Lo;0;L;;;;;N;;;;;
11587;SIDDHAM LETTER VOCALIC RR;Lo;0;L;;;;;N;;;;;
11588;SIDDHAM LETTER VOCALIC L;Lo;0;L;;;;;N;;;;;
```

```
11589;SIDDHAM LETTER VOCALIC LL;Lo;0;L;;;;;;N;;;;;
1158A;SIDDHAM LETTER E;Lo;0;L;;;;;;N;;;;;
1158B;SIDDHAM LETTER AI;Lo;0;L;;;;;;N;;;;;
1158C;SIDDHAM LETTER O;Lo;0;L;;;;;;N;;;;;
1158D;SIDDHAM LETTER AU;Lo;0;L;;;;;;N;;;;;
1158E;SIDDHAM LETTER KA;Lo;0;L;;;;;;N;;;;;
1158F;SIDDHAM LETTER KHA;Lo;0;L;;;;;;N;;;;;
11590;SIDDHAM LETTER GA;Lo;0;L;;;;;;N;;;;;
11591;SIDDHAM LETTER GHA;Lo;0;L;;;;;;N;;;;;
11592;SIDDHAM LETTER NGA;Lo;0;L;;;;;;N;;;;;
11593;SIDDHAM LETTER CA;Lo;0;L;;;;;;N;;;;;
11594;SIDDHAM LETTER CHA;Lo;0;L;;;;;;N;;;;;
11595;SIDDHAM LETTER JA;Lo;0;L;;;;;;N;;;;;
11596;SIDDHAM LETTER JHA;Lo;0;L;;;;;;N;;;;;
11597;SIDDHAM LETTER NYA;Lo;0;L;;;;;;N;;;;;
11598;SIDDHAM LETTER TTA;Lo;0;L;;;;;;N;;;;;
11599;SIDDHAM LETTER TTHA;Lo;0;L;;;;;;N;;;;;
1159A;SIDDHAM LETTER DDA;Lo;0;L;;;;;;N;;;;;
1159B;SIDDHAM LETTER DDHA;Lo;0;L;;;;;;N;;;;;
1159C;SIDDHAM LETTER NNA;Lo;0;L;;;;;;N;;;;;
1159D;SIDDHAM LETTER TA;Lo;0;L;;;;;;N;;;;;
1159E;SIDDHAM LETTER THA;Lo;0;L;;;;;;N;;;;;
1159F;SIDDHAM LETTER DA;Lo;0;L;;;;;;N;;;;;
115A0;SIDDHAM LETTER DHA;Lo;0;L;;;;;;N;;;;;
115A1;SIDDHAM LETTER NA;Lo;0;L;;;;;;N;;;;;
115A2;SIDDHAM LETTER PA;Lo;0;L;;;;;;N;;;;;
115A3;SIDDHAM LETTER PHA;Lo;0;L;;;;;;N;;;;;
115A4;SIDDHAM LETTER BA;Lo;0;L;;;;;;N;;;;;
115A5;SIDDHAM LETTER BHA;Lo;0;L;;;;;;N;;;;;
115A6;SIDDHAM LETTER MA;Lo;0;L;;;;;;N;;;;;
115A7;SIDDHAM LETTER YA;Lo;0;L;;;;;;N;;;;;
115A8;SIDDHAM LETTER RA;Lo;0;L;;;;;;N;;;;;
115A9;SIDDHAM LETTER LA;Lo;0;L;;;;;;N;;;;;
115AA;SIDDHAM LETTER VA;Lo;0;L;;;;;;N;;;;;
115AB;SIDDHAM LETTER SHA;Lo;0;L;;;;;;N;;;;;
115AC;SIDDHAM LETTER SSA;Lo;0;L;;;;;;N;;;;;
115AD;SIDDHAM LETTER SA;Lo;0;L;;;;;;N;;;;;
115AE;SIDDHAM LETTER HA;Lo;0;L;;;;;;N;;;;;
115AF;SIDDHAM VOWEL SIGN AA;Mc;0;L;;;;;;N;;;;;
115B0;SIDDHAM VOWEL SIGN I;Mc;0;L;;;;;;N;;;;;
115B1;SIDDHAM VOWEL SIGN II;Mc;0;L;;;;;;N;;;;;
115B2;SIDDHAM VOWEL SIGN U;Mn;0;NSM;;;;;N;;;;;
115B3;SIDDHAM VOWEL SIGN UU;Mn;0;NSM;;;;;N;;;;;
115B4;SIDDHAM VOWEL SIGN VOCALIC R;Mn;0;NSM;;;;;N;;;;;
115B5;SIDDHAM VOWEL SIGN VOCALIC RR;Mn;0;NSM;;;;;N;;;;;
115B6;<reserved>
115B7;<reserved>
115B8;SIDDHAM VOWEL SIGN E;Mc;0;L;;;;;;N;;;;;
115B9;SIDDHAM VOWEL SIGN AI;Mn;0;NSM;;;;;N;;;;;
115BA;SIDDHAM VOWEL SIGN O;Mc;0;L;115B4 115AF;;;;N;;;;;
115BB;SIDDHAM VOWEL SIGN AU;Mc;0;L;115B5 115AF;;;;N;;;;;
115BC;SIDDHAM SIGN VIRAMA;Mn;9;NSM;;;;;N;;;;;
115BD;SIDDHAM SIGN CANDRABINDU;Mn;0;NSM;;;;;N;;;;;
115BE;SIDDHAM SIGN ANUSVARA;Mn;0;NSM;;;;;N;;;;;
115BF;SIDDHAM SIGN VISARGA;Mc;0;L;;;;;;N;;;;;
115C0;SIDDHAM SIGN NUKTA;Mn;7;NSM;;;;;N;;;;;
115C1;SIDDHAM SIGN SIDDHAM;So;0;L;;;;;;N;;;;
115C2;SIDDHAM DANDA;Po;0;L;;;;;;N;;;;;
115C3;SIDDHAM DOUBLE DANDA;Po;0;L;;;;;;N;;;;;
115C4;SIDDHAM WORD SEPARATOR ONE;Po;0;L;;;;;;N;;;;;
115C5;SIDDHAM WORD SEPARATOR TWO;Po;0;L;;;;;;N;;;;;
```

```
115C6;SIDDHAM REPETITION MARK ONE;Po;0;L;;;;;N;;;;;
115C7;SIDDHAM REPETITION MARK TWO;Po;0;L;;;;;N;;;;;
115C8;SIDDHAM REPETITION MARK THREE;Po;0;L;;;;;N;;;;;;
115C9;SIDDHAM SECTION MARK ONE;Po;0;L;;;;;N;;;;;
115CA;SIDDHAM SECTION MARK TWO;Po;0;L;;;;;N;;;;;
115CB;SIDDHAM SECTION MARK THREE;Po;0;L;;;;;N;;;;;
115CC;SIDDHAM SECTION MARK FOUR;Po;0;L;;;;;N;;;;;
115CD;SIDDHAM SECTION MARK FIVE;Po;0;L;;;;;N;;;;;
115CE;SIDDHAM SECTION MARK SIX;Po;0;L;;;;;N;;;;;
115CF;SIDDHAM SECTION MARK SEVEN;Po;0;L;;;;;N;;;;;
115D0;SIDDHAM SECTION MARK EIGHT;Po;0;L;;;;;N;;;;;
115D1;SIDDHAM SECTION MARK NINE;Po;0;L;;;;;N;;;;;
115D2;SIDDHAM SECTION MARK TEN;Po;0;L;;;;;N;;;;;
115D3;SIDDHAM SECTION MARK ELEVEN;Po;0;L;;;;;N;;;;;
115D4;SIDDHAM SECTION MARK TWELVE;Po;0;L;;;;;N;;;;;
115D5;SIDDHAM SECTION MARK THIRTEEN;Po;0;L;;;;;N;;;;;
115D6;SIDDHAM SECTION MARK FOURTEEN;Po;0;L;;;;;N;;;;;
```

5.3   Linebreaking

Linebreaking properties given in the format of `LineBreak.txt`:

```
11580..115AE; AL   # LETTER A .. LETTER HA
115AF..115BF; CM   # SIGN AA .. SIGN VISARGA
115C0;        BB   # SIGN SIDDHAM
115C1..115C4; BA   # DANDA .. WORD SEPARATOR TWO
115C5..115C7; AL   # REPETITION MARK ONE .. REPETITION MARK THREE
115C8..115D5; BA   # SECTION MARK ONE .. SECTION MARK FOURTEEN
```

5.4   Syllabic Categories

Syllabic categories given in the format of `IndicSyllabicCategory.txt`:

```
# Indic_Syllabic_Category=Bindu
115BD..115BE ; Bindu           # Mn  [2] SIGN CANDRABINDU .. SIGN ANUSVARA


# Indic_Syllabic_Category=Visarga
115BF        ; Visarga         # Mc      SIGN VISARGA


# Indic_Syllabic_Category=Virama
115BC        ; Virama          # Mn      SIGN VIRAMA


# Indic_Syllabic_Category=Nukta
115C0        ; Nukta           # Mn      SIGN NUKTA


# Indic_Syllabic_Category=Vowel_Independent
11580..1158D ; Vowel_Independent # Lo  [14] LETTER A .. LETTER AU


# Indic_Syllabic_Category=Vowel_Dependent
115AF..115B1 ; Vowel_Dependent # Mc  [3] VOWEL SIGN AA .. VOWEL SIGN II
115B2..115B3 ; Vowel_Dependent # Mn  [2] VOWEL SIGN U .. VOWEL SIGN UU
11584..11585 ; Vowel_Dependent # Mn  [2] VOWEL SIGN VOCALIC R .. VOWEL SIGN VOCALIC RR
115B8        ; Vowel_Dependent # Mc      VOWEL SIGN E
115B9        ; Vowel_Dependent # Mn      VOWEL SIGN AI
115BA..115BB ; Vowel_Dependent # Mc  [2] VOWEL SIGN O .. VOWEL SIGN AU


# Indic_Syllabic_Category=Consonant
```

```
1158E..115AE ; Consonant        # Lo [33] LETTER KA .. LETTER HA
```

5.5 Matra Categories

Matra categories given in the format of `IndicMatraCategory.txt`:

```
# Indic_Matra_Category=Right
115AF         ; Right  # Mc     VOWEL SIGN AA
115B1         ; Right  # Mc     VOWEL SIGN II

# Indic_Matra_Category=Left
115B0         ; Left   # Mc     VOWEL SIGN I
115B8         ; Left   # Mc     VOWEL SIGN E

# Indic_Matra_Category=Left_And_Right
115BA         ; Left_And_Right  # Mc  VOWEL SIGN O

# Indic_Matra_Category=Top
115B9         ; Top    # Mn     VOWEL SIGN AI

# Indic_Matra_Category=Top_And_Left_And_Right
115BB         ; Top_And_Left_And_Right  # Mc  VOWEL SIGN AU

# Indic_Matra_Category=Bottom
115B2..115B3 ; Bottom # Mn  [2] VOWEL SIGN U .. VOWEL SIGN UU
115B4..115B5 ; Bottom # Mn  [2] VOWEL SIGN VOCALIC R .. VOWEL SIGN VOCALIC RR
115BC         ; Bottom # Mn     SIGN VIRAMA
```

6   References

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7   Acknowledgments

	1158	1159	115A	115B	115C	115D	115E	115F
0	11580	11590	115A0	115B0	115C0	115D0		
1	11581	11591	115A1	115B1	115C1	115D1		
2	11582	11592	115A2	115B2	115C2	115D2		
3	11583	11593	115A3	115B3	115C3	115D3		
4	11584	11594	115A4	115B4	115C4	115D4		
5	11585	11595	115A5	115B5	115C5	115D5		
6	11586	11596	115A6		115C6	115D6		
7	11587	11597	115A7		115C7			
8	11588	11598	115A8	115B8	115C8			
9	11589	11599	115A9	115B9	115C9			
A	1158A	1159A	115AA	115BA	115CA			
B	1158B	1159B	115AB	115BB	115CB			
C	1158C	1159C	115AC	115BC	115CC			
D	1158D	1159D	115AD	115BD	115CD			
E	1158E	1159E	115AE	115BE	115CE			
F	1158F	1159F	115AF	115BF	115CF			

Figure 1: Proposed code chart for Siddham.

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The script is also known by the names 'Siddhamatrika' and 'Kutila'.

Independent vowels

11580 　 SIDDHAM LETTER A
11581 　 SIDDHAM LETTER AA
11582 　 SIDDHAM LETTER I
11583 　 SIDDHAM LETTER II
11584 　 SIDDHAM LETTER U
11585 　 SIDDHAM LETTER UU
11586 　 SIDDHAM LETTER VOCALIC R
11587 　 SIDDHAM LETTER VOCALIC RR
11588 　 SIDDHAM LETTER VOCALIC L
11589 　 SIDDHAM LETTER VOCALIC LL
1158A 　 SIDDHAM LETTER E
1158B 　 SIDDHAM LETTER AI
1158C 　 SIDDHAM LETTER O
1158D 　 SIDDHAM LETTER AU

Consonants

1158E 　 SIDDHAM LETTER KA
1158F 　 SIDDHAM LETTER KHA
11590 　 SIDDHAM LETTER GA
11591 　 SIDDHAM LETTER GHA
11592 　 SIDDHAM LETTER NGA
11593 　 SIDDHAM LETTER CA
11594 　 SIDDHAM LETTER CHA
11595 　 SIDDHAM LETTER JA
11596 　 SIDDHAM LETTER JHA
11597 　 SIDDHAM LETTER NYA
11598 　 SIDDHAM LETTER TTA
11599 　 SIDDHAM LETTER TTHA
1159A 　 SIDDHAM LETTER DDA
1159B 　 SIDDHAM LETTER DDHA
1159C 　 SIDDHAM LETTER NNA
1159D 　 SIDDHAM LETTER TA
1159E 　 SIDDHAM LETTER THA
1159F 　 SIDDHAM LETTER DA
115A0 　 SIDDHAM LETTER DHA
115A1 　 SIDDHAM LETTER NA
115A2 　 SIDDHAM LETTER PA
115A3 　 SIDDHAM LETTER PHA
115A4 　 SIDDHAM LETTER BA
115A5 　 SIDDHAM LETTER BHA
115A6 　 SIDDHAM LETTER MA
115A7 　 SIDDHAM LETTER YA
115A8 　 SIDDHAM LETTER RA
115A9 　 SIDDHAM LETTER LA
115AA 　 SIDDHAM LETTER VA
115AB 　 SIDDHAM LETTER SHA
115AC 　 SIDDHAM LETTER SSA
115AD 　 SIDDHAM LETTER SA
115AE 　 SIDDHAM LETTER HA

Dependent vowel signs

115AF 　 SIDDHAM VOWEL SIGN AA
115B0 　 SIDDHAM VOWEL SIGN I
115B1 　 SIDDHAM VOWEL SIGN II
115B2 　 SIDDHAM VOWEL SIGN U
115B3 　 SIDDHAM VOWEL SIGN UU
115B4 　 SIDDHAM VOWEL SIGN VOCALIC R
115B5 　 SIDDHAM VOWEL SIGN VOCALIC RR
115B6 　 <reserved>
115B7 　 <reserved>
115B8 　 SIDDHAM VOWEL SIGN E
115B9 　 SIDDHAM VOWEL SIGN AI

115BA 　 SIDDHAM VOWEL SIGN O
　　　　　 ≡ 115B8 ◌ 115AF ◌
115BB 　 SIDDHAM VOWEL SIGN AU
　　　　　 ≡ 115B9 ◌ 115AF ◌

Various signs

115BC 　 SIDDHAM SIGN VIRAMA
115BD 　 SIDDHAM SIGN CANDRABINDU
115BE 　 SIDDHAM SIGN ANUSVARA
115BF 　 SIDDHAM SIGN VISARGA
115C0 　 SIDDHAM SIGN NUKTA
　　　　　 • used for writing foreign sounds

Invocation sign

115C1 　 SIDDHAM SIGN SIDDHAM
　　　　　 = siddhirastu
　　　　　 • used at the beginning of texts

Punctuation

115C2 　 SIDDHAM DANDA
115C3 　 SIDDHAM DOUBLE DANDA
115C4 　 SIDDHAM WORD SEPARATOR ONE
115C5 　 SIDDHAM WORD SEPARATOR TWO

Repetition marks

115C6 　 SIDDHAM REPETITION MARK ONE
115C7 　 SIDDHAM REPETITION MARK TWO
115C8 　 SIDDHAM REPETITION MARK THREE

Section marks

These characters are used for indicating the end of text
115C9 　 SIDDHAM SECTION MARK ONE
115CA 　 SIDDHAM SECTION MARK TWO
115CB 　 SIDDHAM SECTION MARK THREE
115CC 　 SIDDHAM SECTION MARK FOUR
115CD 　 SIDDHAM SECTION MARK FIVE
115CE 　 SIDDHAM SECTION MARK SIX
115CF 　 SIDDHAM SECTION MARK SEVEN
115D0 　 SIDDHAM SECTION MARK EIGHT
115D1 　 SIDDHAM SECTION MARK NINE
115D2 　 SIDDHAM SECTION MARK TEN
115D3 　 SIDDHAM SECTION MARK ELEVEN
115D4 　 SIDDHAM SECTION MARK TWELVE
115D5 　 SIDDHAM SECTION MARK THIRTEEN
115D6 　 SIDDHAM SECTION MARK FOURTEEN

Figure 2: Proposed names list for Siddham.

	Siddham	Sharada	Nagari			Siddham	Sharada	Nagari
A	म्र	म	अ		-A	—	—	—
AA	म्र	मु	आ		-AA	ा	ा	ा
I	ॐ	ॐ	इ		-I	ि	ि	ि
II	॰	ॡ	ई		-II	ी	ी	ी
U	ॐ	ॐ	उ		-U	ु	ु	ु
UU	ॐ	ॐ	ऊ		-UU	ू	ू	ू
R	ऋ	ॡ	ऋ		-R	ृ	ृ	ृ
RR	ॠ	ॡ	ॠ		-RR	ॄ	ॄ	ॄ
L	ऌ	ॡ	ऌ		-L	—	ॢ	ॢ
LL	ॡ	ॡ	ॡ		-LL	—	ॣ	ॣ
E	ए	ॡ	ए		-E	े	े	े
AI	ऐ	ॡ	ऐ		-AI	ै	ै	ै
O	ॐ	ॡ	ओ		-O	ो	ो	ो
AU	ॐ	ॡ	औ		-AU	ौ	ौ	ौ

Table 1: Comparison of vowel letters and signs of Siddham, Sharada, and Devanagari.

	Siddham	Sharada	Nagari		Siddham	Sharada	Nagari
KA	क	क	क	DA	ट	ट	द
KHA	ख	प	ख	DHA	ध	ठ	ध
GA	ग	ग	ग	NA	न	न	न
GHA	घ	ध	घ	PA	प	प	प
NGA	ङ	ए	ङ	PHA	फ	छ	फ
CA	च	म	च	BA	ब	ब	ब
CHA	छ	ळ	छ	BHA	भ	ठ	भ
JA	ज	ॡ	ज	MA	म	म	म
JHA	झ	प	झ	YA	य	घ	य
NYA	ञ	फ	ञ	RA	र	ज	र
TTA	ट	ट	ट	LA	ल	ल	ल
TTHA	ठ	ठ	ठ	VA	व	व	व
DDA	ड	ड	ड	SHA	श	म	श
DDHA	ढ	ढ	ढ	SSA	ष	ष	ष
NNA	ण	~	ण	SA	स	म	स
TA	त	३	त	HA	ह	ऽ	ह
THA	थ	घ	थ				

Table 2: Comparison of consonant letters of Siddham, Sharada, and Devanagari.

Figure 3: Seed-syllables for the thirteen Buddhas (from Tokuzan 1974: 27).

Figure 4: The *Uṣṇīṣa Vijaya Dhāraṇī Sūtra*, known in Japanese as 佛頂尊勝陀羅尼 *Buccho Sonsho Darani Kyo* (Source: `http://dharanipitaka.net/2008/download/`). A version with vertical text is given in figure 5.

Figure 5: The *Uṣṇīṣa Vijaya Dhāraṇī Sūtra* written top-to-bottom, right-to-left (from Kodama 2005: 122–124).

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ANECDOTA OXONIENSIA, ARYAN SERIES, VOL. I, PART III.
BUDDHIST TEXTS FROM JAPAN,
EDITED BY F. MAX MÜLLER.

FACSIMILE OF THE TWO PALM-LEAVES OF HORIUZI, FROM THE ASHARAGIO.

SEE CATAL. OF JAPANESE BOOKS & MSS. IN THE BODLEIAN LIBRARY; No. 46.

Figure 6: A manuscript containing the *Prajñāpāramitā Hṛdaya Sūtra* (from Müller and Nanjio 1884: Plate II). This manuscript was brought from China to Japan in 609 and was stored at the Hōryū-ji (法隆寺) temple in Ikaruga, Nara Prefecture.

Figure 7: Folio fragments from a Siddham manuscript written by Prajñātāra (Sans. प्रज्ञातार; Chi. 般若多羅 Bōrě Duōluó) in the 9th century (from Lokesh Chandra 1965: fascicle 1, section 7). The folios are facsimiles traced by the Japanese monk Sōgen (宗源) and published using wooden-block printing in his *Ashara-jō* (1837).

Figure 8: Siddham inscriptions (from Nakamura 1977: Plate 21)
.

第30図　梵字陽鋳の梵鐘　江戸時代
（梵字は三昧耶戒言〔普賢菩薩咒〕と百字真言
の一部と鐘座に見える梵字　東京・霊雲寺蔵）

Figure 9: Siddham inscriptions (from Nakamura 1977: Plate 30)
.

Figure 10: The Siddham *varṇapāṭha* written by Kūkai (from van Gulik 1980: Plate XI)
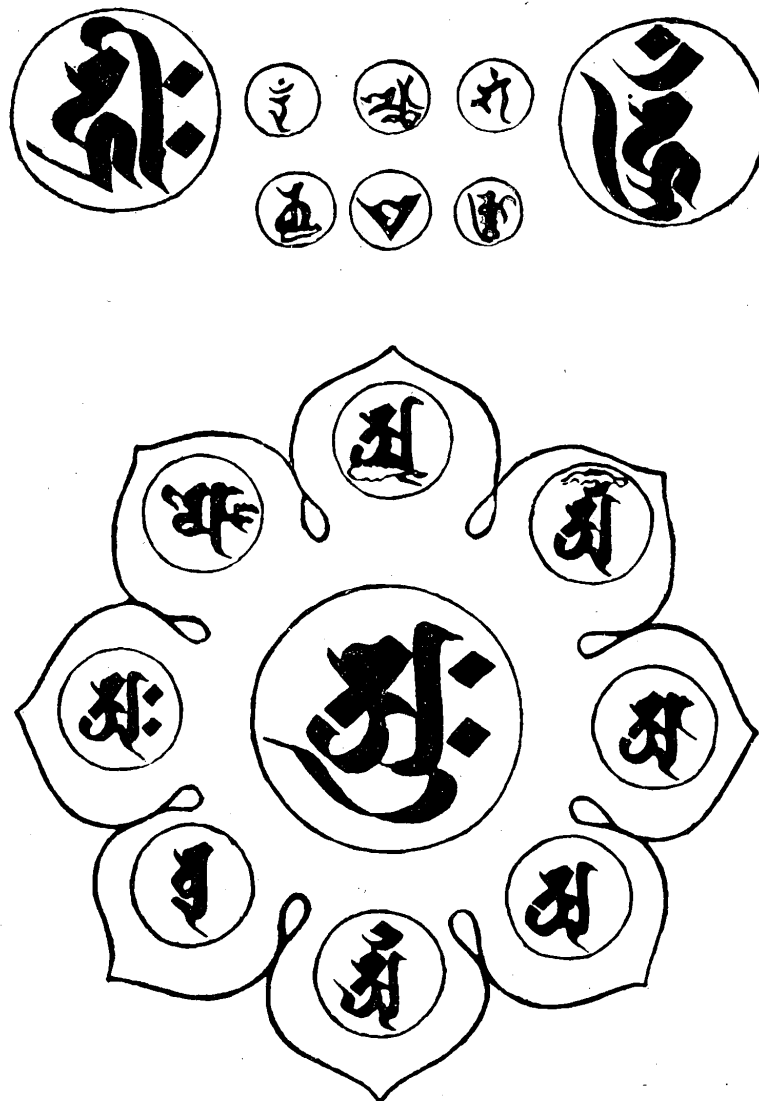
Figure 11: A *maṇḍala* inscribed by Saichō (from van Gulik 1980: Plate X)

VOWELS (MĀTĀ)

	formal	brush	stroke order	variations	in combination	Devanāgarī	roman letter	esoteric meaning
1						प	a	anutpāda unborn
2						पा	ā	ākāśa space
3						इ	i	indriya sense organ
4						ई	ī	īti calamity
5						उ	u	upamā simile
6						ऊ	ū	ūna incomplete
7						ए	e	eṣaṇā seeking
8						ऐ	ai	aiśvarya sovereignty
9						ओ	o	ogha flood
10						औ	au	aupapāduka self-produced

Figure 12: Description of Siddham letters and dependent signs for the vowels A .. AU (from Stevens 1981: 34).

	formal	brush	stroke order	variations	in combination	Devanāgarī	roman letter	esoteric meaning
11	𑖀	𑖀	𑖀	𑖀		अं	a ṃ	anta limit
12	𑖀	𑖀	𑖀			अः	a ḥ	astaṃgama setting

EXTRA VOWELS

	formal	brush	stroke order	variations	in combination	Devanāgarī	roman letter	esoteric meaning
13	𑌋	𑌋	𑌋	𑌋		ऋ	ṛ	ṛddhi supernatural power
14	𑌠	𑌠	𑌠	𑌠		ॠ	r̄	analogy
15	𑌌	𑌌	𑌌			ऌ	ḷ	dye
16	𑌿	𑌿	𑌿			ॡ	l̄	submerge

CONSONANTS (VYAÑJANA)

	formal	brush	stroke order	variations	in combination	Devanāgarī	roman letter	esoteric meaning
17	𑌕	𑌕	𑌕	𑌕	𑌕	क	ka	karma action
18	𑌖	𑌖	𑌖		𑌖	ख	kha	kha sky

Figure 13: Description of Siddham signs ᴀɴᴜsᴠᴀʀᴀ and ᴠɪsᴀʀɢᴀ, the vocalic letters, and the consonants ᴋᴀ, ᴋʜᴀ (from Stevens 1981: 35).

	formal	brush	stroke order	variations	in combination	Devanāgarī	roman letter	esoteric meaning
19						ग	g a	gati going
20						घ	gha	ghana dense
21						ङ	ṅ a	aṅga part
22						च	c a	cyuti transition
23						छ	cha	chāyā shadow
24						ज	j a	jāti birth
25						झ	jha	jhaṣabala warring enemies
26						ञ	ñ a	jñāna knowledge
27						ट	ṭ a	ṭaṅka pride
28						ठ	ṭha	viṭhapana flourish

Figure 14: Description of Siddham consonants GA .. ṬṬHA (from Stevens 1981: 36).

30

	formal	brush	stroke order	variations	in combination	Devanāgarī	roman letter	esoteric meaning
29						ड	ḍa	ḍamara tumult
30						ढ	ḍha	mīḍha disappear
31						ण	ṇa	raṇa battle
32						त	ta	tathātā suchness
33						थ	tha	sthāna dwelling
34						द	da	dāna generosity
35						ध	dha	dharmadhātu dharma realm
36						न	na	nāman name
37						प	pa	paramārtha ultimate meaning
38						फ	pha	phena foam

Figure 15: Description of Siddham consonants DDA .. PHA (from Stevens 1981: 37).

31

	formal	brush	stroke order	variations	in combination	Devanāgarī	roman letter	esoteric meaning
39	व	व				ब	ba	bandhana binding
40						भ	bha	bhava existence
41						म	ma	mama my
42						य	ya	yāna vehicle
43						र	ra	rajas passion
44						ऌ	la	lakṣaṇa mark
45						व	va	vāc speech
46						श	śa	śānti peace
47						ष	ṣa	ṣaḍāyatana six senses
48						स	sa	satya truth

Figure 16: Description of Siddham consonants BA .. SA (from Stevens 1981: 38).

	formal	brush	stroke order	variations	in combination	Devanāgarī	roman letter	esoteric meaning
49						ह	ha	hetu cause

SPECIAL COMBINATIONS

	formal	brush	stroke order	variations	in combination	Devanāgarī	roman letter	esoteric meaning
50						ल्लं	llaṃ	
51						क्ष	kṣa	kṣaya destruction

Figure 17: Description of Siddham consonant letter ʜᴀ and the conjuncts *kṣa* and *llaṃ* (from Stevens 1981: 39).

Numeral		English sound							
Sanskrit–Bonji									
0	shuunya	1	eeka	2	dvi	3	tri	4	chatur
s'u:+nya		e+ka		dvi		tri		c'a+tu+r	
5	pancha	6	shash	7	sapta	8	ashta	9	nava
pam,+c'a		s,a+s.		sa+pta		a+s,t,a		na+va	
Bonji–Character Pronunciation Diagram									

Figure 18: A set of 'Bonji' digits (Source: http://www.mandalar.com/DisplayJ/Bonji/ index6_E.html). These closely resemble Devanagari forms.

33

梵字悉曇字母表

一、摩多十二字・別摩多四字

通 摩 多

番号	文悉字曇	異字体（別体）	摩多点画	音漢訳字	字口表記マ	読（中天音／南天音）	発音種別	字義
1				阿	a	ア ／ ア	母音以下六音喉単	本不生
2				阿引	ā	アー ／ アー	同	寂静（應空）
3				伊	i	イ ／ イ	顎音	根
4				伊引	ī	イー ／ イー	同	災禍
5				優	u	ウ ／ ウ	脣音	譬喩
6				汚引	ū	ウー ／ ウー	同	損減
7				曀	e	エー ／ エ	母音以下四音喉顎複	求
8				愛	ai	アイ ／ エー	同	自在（自相）
9				污	o	オー ／ オ	喉・脣	瀑流（執瀑流）
10				奥	au	アウ ／ オー	同	化生（變化）
11				闇	aṃ	アン ／ アン	随韻	辺際
12				悪	aḥ	アク ／ アク	止声	遠離

別 摩 多

番号	文悉字曇	異字体（別体）	摩多点画	音漢訳字	字口表記マ	読（中天音／南天音）	発音種別	字義
13				哩	ṛ	リ ／ キリ		神通
14				哩引	ṝ	リー ／ キリー		類例
15				昭	ḷ	リヨ ／ リ		染
16				嚧	ḹ	リヨー ／ リー		沈没

二、体文　三十三字

五類声第一句／五類声第二句

番号	文悉字曇	異字体（別体）	切継半体 上部	切継半体 下部	音漢訳字	字口表記マ	読（中天音／南天音）	発音種別	字義
17					迦	ka	キャ ／ カ	音以下五字清・無喉	離作業（作業）
18					佉	kha	キャ ／ カ	同・有	等虚空（等空）
19					誐	ga	ギャ ／ ガ	濁・無	行
20					伽	gha	ギャ ／ ガ	同・有	一合（一合相）
21					仰	ṅa	ギヤウ ／ ガ	鼻音	支分
22					遮	ca	シャ ／ サ	音以下五字清・無顎	離一辺（遷変）
23					磋	cha	シャ ／ サ	同・有	影像
24					惹	ja	ジャ ／ ザ	濁・無	生

Figure 19: Chart of Siddham (from Kodama 1991: 65–66). Note the variant form ◌ of ◌ VOWEL SIGN VOCALIC RR.

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	№	Siddham			漢	rom.	カナ	カナ	注	義
同五句	39				跋	ba	バ	バ	濁・無	縛
	40				婆	bha	バ	バ	同・有	有
	41				莽	ma	マ/ウ	マ	五字以上鼻音五類耜声廿	吾我
声	42				野	ya	ヤ	ヤ	以下四字以下八字半通母音声	乗
	43				囉	ra	(アラ)	ラ		離諸塵染（塵垢）
	44				邏	la	ラ	ラ		相
遍口声	45				嚩	va	バ	バ		語言道断（言説）
	46				捨	śa	シャ	シャ	吾以下三字音隔	本性寂
	47				灑	ṣa	シャ	シャ		性鈍
	48				娑	sa	サ	サ		一切諸（諦）
	49				賀	ha	カ	カ		因（因業）
三重字					二字					
遍口声	50				濫	llaṃ	ラン	ラン	同体重	（都除）
	51				乞灑	kṣa	キシャ	サ	異体重	盡

Figure 20: Chart of Siddham (from Kodama 1991: 67–68).

Figure 21: Siddham letters used in Korea (from Lim 2005). Courtesy of Lee Collins.

Figure 22: Siddham letters used in Korea (from Lim 2005). Courtesy of Lee Collins.

Figure 23: Siddham letters used in Korea (from Lim 2005). Courtesy of Lee Collins.

Figure 24: Siddham letters used in Korea (from Lim 2005). Courtesy of Lee Collins.

Figure 25: Siddham used in a Korean version of the *Nīlakaṇṭha Dhāranī* (नीलकण्ठ धारनी; Chi. 大悲咒 *Dàbēi Zhòu*) of Avalokiteśvara (from Lokesh Chandra 1988: 164).
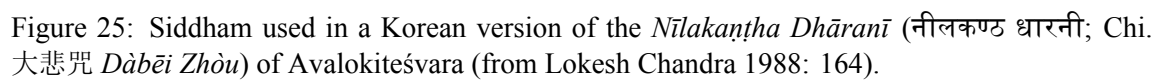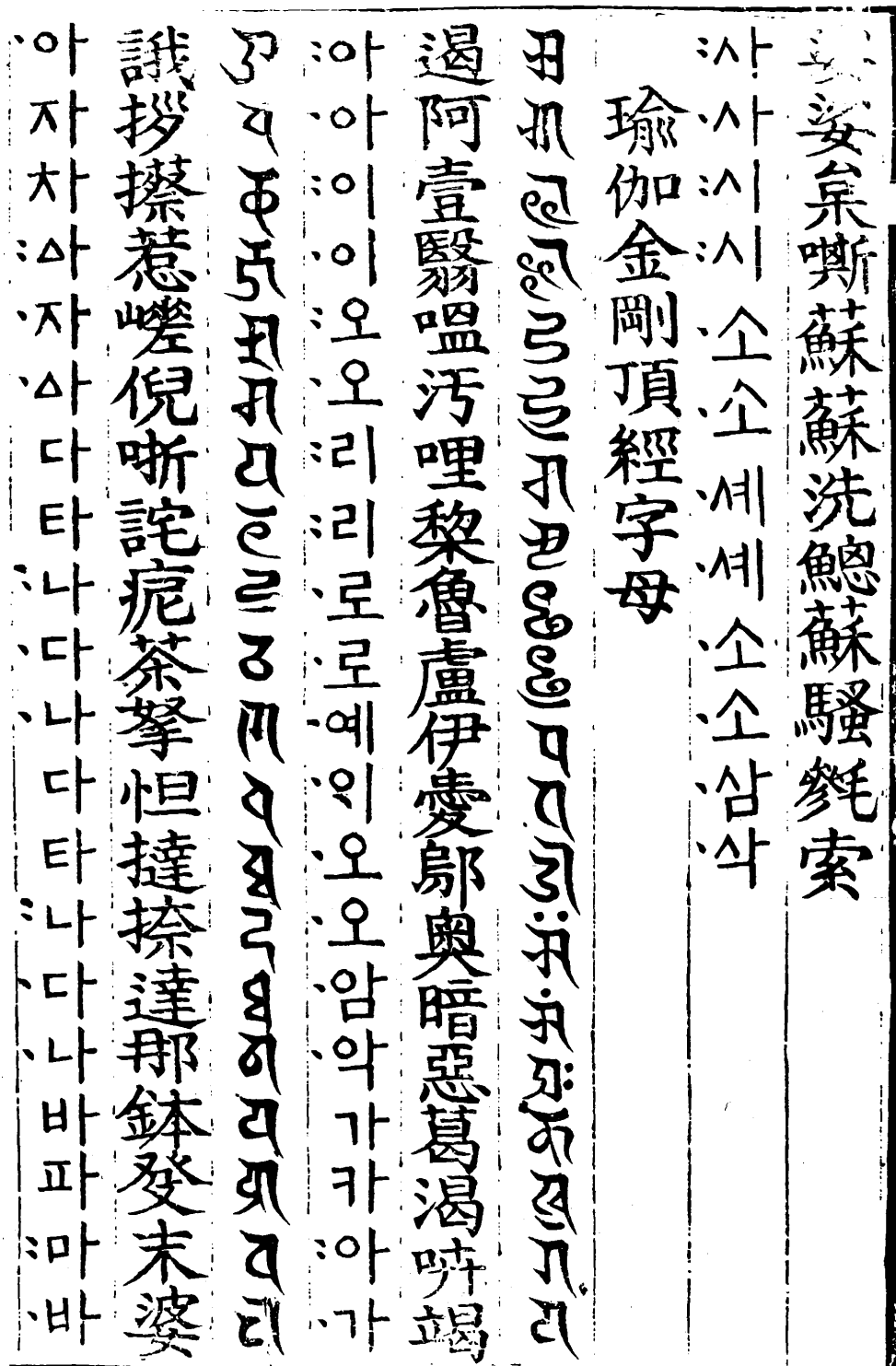
Figure 26: Siddham letters used in Korea (from Stevens 1981: 8)

Plate XIX.

लिपिपत्र १९वाँ.

प्राचीन हस्तलिखित पुस्तकों तथा लेखों से.
(ई. स. की छठी शताब्दी).

होर्युजी के मठ (जापान में) से मिली हुई 'उष्णीषविजयधारणी' की ताड़पत्र पर लिखी हुई
पुस्तक के अन्त में दी हुई पूरी वर्णमाला.

बावर साहब को मिली हुई भोजपत्र पर लिखीं पुस्तकों में मुख्य मुख्य अक्षर.

आसिरगढ़ से मिली हुई मौखरी यर्ववर्मन् की मुद्रा से मुख्य मुख्य अक्षर.

मौखरी अनंतवर्मन् के २ लेखों से.   मधानामन् के बुद्धगया के ले. (ई. ५८८)

Figure 27: Chart showing the variety of Siddham used in the Hōryū-ji palm-leaf manuscripts (top portion of figure) (from Ojhā 1971: Plate 19).

[39

[38

38]

३९]

[३८

Miscellaneous alphabets to be met on the manuscripts and incriptions of Nepal.

This type of Nepalese consonants and vowels is found on the palm leaf manuscript in the monastry of Horyuji in Japan.

A A I EE U OO Ri Ree Lri Lree
अ आ इ ई उ ऊ ऋ ॠ ऌ ॡ

E Ai O Au Am Ah
ए ऐ ओ औ अं अः

Ka Kha Ga Gha Na Cha Chha Ja Jha Yan
क ख ग घ ङ च छ ज झ ञ

Ta Tha Da Dha Na   Ta Tha Da Dha Na
ट ठ ड ढ ण   त थ द ध न

Pa Pha Ba Bha Ma   Ya Ra La Wa
प फ ब भ म   य र ल व

Sha Sha Sa Ha Ksha
श ष स ह क्ष

This type of consonants and vowels are also available in various incriptions of Nepal.

A A I EE U OO Ri Ree
अ आ इ ई उ ऊ ऋ ॠ

Figure 28: Chart showing the variety of Siddham used in Nepal and Central Asia (from Śākyavaṃśa 1985: 38–39). This form of Siddham is apparently that used on the Hōryū-ji palm-leaf manuscripts.

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Figure 29: Comparison of Siddham, Tibetan, Ranjana, and Chinese scripts (Source: `http://www.siddham-sanskrit.com/s-sanskrit2/learn-siddham/sid-ran-tib-han.GIF`).
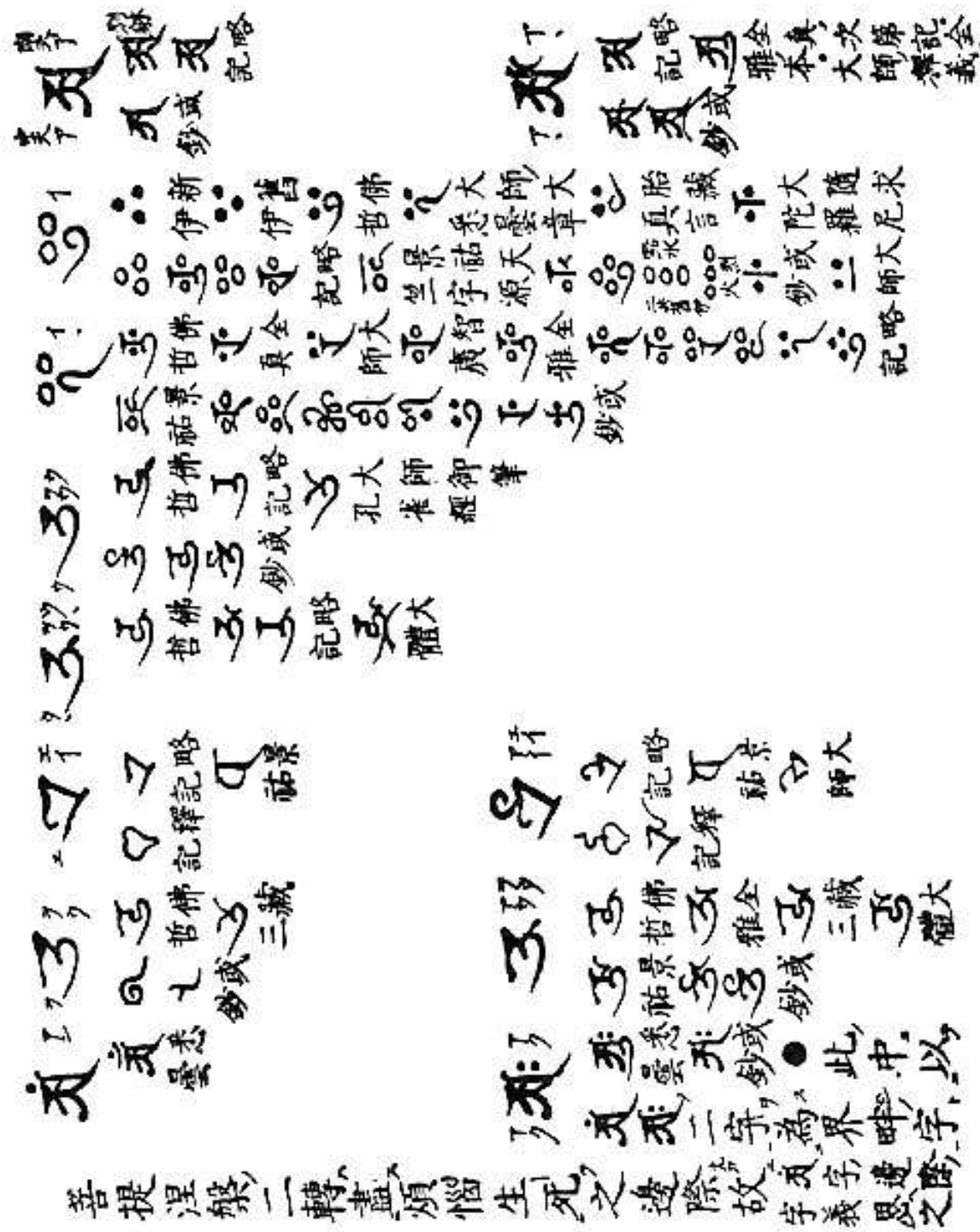
Figure 30: Description of the basic vowels, ANUSVARA, and VISARGA in the *Shittan Sanmitsushō* (from Jōgon 1682: 722). Note the several glyphic variants given for each vowel.
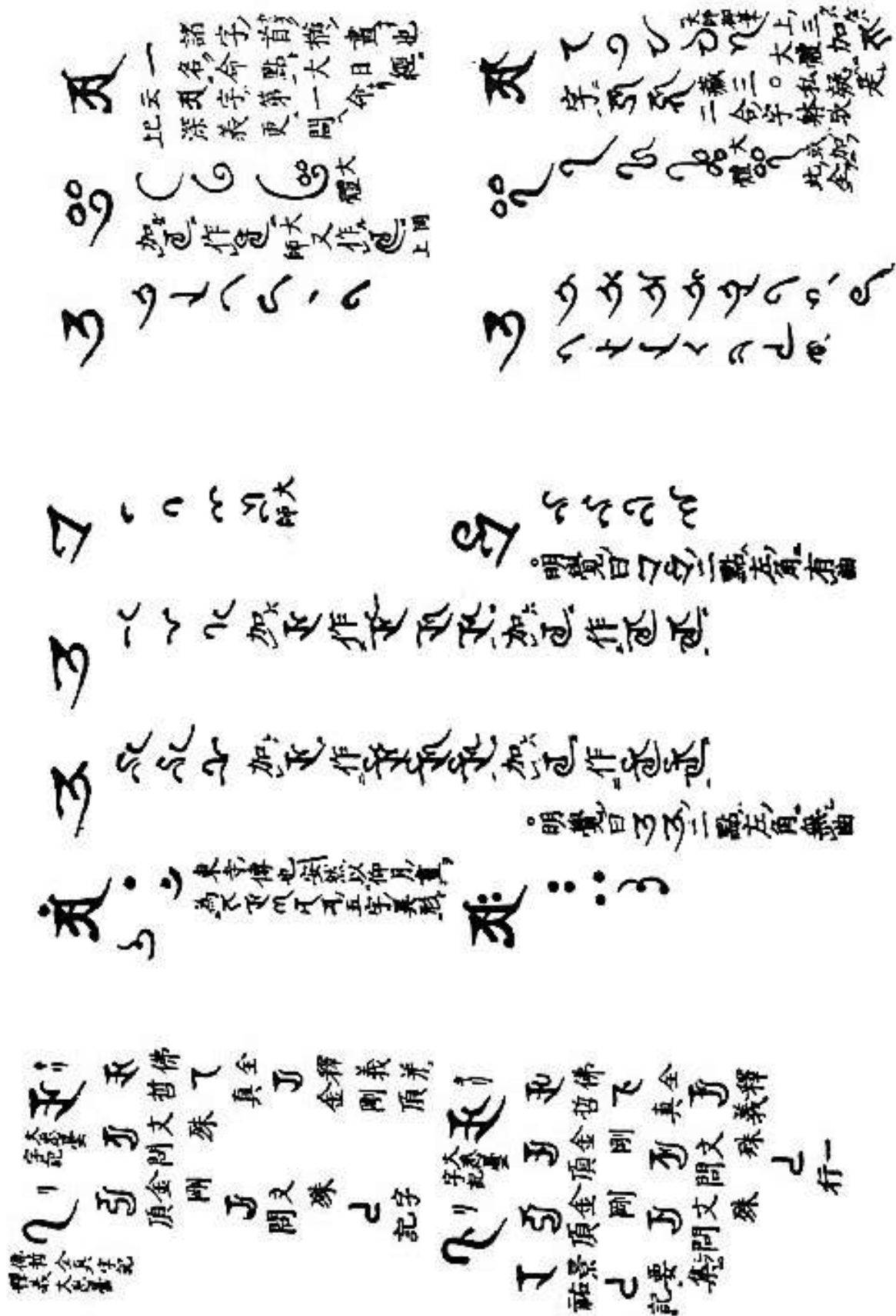
Figure 31: Description of vowel signs and the vocalic letters in the *Shittan Sanmitsushō* (from Jōgon 1682: 722).

Figure 33: Punctuation and ornaments used in Siddham (from Tokuzan 1974: 227). Many of these are identical to those shown by Stevens (figure 32) and Kodama (figure 35). However, note here the vertical variant ꙮ of ꙮ SIDDHAM.

Punctuation marks are as follows:

is written at the beginning of a text

ditto mark

comma (formal)

comma (informal)

period (formal)

period (informal)

At the end of a text these marks are often used:

Figure 32: Punctuation and ornaments used in Siddham (from Stevens 1981: 41).

Figure 34: Description of an invocation sign, punctuation marks, section marks, a variant form of VIRAMA, a deletion mark, and repetition marks in the *Shittan Sanmitsushō* (from Jōgon 1682: 724). Note the separate listings for ⚌ SECTION MARK EIGHT and ⚌ SECTION MARK ELEVEN.

記号

① 怛達（たつ）（生の画）。母音符（a）を除いた子音字（半体文）を作るときに体文の下部につける。

② 文頭に書く。ｉ字の省略。

③ 句末。読点にあたる。ｍａ字の省略。

④ 文末。句点にあたる。ｄａ字の省略。

⑤ 畳句（じょうく）（同じ言葉をくり返すときに用いる）。ｃｈａ字の省略。

⑥ 減滅点（書き損じたときに、文字の上あるいは下にこの記号を符す）。ｎａ字の省略。

⑦ 文章の終りに符す。ａｍ・字の省略。

⑧ 文章の終りに符す。ａｈ・字の省略。

Figure 35: Punctuation and ornaments used in Siddham (from Kodama 1991: 222). Column (1) forms of VIRAMA; (2) the SIDDHAM sign; (3) the 'informal' DANDA; (4) the 'informal' DOUBLE DANDA; (5) the three repetition marks; (6) deletion marks; (7) ornaments used at the end of a text section; (8) a sign used at the end of text.

㗚拏 16 滿怛囉 麼韈㗚多 逸史夜弭 17 薩嚩 遏㗚他 娑馱劍 18 薩嚩 尾覲曩

rṇa   mantra   māvartta   iṣyāmi   sarva   artha   sādhakam,   sarva   vighna

〕   〔真言〕   〔誓願〕〔一切〕〔事〕〔完成〕   〔一切〕〔魔障〕

佉多劍 19 薩嚩　尾灑　曩捨難 20

ghātakaṃ,   sarva   viṣa   nāśanāṃ.

〔能破〕   〔一切〕〔毒〕〔消滅〕

唵 21 吽　吽　吽 22 多嚕攞 23 尾嚕攞 24 薩嚩　尾覲曩　伽多迦 25 入嚩

oṃ,   hūṃ   hūṃ   hūṃ,   tarula   virula,   sarva   vighna   ghātaka,   jva-

〔一切〕〔魔障〕〔能破〕   〔火

理多 尾娑普陵誐 吒賀娑 26 計娑囉 撠吒 娑跓跛 27 嚩日囉齲囉 捏伽多曩 28

lita   visphu liṅgā   ṭṭahāsa   kesarā   chaṭa   saṭopa   vajrakhura   nirghātana,

焰〕   〔火花〕   〔哄笑〕〔鬣毛〕〔群集〕〔剛毛〕   〔金剛蹄〕   〔除去〕

左里多 嚩素馱多攞 29 顙濕嚩娑 麼嚕妬 得乞揷多 30 馱囉抳 馱囉 31 鼻灑拏

calita   vasudhātala   niḥśvasa   māruto   tkṣipta,   dharaṇi   dhāra   bhīṣaṇā

〔震動〕〔地表〕   〔鼻嘆息〕〔空氣〕〔吐出〕   〔咒〕   〔持〕〔可怖畏〕

吒賀娑 32 阿跛哩弭多麼攞 33 跛囉屹囉麼 34 鼻多部多藥拏 35 沒地也 沒地也

ṭṭahāsa   aparimita   bala   parākrama   bhītabhūtaganā,   buddhya   buddhya

〔哄笑〕〔無量〕   〔力〕   〔強鎮〕〔驚怖步多鬼眾〕

36 賀也屹里嚩 37 佉娜　佉娜 38 跛囉滿怛囉 39 㗅乞叉 㗅乞叉 40 遏菩麼 滿怛㘑

hayagrīva,   khāda   khāda   paramantra   rakṣa   rakṣa   ātma   mantraṃ

〔馬頭明王〕   〔噉食〕〔他真言〕〔保護〕〔〃〕   〔自己〕〔真言〕

Figure 36: Chinese Siddham showing usage of 𑗁 REPETITION MARK ONE (source unknown). Note
the serialized use of 𑗁 after the syllable *hūṃ*, which indicates that the word is to be read thrice.

50

Figure 37: Excerpt from the *Uṣṇīṣa Vijaya Dhāraṇī Sūtra* in figure 5 showing usage of 𑗕 REPETI-TION MARK TWO in vertical text (from Kodama 2005: 123)).
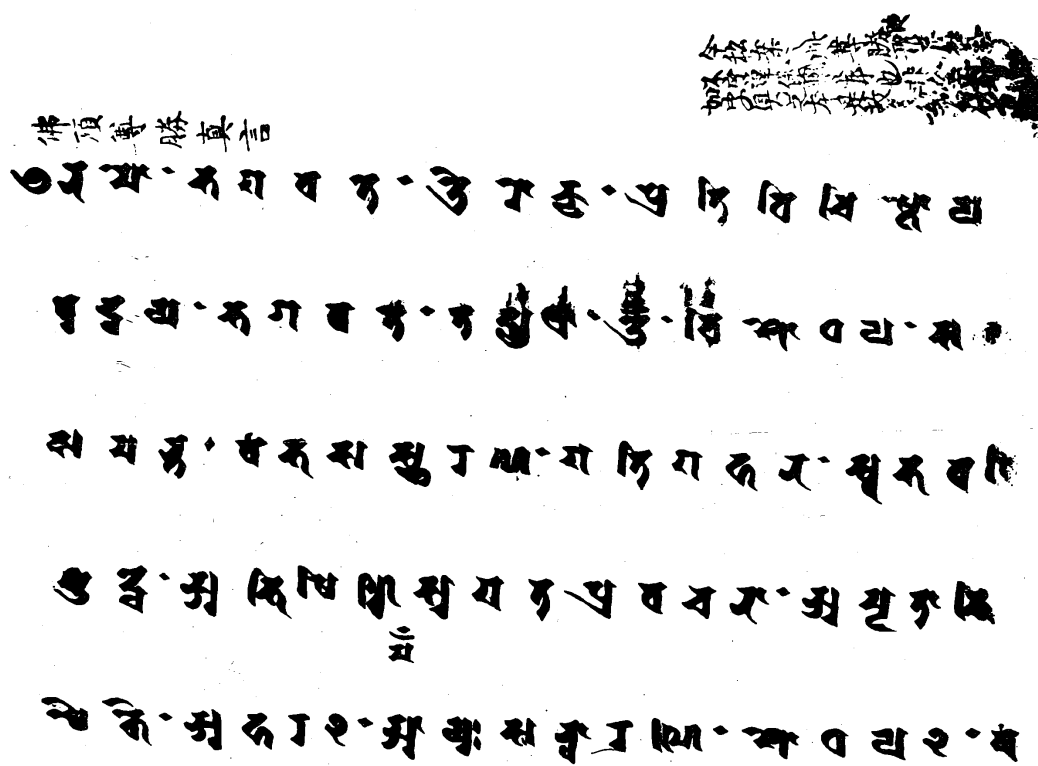
Figure 38: Use of ꞏ WORD SEPARATOR ONE (from Lokesh Chandra 1965: fascicle 1, section 12). Note also the use of the invocation sign ꙮ SIDDHAM at the beginning of the text.
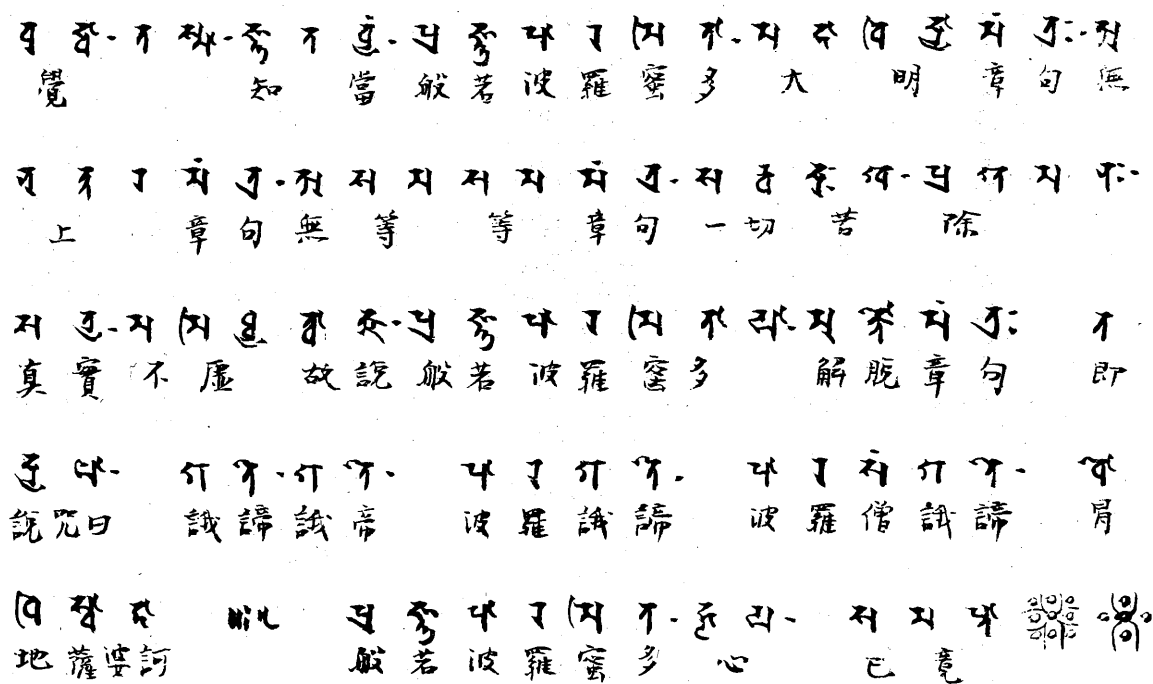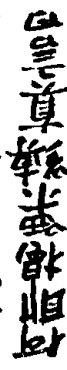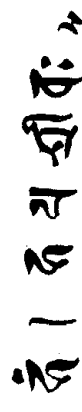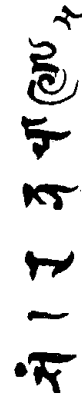

Figure 39: Use of a middle dot as a word separator (from Lokesh Chandra 1972: 410). Note also the use of ꞉ⅼⅼ꞉ SECTION MARK TWELVE and ꙮ SECTION MARK THIRTEEN.

Figure 40: Text showing use of ◌ DANDA, ◌ DOUBLE DANDA, and ◌ WORD SEPARATOR TWO (from Lokesh Chandra 1972: 15). Note the writing of DANDA and DOUBLE DANDA beneath WORD SEPA-RATOR TWO.

Figure 41: Text showing use of ◌ WORD SEPARATOR TWO, ◌ DANDA, and ◌ DOUBLE DANDA (from Lokesh Chandra 1972: 33). Here WORD SEPARATOR TWO is written independently.

The mantra of Pañḍaravāsinī: *namaḥ samanta-buddhānāṃ paṃ.* 90

The mantra of Hayagrīva: *namaḥ samanta-buddhānāṃ haṃ.* 91

The mantra of Yaśodharā: *namaḥ samanta-buddhānāṃ yaṃ.* 92

The mantra of Ratnapāṇi: *namaḥ samanta-buddhānāṃ saṃ.* 93

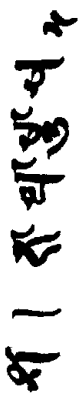The mantra of Jālinīprabha: *namaḥ samanta-buddhānāṃ jaṃ.* 94
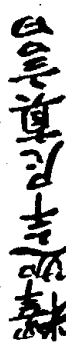
The mantra of Śākyamuni: *namaḥ samanta-buddhānāṃ bhaḥ.* 95

The mantra of the three Buddhoṣṇīṣas: *namaḥ samanta-buddhānāṃ hūṃ trūṃ.* 96

The mantra of Sitātapatroṣṇīṣa: *namaḥ samanta-buddhānāṃ laṃ.* 97

The mantra of Jayoṣṇīṣa: *namaḥ samanta-buddhānāṃ śaṃ.* 98

The mantra of Vijayoṣṇīṣa: *namaḥ samanta-buddhānāṃ śi.* 99

Figure 42: Text showing use of ꠰ WORD SEPARATOR TWO and ꠱ DOUBLE DANDA (from Yamamoto 1990: 61, 62).

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梵字−子音表 (一部)		アルファベット	発音記号	日本語表記
日本語表記で使用				

ba	bə	バ	bla	blə	ブラ	bra	brə	ブラ	bya	bjə	ビャ	bha	bʰə	バ゛ァ
c'a	tʃə	チァ	c'ha	tʃʰə	チ'ァ	da	də	ダ	d'a	ðə	ザ	d,a	ɖə	ダ
dha	dʰə	ダ'ァ	d,ha	ɖʰə	ダ'ァ	fa	fə	ファ	ga	gə	ガ	gha	gʰə	ガ'ァ
ha	hə	ハ	ja	dʒə	ジア	jha	dʒʰə	ジ'ァ	ka	kə	カ	kha	kʰə	ガ'ァ
ks,a	kʃə	クシャ	la	lə	ラ	ma	mə	マ	na	nə	ナ	n,a	ŋə	ンガ
n˜a	ɲə	ニャ	n'a	ŋə	ナ	pa	pə	パ	pha	pʰə	パ゛ァ	qwa	kwə	クァ
ra	rə	ラ	sa	sə	サ	s'a	ʃə	シャ	s,a	ʃə	シャ	ta	tə	タ
tsa	tsə	ツァ	t,a	tə	タ	tha	tʰə	ダ'ァ	t,ha	ʈʰə	ダ'ァ	th'a	θə	サ
va	və	ヴァ	wa	wə	ワ	xa	ksə	クサ	ya	jə	ヤ	za	zə	za

梵字文字 発音 法則

Figure 43: Chart showing the use of ◌ ɴᴜᴋᴛᴀ for writing sounds not natively represented by traditional Siddham letters (Source: http://www.mandalar.com/DisplayJ/Bonji/index2.html).

Figure 44: Text showing the use of ◌ NUKTA with 𑖕 JA in order to represent /z/ in the Siddham for the Japanese word 刺青 *irezumi* "tattoo" (Source: http://www.mandalar.com/ BonjiDigitalDictionarySAMPLE/member/_Tattoo/00Tattoo.html).

Figure 45: Grid showing traditional Siddham character set (adapted from Stevens 1981: 40–41). This appears to be based upon the analysis of Siddham conjuncts by Zhi-guǎng (see Section 3.9).
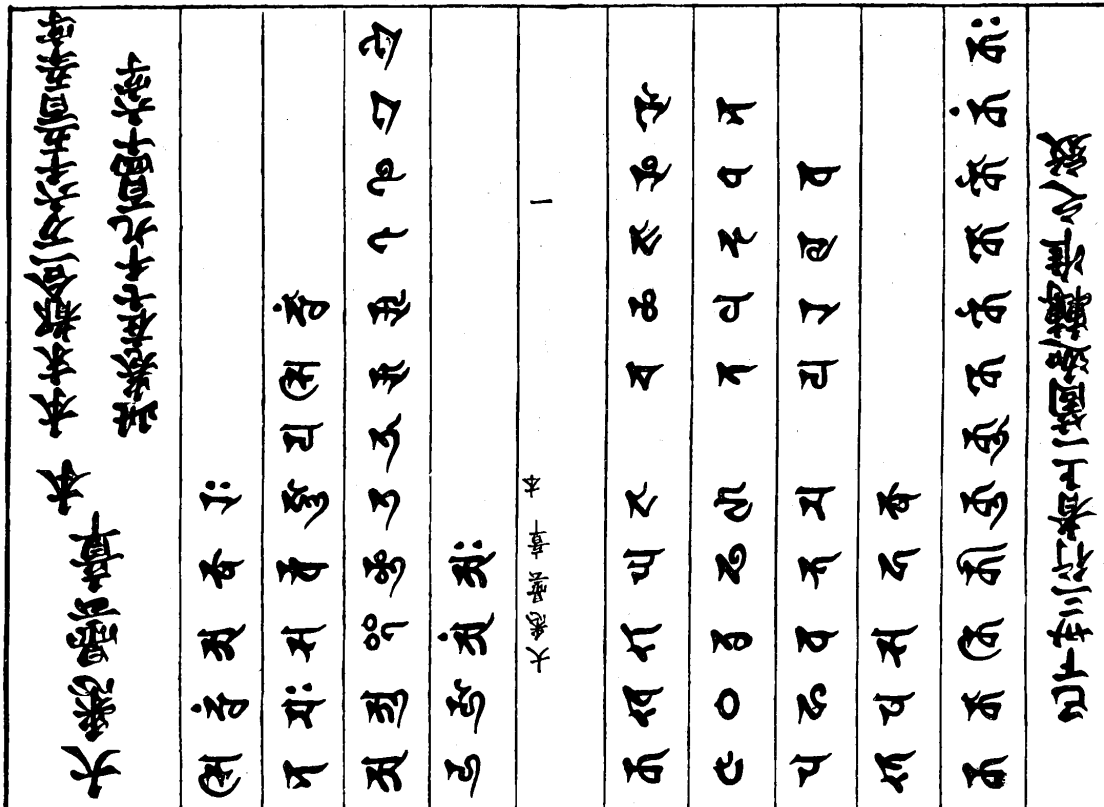
Plate VIIb.   Siddham ligatures

Figure 47: Siddham ligatures (from van Gulik 1980: Plate VIIb).

Plate VIIa.   Siddham ligatures

Figure 46: Siddham ligatures (from van Gulik 1980: Plate VIIa).
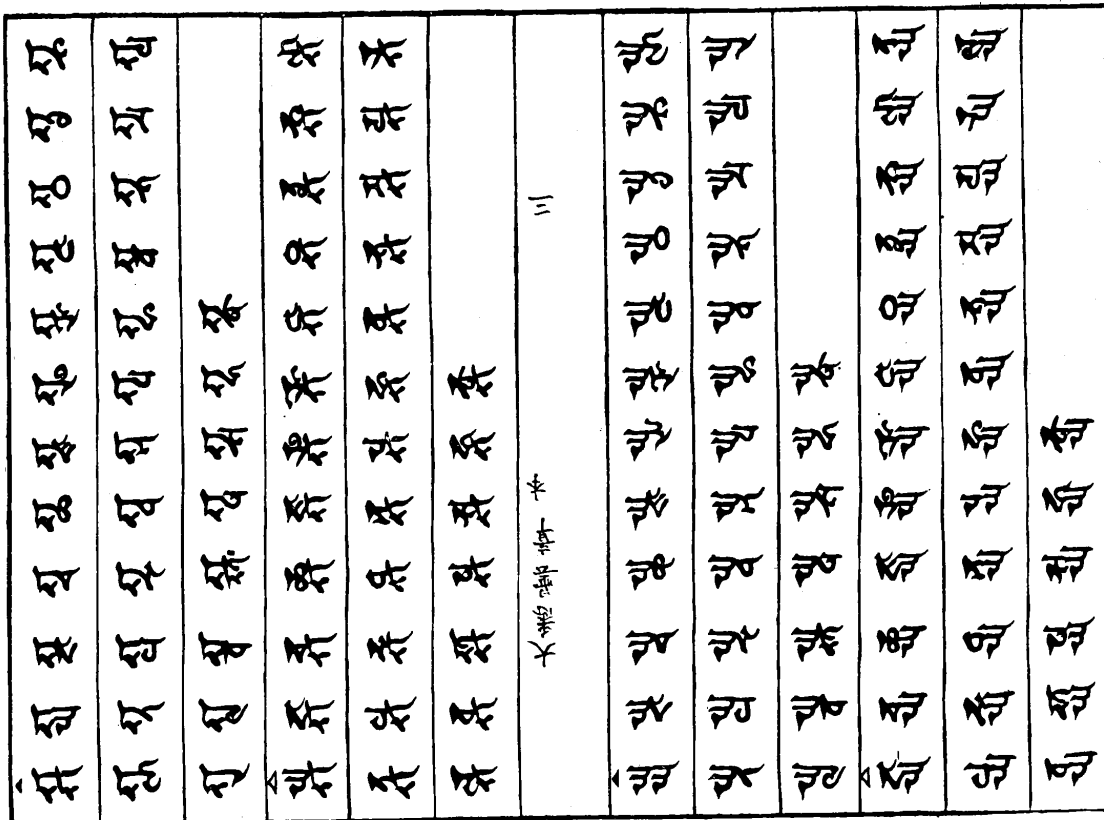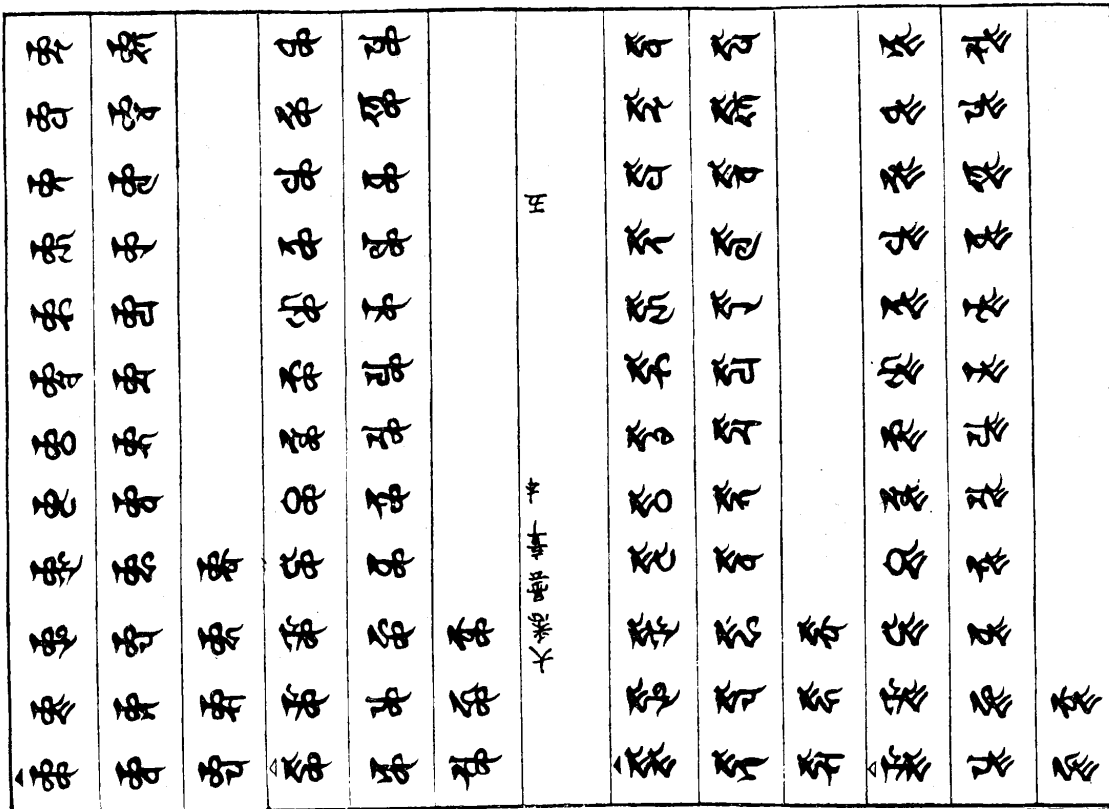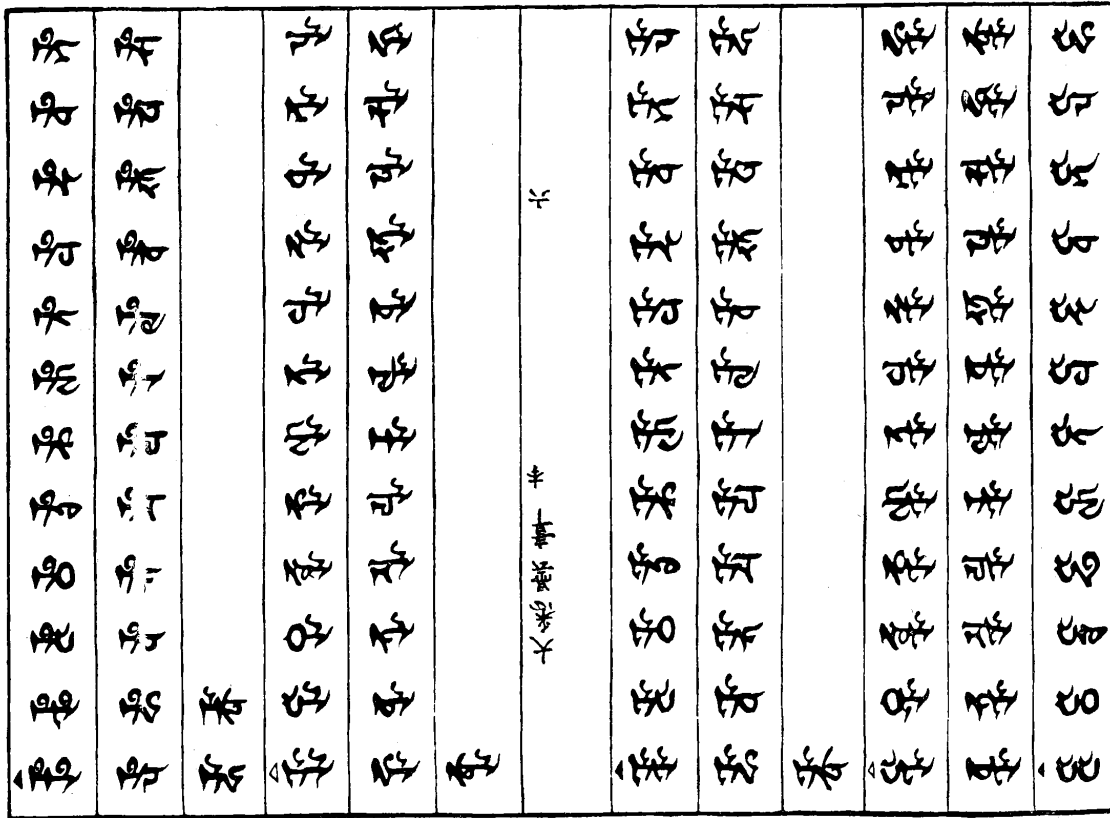
Plate VIId.　Siddham ligatures

Figure 49: Siddham ligatures (from van Gulik 1980: Plate VIId).
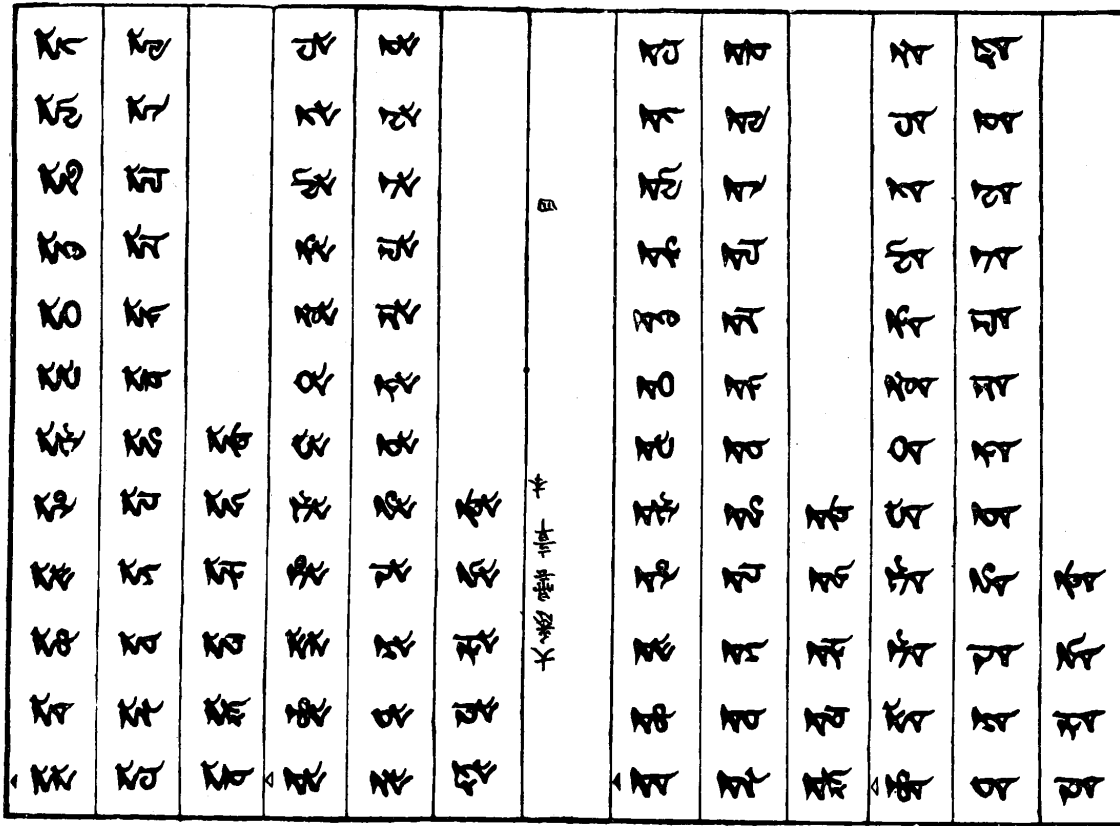
Plate VIIc.　Siddham ligatures

Figure 48: Siddham ligatures (from van Gulik 1980: Plate VIIc).

Plate VIIf.   Siddham ligatures

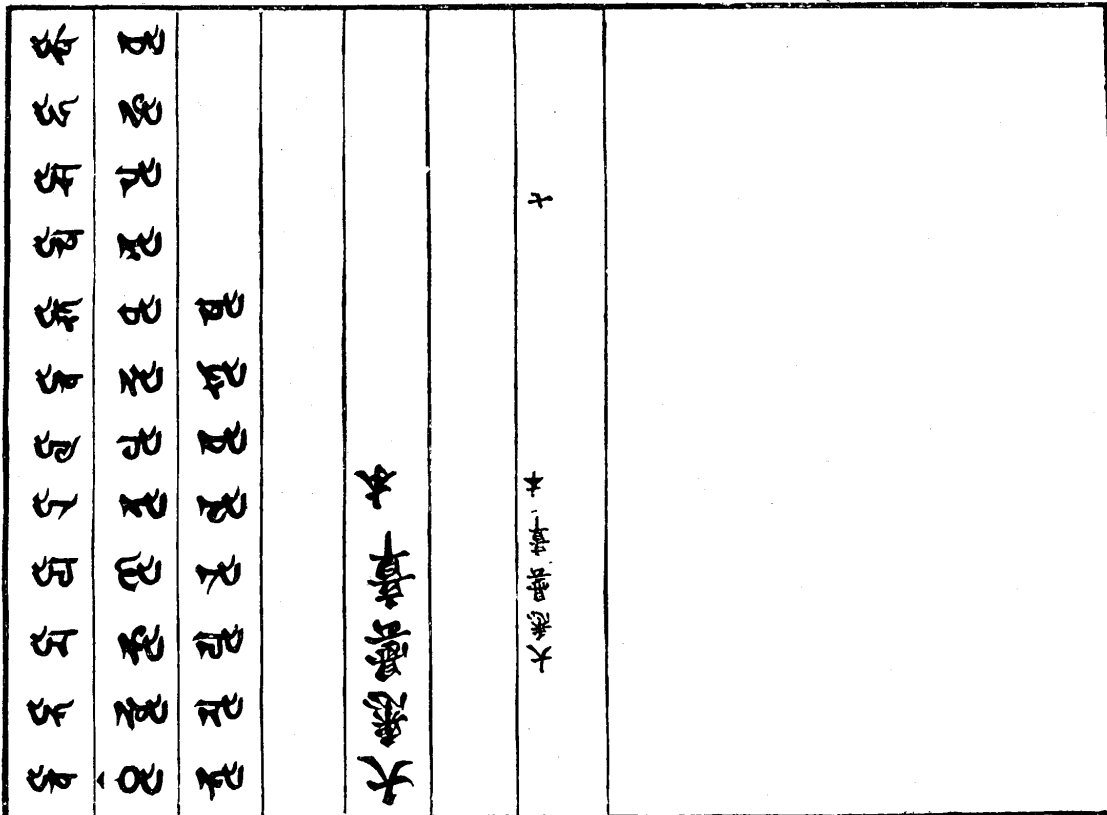Figure 51: Siddham ligatures (from van Gulik 1980: Plate VIIf).

Plate VIIe.   Siddham ligatures

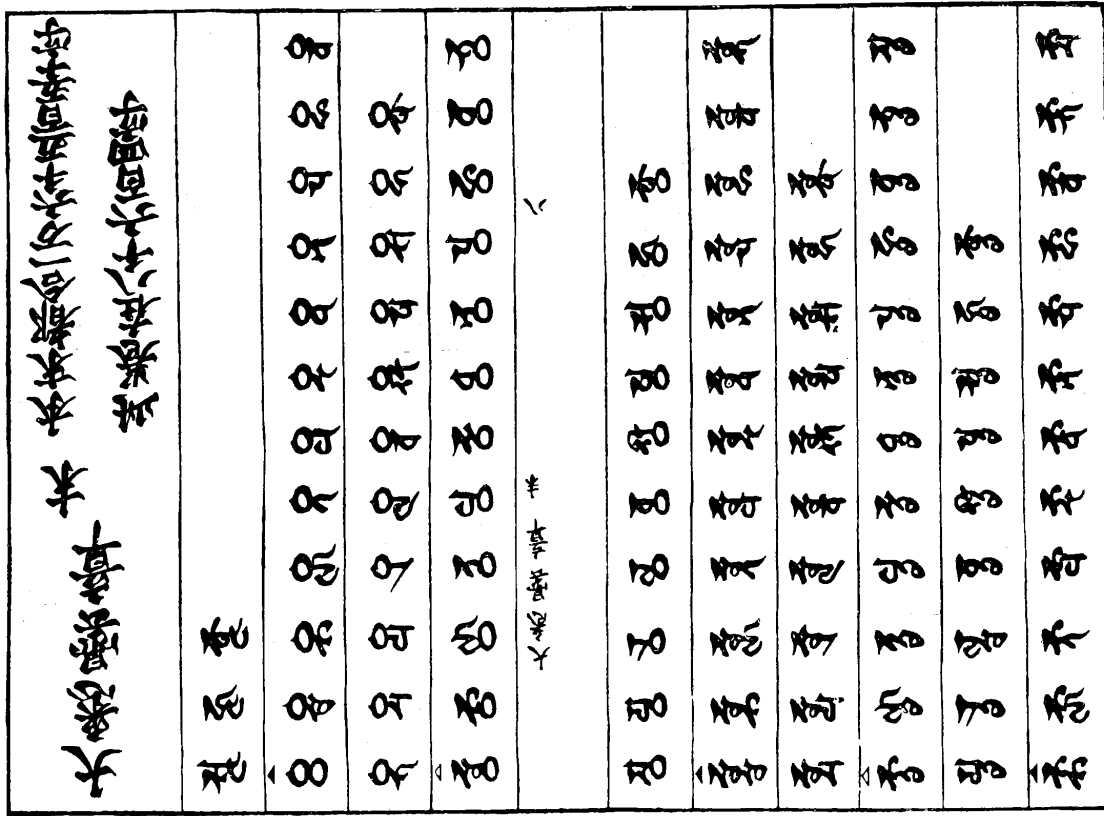Figure 50: Siddham ligatures (from van Gulik 1980: Plate VIIe).

Figure 53: Siddham ligatures (from van Gulik 1980: Plate VIIh).

Figure 52: Siddham ligatures (from van Gulik 1980: Plate VIIg).

-Plate VIIj. Siddham ligatures

Figure 55: Siddham ligatures (from van Gulik 1980: Plate VIIj).

Plate VIIi. Siddham ligatures

Figure 54: Siddham ligatures (from van Gulik 1980: Plate VIIi).

Figure 57: Siddham ligatures (from van Gulik 1980: Plate VIII).

Figure 56: Siddham ligatures (from van Gulik 1980: Plate VIIk).

Plate VII n.   Siddham ligatures

Figure 59: Siddham ligatures (from van Gulik 1980: Plate VIIn).

Plate VII m.   Siddham ligatures

Figure 58: Siddham ligatures (from van Gulik 1980: Plate VIIm).

Plate VIIp. Siddham ligatures

Figure 61: Siddham ligatures (from van Gulik 1980: Plate VIIp).

Plate VIIo. Siddham ligatures

Figure 60: Siddham ligatures (from van Gulik 1980: Plate VIIo).

Figure 62: Chart showing 'headless' consonants combined with VIRAMA (from Jōgon 1682: 779). These are pedagogical forms of regular consonants letters (see Section 4.4).
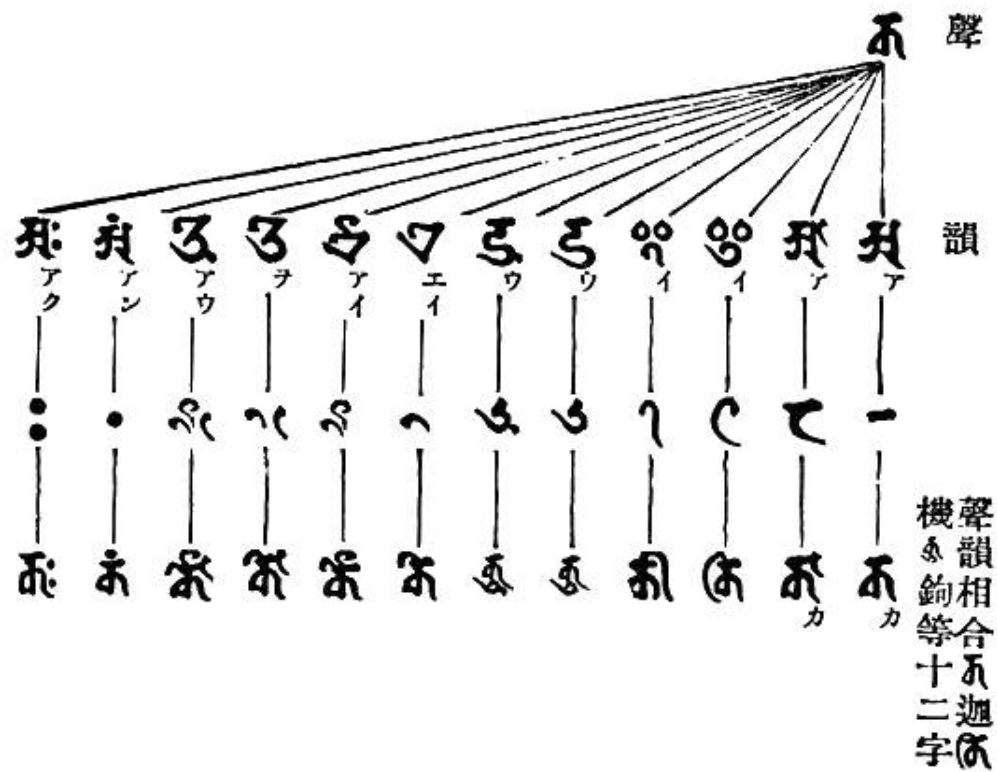
Figure 63: Chart showing Siddham dependent vowel signs and their combinations with 𑖎 KA (from Shinpan: 644). Note the presence of the vowel sign ˉ for 𑖀 A, which is derived from the top-stroke of the letter KA. See Section 4.4 for more details.
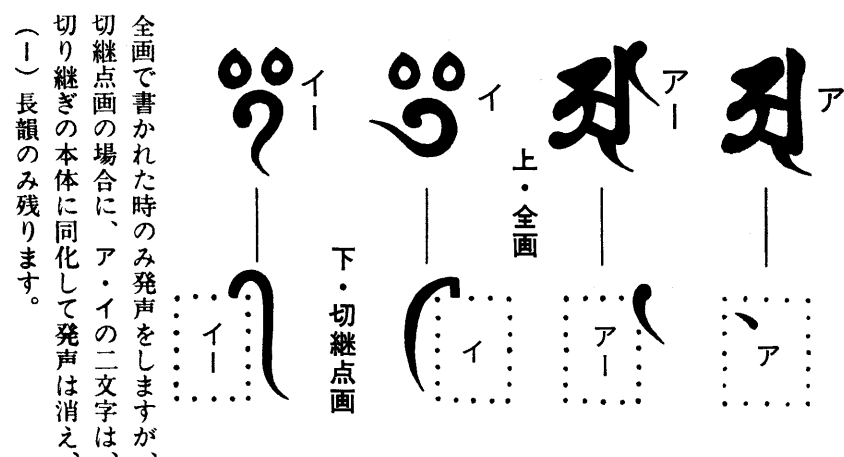

Figure 64: The ヽ *myō-ten* shown as the dependent form of 𑖀 VOWEL LETTER A (from Tokuzan 1974: 226).
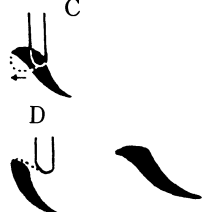
7	6	5	4	3	2	1	筆法 基本

（図：基本の筆法 1〜7）

C · D（4）　B · A（3）

1　命点
命点　梵字を書くときは先ず筆を落して一点をうつ。これを阿字命点（略して命点）という。すべての字は㸚字の変現であることを表わす。また㸚字の点画とも考えられる。命点をうたない梵字は「ただの梵字」で悉曇ではないといわれて来た。

2　横画（第一画）
横画（第一画）　命点に続けて書く。命点をうち、筆先を離さずに少し斜上にあげ、命点にかぶせるように筆をおろし、横に一の字を引く。（早書の場合は、命点から斜上にあげた筆をすぐにおろさず、右に引きながら下げる。）

3　竪画
竪画　筆をおろし（命点ではない）軽く左斜下に押し下げ、筆の終るところを見定めてから、まっすぐに引きおろす。A終りを止めるときは筆全体を内側に押しつけ、B引くときは右斜下へ引きながらゆっくり筆をおさめる。（早書の場合は、左斜下へ押し下げた筆を止めずに下へ引くので、左よりとなるのを引きながら右へもどす。）

4　鶯点㸚㸚の終画、ウ点
筆を右のへ倒して（掌が上を向く）一ぱいにおろし、そのまま右斜下から横へ引きながら筆をおさめる。（手首をつかわず脇を開きながら引く。）筆先が下側を通る逆筆である。竪画との連続は、下を向いて竪画を引いて来た掌が上に反って、竪画の終りに重ねて筆をおろす（上図C）。掌を下に向けたままでは下図Dのように竪画と点が離れ、点の形も舟のようになる。（早書の場合でも掌は横に向くくらいに反す。）なお鶯点の名は刷毛書の場合、長く引いた形が鶯の谷渡りに似ているところから出たもので、毛筆書には当らないが、昔からそのまま用いている。

5　雲形点　ウ点
（㸚㸚㸚の下部も同じ要領）竪画の筆を一たん止め、左斜下へ押し出し、引き返して同じ角度で右斜下へ引き、丸みをつけて左へまわし、斜上へはねる。このとき筆が切れたら、筆の終るところまで筆を運び軽くおとして引き返す。（早書ならば切れたままでよい。）斜上へはねずにダラリと下へさげるのはいけない。×

6　円点　空点、涅槃点、また〇字
宝珠形と伝えているが、それにとらわれると細長い形となる。（むしろ少し平たい方がよい。）おろした筆を左へ押し上げるくらいにして大きく割り、右へまわす。第二筆は第一筆の始点に重ねて軽く筆をおろし、左側と同形になるように右へまわして終りを合せる。（早書の場合は、第一筆を長く右わきまで引いておき、第二筆は補う程度にする。）黒点にするには第一筆を筆を倒して肉太に書き、第二筆で補えばよい。

7　半月形
弧線の半月形では腹がせまく、従って字が細長くなりすぎるので、初めの三分の一は斜直線、後の三分の二はゆったり丸みをつける。終りは上げない。（39㸚字は終りを上げて竪画に続ける。）

Figure 65: Elemental Siddham strokes (from Bonji Kichō Shiryō Kankōkai 1980: 114).
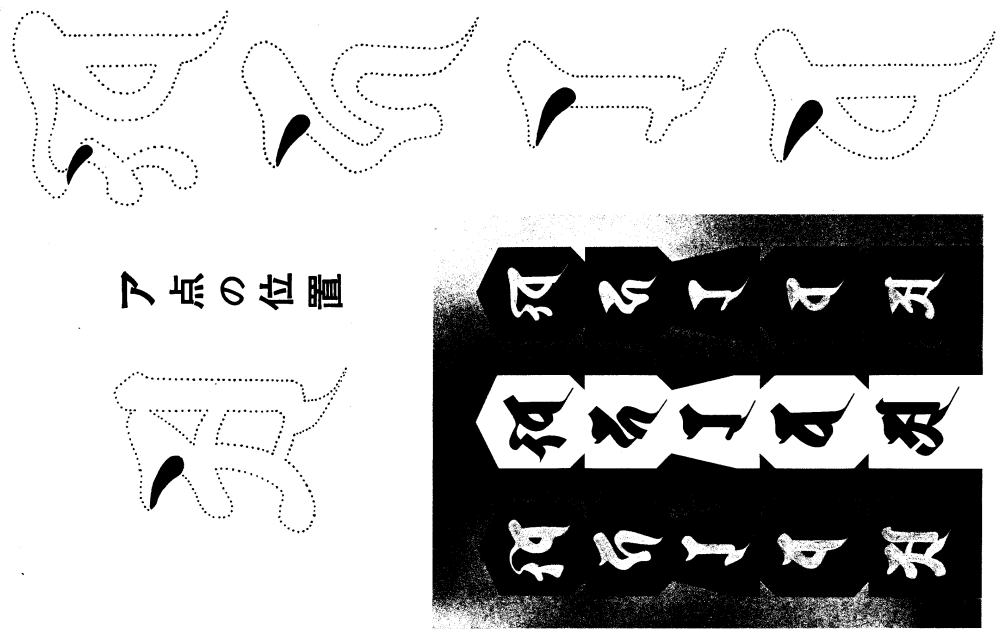
Figure 67: The position of ⟨ *myō-ten* in the seed-syllables for the five elements 丸 A, त VA, ৰ RA, 丸 KHA, ৎ HA (from Tokuzan 1974: 180).

THE LETTER A WRITTEN WITH A BRUSH

SOFT BRUSH STROKE ORDER
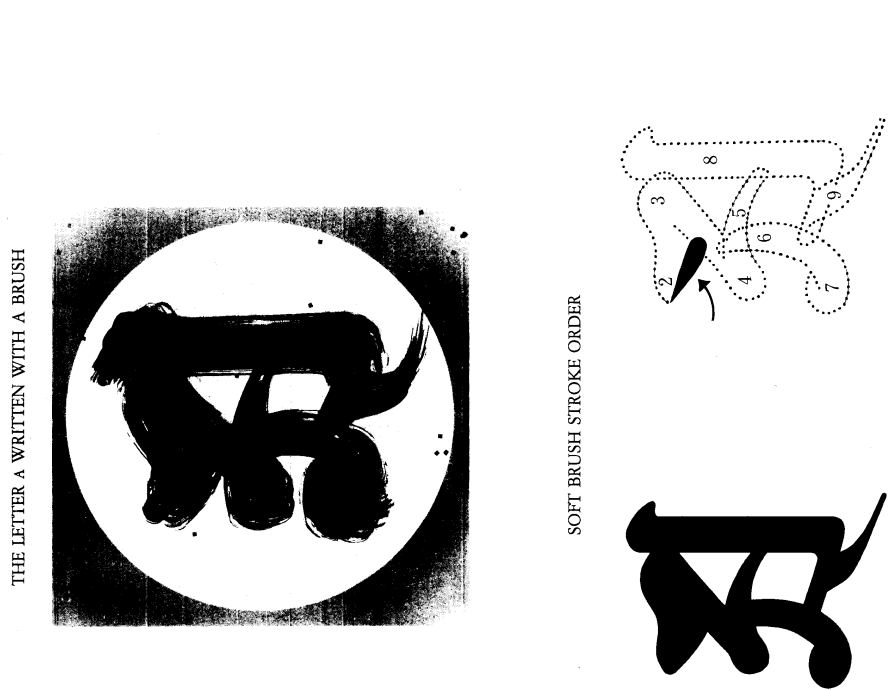
Figure 66: Stroke sequence for writing 丸 A using a soft brush (from Stevens 1981: 44). The initial stroke ⟨ *myō-ten* is highlighted. See Section 4.4 for details on Siddham stroke characters.

Figure 69: The seed-syllables for the five elements 𑖀 A, 𑖪 VA, 𑖨 RA, 𑖏 KHA, 𑖮 HA conceptualized as a *stūpa* (from Tokuzan 1976: 28).

Figure 68: A conceptualization of the syllable 𑖪𑀂 *vaṃ* as a *stūpa* (from Tokuzan 1976: 43). The elements from top are ◌ ANUSVARA, the ˘ *gyōgatsu-ten*, and 𑖪 VA.

不動明王

重字の場合
上部・長韻累し
下部・長韻のみ発声

カンマーン

重字の場合
上部・長韻は、発声累す。

カンマン
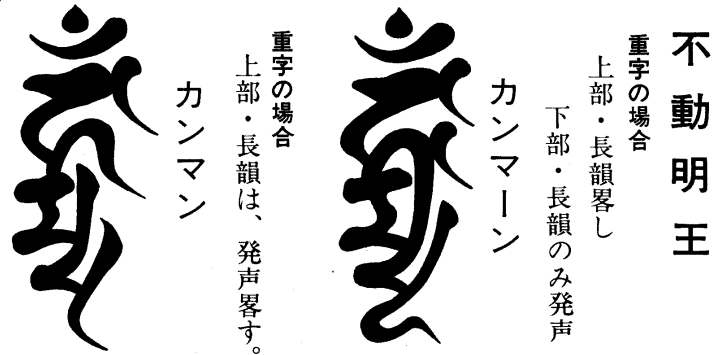
Figure 70: Different forms of *hāṃmām*, the *bīja* of Fudō Myōō (Acala) (from Tokuzan 1974: 227)

「不動三尊」の種子。いずれも切継を用い
た特殊な形である（朴筆書体、著名書）

不動明王「カンマン」

羚羯羅童子
「コンガラ」

制吒迦童子
「セイタカ」

不動明王と羚羯羅童子（向かって右）・制吒迦童
子（左）による「不動三尊」（作画・小峰和子）

Figure 71: The seed syllables of 不動明王 Fudō Myōō and his attendants, 制吒迦童子 Seitaka-dōji
(Ceṭaka) and 羚羯羅童子 Kongara-dōji (Kiṃkara) (from Kodama 2005: 97).

Figure 73: Two variations of the seed syllable *dhiḥmaṃ* (from Kodama 2005: 101).
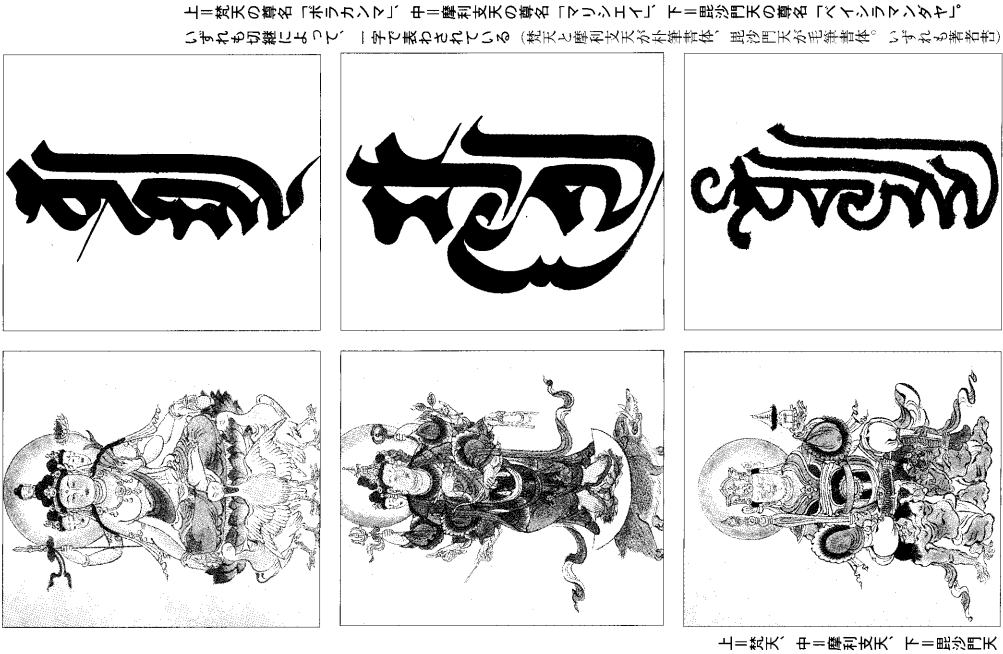
Figure 72: Seed syllables of 梵天 Bon-ten (Brahmā), 摩利支天 Marishi-ten (Marīcī), and 毘沙門天 Bishamon-ten (Vaiśravaṇa) (from Kodama 2005: 99).

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

A. Administrative

1. **Title:** *Proposal to Encode the Siddham Script in ISO/IEC 10646*
2. Requester's name: *Script Encoding Initiative (SEI) / Anshuman Pandey <pandey@umich.edu>*
3. Requester type (Member body/Liaison/Individual contribution): *Liaison contribution*
4. Submission date: *2012-07-23*
5. Requester's reference (if applicable):
6. Choose one of the following:
   This is a complete proposal: *Yes*
   (or) More information will be provided later:

B. Technical – General

1. Choose one of the following:
   a. This proposal is for a new script (set of characters): *Yes*
      Proposed name of script: *Siddham*
   b. The proposal is for addition of character(s) to an existing block:
      Name of the existing block:
2. Number of characters in proposal: *85*
3. Proposed category (select one from below - see section 2.2 of P&P document):
   A-Contemporary **X**   B.1-Specialized (small collection)   B.2-Specialized (large collection)
   C-Major extinct   D-Attested extinct   E-Minor extinct
   F-Archaic Hieroglyphic or Ideographic   G-Obscure or questionable usage symbols
4. Is a repertoire including character names provided? *Yes*
   a. If YES, are the names in accordance with the "character naming guidelines"
      in Annex L of P&P document? *Yes*
   b. Are the character shapes attached in a legible form suitable for review? *Yes*
5. Fonts related:
   a. Who will provide the appropriate computerized font to the Project Editor of 10646 for publishing the standard?
      Anshuman Pandey and Lee Collins (Apple)
   b. Identify the party granting a license for use of the font by the editors (include address, e-mail, ftp-site, etc.):
      Lee Collins (Apple)
6. References:
   a. Are references (to other character sets, dictionaries, descriptive texts etc.) provided? *Yes*
   b. Are published examples of use (such as samples from newspapers, magazines, or other sources)
      of proposed characters attached? *Yes*
7. Special encoding issues:
   Does the proposal address other aspects of character data processing (if applicable) such as input,
   presentation, sorting, searching, indexing, transliteration etc. (if yes please enclose information)? *Yes; see text of proposal*

8. Additional Information:

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

C. Technical - Justification

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

2. Has contact been made to members of the user community (for example: National Body, user groups of the script or characters, other experts, etc.)? — Yes
   If YES, with whom? — Shingon Buddhist community, Indic script experts
   If YES, available relevant documents:

3. Information on the user community for the proposed characters (for example: size, demographics, information technology use, or publishing use) is included? — Yes
   Reference:

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

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

6. After giving due considerations to the principles in the P&P document must the proposed characters be entirely in the BMP? — N/A
   If YES, is a rationale provided?
   If YES, reference:

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

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

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

10. Can any of the proposed character(s) be considered to be similar (in appearance or function) to, or could be confused with, an existing character? — Yes
    If YES, is a rationale for its inclusion provided? — Yes
    If YES, reference: — Virama, etc.; see text of proposal

11. Does the proposal include use of combining characters and/or use of composite sequences? — Yes
    If YES, is a rationale for such use provided? — Yes
    If YES, reference: — Dependent vowel signs, etc.; see text of proposal
    Is a list of composite sequences and their corresponding glyph images (graphic symbols) provided?
    If YES, reference:

12. Does the proposal contain characters with any special properties such as control function or similar semantics? — Yes
    If YES, describe in detail (include attachment if necessary) — Virama, etc.; see text of proposal

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