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国際仏教学高等研究所
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（第１７号）

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of
The International Research Institute for Advanced Buddhology
at Soka University

for the Academic Year 2013

Volume XVII

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Tocharian Syllabary with Uigur Explanations, M34.4 of the Mannerheim Collection in Helsinki*

Tatsushi TAMAI

While I was in Helsinki as a member of the delegation for the Chinese documents found in Central Asia (March 12–20, 2013) I found a small document M34.4 in the Mannerheim Collection which contains a Tocharian syllabary in Brāhmī script including "Fremdzeichen" (capital letters in my transliteration) with Uigur explanations.

The document is very small containing only eight legible Toch. characters in itaics, and Uig. explanations in bold after Zieme.

The first line: /// .. *SA śa sa* ///
1) According to Maue the Toch. ".." could be *va*, and a illegible remnant could be **wˀ** below.
2) Uig. below Toch. *SA* (it seems nothing to see below *śa sa*): **sˀ** = **ša**[1]
The second line: /// *wa RA i .i* ///
3) Uig. is unreadable for me below Toch. *wa*, but according to Maue it could be Uig. **vˀ** after a trace.
4) Uig. **ˀr** below Toch. *RA*
5) Uig. **ˀyky** (= iki "two") **py.** (two labial akṣaras?) below one hook-form *akṣara* (*ṭhā*, *dhā* or *ṭa*?).
6) It is broken out below *.i*

My commentaries:
For 1), 3) and 6) I cannot give any commentary (*.i* in 6) is not sure).
2) Toch. *ṣa* could come next to *sa*. No comment[2] below *śa* and *sa* could mean that these signs were already familiar (Hitch's suggetion), but **sˀ** and **ša** have the same form in Uig. as Zieme and von Gabain (cf. p. 17) show, and Toch. *SA* has also the same value. This means that there

* The Mannerheim Collection is owned by the Finno-Ugrian Society, and the Collection is located as a deposition in the National Library of Finland, and this work was supported by JSPS KAKENHI Grant Number 24401026. I should like to express my thanks to the Finno-Ugrian Society for giving me a permission to publish, Prof. Oguchi who took me to Helsinki and gave me the clear photo of this document, Prof. Katayama who helped us to take photos and gave me an article of Reuter which is difficult to obtain, Prof. Sekio who encouraged me to write this article, Prof. Zieme who has kindly read the Uig. under the Toch. syllabary, Mr. Hitch who gave me some significant suggetions and corrected my unidiomatic English, and Dr. Maue who checked my work carefully. Needless to say, any errors that remain are my own.

1. According to Hitch /s/ and /š/ in Uigur are distinguishable with two dots beside the letter to make /š/ in careful writing. No Uig. caption below *śa* and *sa* could mean "pronounce Brāhmī SA like Uig. script sa".

2. I recognize no character comparing to Uig. **sˀ** below Toch. *SA*, but Maue: "*Vielleicht ist darüber sogar das š-Diakritikum erkennbar.*"

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is no difference in Uig. between Toch. /s/ and /ś/ as well as /a/ and /ä/. I will discuss a phonetic and phonologic value of /ä/ in "Fremdzeichen" below.

4) This character was used as *RA* and -*R*ˎ in Toch., -r- and -r in Uig. (cf. Bailey p. 33 and 41; von Gabain p. 17; Hitch 1983, p. 297ff.). I will discuss the *virāma*-system in Toch. below.

5) Toch. hook-formed character in the second line is difficult to decipher. L. Sander confirmed my initial reading as *ṭhā*, *dhā* or *ṭa*[3]. Zieme then proposed to read Uig. **ʾyky py.** as /iki bitig/ "two writings, letters". As a result, I realized that the Toch. remnant may be the independent vocalic *akṣara i*, which has three hooks. I do not know exactly why *i* comes here in the syllabary, but presumably it could be treated as a half-vowel (approximant in IPA *j*) like /w/ (IPA *ʋ*) and /r/ (IPA *ɹ*). I suppose that this line is for a category of approximant, like vowel- and consonant-line in other syllabary, but this fragment is too small to decide it. My opinion that *i* is in Toch. half- or semi-vowel (approximant) is not a speculation, for example in Toch. /i-/ was written as *yä-* in general (except in words from Skt. or influenced by Skt.) and the root usually given as *i-* 'to go', is actually *yä-* (cf. Tamai p. 37). My opinion is against *communis opinio*, but this is the fact.

Regarding "Fremdzeichen" (cf. Tamai pp. 13–14):

The characters were new inventions in Toch. for its own phonemic needs involving /ä/ whose sound is "schwa" in IPA [ə][4]. This weak sound can be easily deleted, when there is no attention to it, but it was retained, when it had a signification, e.g. the causative marker /ä/ before /-sk-/. And then because of the accent rule in Toch. which came into existence presumably after 6th century A.D. (cf. Tocharisches Elementarbuch I, p. 43, §10), like "rhythmic law" in Sogdian (cf. Sims-Williams p. 359), /ä/ became <a>, when it was accented. To express this /ä/ the Tocharian invented "Fremdzeichen" (consonant + /ä/) or used *trema* (dieresis) on *akṣara*s which was used also in Khotanese[5]. This /ä/ appeared as an epenthesis (*Anaptyxe*) between two consonants (Skt. *svarabhakti*). This sound was so vague that phonetically it became <i> in late time, when surrounding sounds were palatal. Therefore I cannot agree with Pinault's opinion (LALIES 1989, Paris, p. 38) that Toch. *ä* is [ɨ] which should be Turkish *ı* or *ï*.

I cannot decide the sources of "Fremdzeichen", whether it was Manichaean script (Hitch p. 298), Kharoṣṭhī (Durkin-Meisterernst "Tocharian Texts in Context", see fn. 5) or others. My tentative opinion about sources of "Fremdzeichen": <LA> could be Semitic, i.e.

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3. Maue thinks after another syllabary that at first a numeration (1, 2, 3 ...) could be written after *RA*, but it is because of form not applicative, and then a punctuation because of Uig. /iki/ "two", but I think the character is too big as a one of two dots for a punctuation. And then the last one he wants to read a number "1", but the script is too fat. At last, "*Daher vorerst unklar*".

4. Reuter (1925, p.197) suggested the Fremdzeichen showed "Mouillierung" (softening like the Slavic soft consonants with ь?). He tried to distinguish "gewöhnliches *n*" ~ "palatales *ñ*" ~ "mouilliertes *n̲* (=<N>)", but <*n̲a*> is merely orthographic for /nä/. In our fragment Uigur recognised that <SA> and <sa> including <śa> have the same sound value. I suppose that Reuter saw this fragment and thought <śa> stood for a palatalized /s/, but <ś> is a palatalized /k/ in Toch. (presumably IPA [x] as Pinault one time agreed with me). There was no exact correspondent to this Toch. phoneme in Uigur.

5. I am not sure about the phonetic value in Khotanese (Emmerick considered it to be schwa, while Hitch thinks <ä> is short /ĕ/ corresponding to <e> for long /ē/), and Durkin-Meisterernst mentioned in his lecture for "Tocharian Texts in Context" in Vienna on June 28, 2013 as "*an inherent vowel short e <ä> whereas the default value of Brāhmī is a vowel a, whatever its realisation was*" (he kindly sent me a draft). In Toch. /ä/ is phonemic, while <a> represents an allophone of /ä/ and /ā/, i.e. accented /ä/ and unaccented /ā/. In late B-Toch. and A-Toch. generally there is a phoneme /a/.

Aramaic or its follower's script, as Hitch and Durkin-Meisterernst think (supra), because Aramaic is considered as *lingua franca*, and also the origin of Brāhmī was North Semitic (cf. Dani pp. 27–28). A connection of <LA> and Skt. ḷ is not apt because of the form (cf. Dani, Plate VIII).

<ṢA> (THT128v5) is not from Manichaean or Kharoṣṭhī (<ŚA> (THT127r2) is the inverted form of <ṢA>), because the old ones are in the middle open (THT227a1) and (THT388r3), so ṢA seems to me to be similar with Uig. *δa* (cf. von Gabain p.34, *da* Hitch p. 299) without *hasta* (vertical line in middle), 90˚ to left rotated in Tumšuqese (*ẓ́* Skjærvo p. 90, *ẓ* K.T. Schmidt p. 143[6]) or m-sign of Ethiopic Amharese which is a follower of Semitic. All these possibilities are only by means of forms, but I cannot understand Malzahn's opinion (a relation between <50> and <ṢA> / <ŚA> *Instrumenta Tocharica* 2007 Heidelberg, pp. 262–263) although the form is similar[7].

THT128v5 THT127r2 THT227a1 THT388r3 Tumšuqese

<KA, TA, PA, SA> are written in cursive or simplified forms of the normal Brāhmī. <MA> is at first written in a form with a crossing (from old <ma> crossing with circle below?) in middle of <PA> (THT295r7) and then one horizontal line (because of similarity to <NA>?) instead of the cross (THT496r2). Like <MA>, <NA> has a interior cross in middle of <SA> (THT273r1). <NA> was not used after *virāma* in B-Toch. (used in A-Toch. only 3 times THT885v4, 868v1 and 991v3). Presumably *anusvāra* was substituted to write final consonant /n/. This *anusvāra* was used for /n/ in Toch. and <ṃn> meant /nn/[8]. <RA> is a reversed form of <-ra> like Skt. cerebrals in Tibetan.

THT295r7 THT496r2 THT273r1

6. K.T. Schmidt thinks ṣ→ẓ→ø→ẓ. Formerly this sign could be read as <rra> in general, but <r-> should be superscribed to normal <ra> (cf. TArre below), and moreover after my new observation of Skt. manuscripts it should be <ra>, because this sign is used for example as a superscript to <la> (<rla>, not <rrla>) or the circle (as well as a returned line to the right) below is seen also in the case of <u->, i.e. a cursive writing to the next right *akṣara*.

7. I cannot see any letters on the photos in Helen Wang's book (*Money on the Silk Road 2004 London*, Plate 4, 49–50), and after a sketch of <50> on the *Qiuci wuzhu* coin (Wang ibid. p. 40) it could not be Brāhmī (no two circles at both ends), but rather Pahlavi 'pd *abd* "excellent" as Wang writes. Even if it is <50>, does the circle represent a weight unit equal to one-tenth of 朱 *zhu* denoting 五朱 *wuzhu* (50 x 0.1 = 5)? According to Wang 朱 *zhu* without the radical 金 *jin* is a characteristic found on Chin. coins of the Jin period (265–420). Is this coin so old in Toch.? There is, however, no connection between <50> and Toch. ṣaṅk "measure of volume", and it is difficult to imagine that <50> and <ṢA> / <ŚA> are used in the same time, if <ṢA> / <ŚA> developed from <50>.

8. The *anusvāra*-system was imported from India, but the function was not same, as Reuter (1924, p. 454) mentioned. This <ṃn> is understandable when <ṃ> of the word end (e.g. obl.) with <n> of the word beginning (e.g. locative), otherwise I could not find a good solution for <ṃn>. Once I thought <ṃ> as a redundant or as a preparation of nasal sound, but it could be a gemination of consonants. I suppose that the gemination is to be seen as an attention or intention for the consonant (neither apporoximant /n̯/ nor nasalization), e.g. <yy> in /maiyā/ "power" can be explaned with this proposal, not an assimilation of a "Kehlkopfverschlusslaut" (glottal stop) before the initial vowel to the final consonant of the preceded word as in Reuter 1927 p. 458.

The absence of "Fremdzeichen" for <ca, ña, ya, wa> is difficult to explain. In Toch. /ā-ä/ and palatal-nonpalatal oppositions were important morpho-grammatical elements, e.g. for *modi* or *tempora* (pres. /kärsnā-/ ~ subj. /kārs-/ ~ pret. /śärsā-/ from √kärs "to know"). The /ā-ä/ opposition could be realized by "Fremdzeichen", and /c, ñ, y/ are palatal oppositions to /t, n, w/, so it was not necessary to produce new characters for denoting the opposition. If /-ä/ was necessary for a syllable beginning with these phonemes, it was expressed with *trema*. This could be interpreted as support for Reuter's "Mouillierung", but consonants of "Fremdzeichen" are not changed, only the vowel /ä/ is important for distinguishing from /ā/.

<w> was a Toch. invention, but it is not sure whether this character was made from Indian <o-> as Hitch (1983, pp. 309–310) and Malzahn (*Instrumenta Tocharica* ibid., pp. 260–261) mention, even though these two signs are similar (<o> is like "Z" in Aśokan brāhmī, cf. Dani, p. 276 and Plate IIIa), because I cannot recognize any phonological relation between /w/ and /o/[9], but rather between /w/ and /u/ (half-vowel), e.g. <kwri> and <$k_u$ri> "if".

Malzahn has discussed about "foreign sign" in *Instrumenta Tocharica* ibid. pp. 261–263, but I cannot give any comment (except <ṢA> and <ŚA> supra). There is already a good review of Hitch in TIES 2012, pp. 284–289.

Regarding *virāma*-system:

The origin of the *virāma*-system was to express a word final consonant (contoido). In Skt. (*Devanāgarī*) a slanting line (*virāma*) is added to an *akṣara* containing *a* (without vocalic sign) at right-low position, but in Toch. *virāma* was different. In early manuscripts there was a horizontal line between two *akṣara*s (<$ce_{u\text{、}}$> THT273a1, contoido was written in lower position). This *virāma*-line was distinct from a binding line between two *akṣara*s in vertical position for ligature <dñä> THT273a4 (cf. Tamai p. 10). Then *virāma* evolved to a form of diagonal stroke between two *akṣara*s as is most commonly seen.

THT273a1

THT273a4

Sieg/Siegling used "、" after consonant in their transcription as in Skt., but did not use it in cases of vowels, e.g. <$ke\overset{\frown}{u}$>, even though the Toch. writers wrote *virāma*-lines in the same way. <$ke\overset{\frown}{u}$> is not one *akṣara* with subscript <-u>, but two *akṣara*s with the second in *virāma* and could be transliterated <$ke_{u\text{、}}$> (<keu、> is possible, but it misleads to diphthong). The *virāma*-system is, as I mention above, for showing voiceless consonants (contoido), and "Fremdzeichen" or "trema" on normal *akṣara*s are used for it, i.e. consonant with "schwa". Sometimes "Fremdzeichen" was used without *virāma*, when a syllable was *metri causa* necessary, as <ä> is syllabic (vocoido). Therefore <ī> and <u>[10] after *virāma*-lines are to be

9. A different use between /o/ and /w/, e.g. <onolme> ~ <wnolme> "person" and <orotse> ~ <wrotse> "big", is depend on metre, although there is no phonological relevance between /w/ and /o/. In Toch. there was no non-syllabic /o/, so <w> was substituted for that (just as <y> for /e/) because of phonetic similarity (rounded) of [u-] which was written as <wä->.

10. <ī-> was imported from India in early time (presumably 4th century A.D.), but this was not a long vowel, because in Toch. there was no short-long opposition, and <ī-> was used as <y->, e.g. īke (THT333r7) for yke (passim) "place" or √yä- for √i- "to go" above. After Sieg/Siegling <$_{i\text{、}}$> and <$_{\bar{i}\text{、}}$> are confused (cf. Tamai p.11). Theoretically <ū-> could be used after *virāma*-line, but there was no special sign for that (there was only <u-> + long marker), so they used <u> after *virāma* and the newly produced <wä-> for initial position like <yä->.

seen as semi-consonants (contoido *y* and *w*).

Apropos I would like to give my commentaries based on the Berlin collection (THT0001–1101) to Malzahn's *A Tocharian Brahmi Chart* in *Instrumenta Tocharica* ibid. pp. 223–254:

1) p. 223: The title should be *Brāhmī* as she writes in the content.

2) p. 224: -*w* is found only two times, one is *t[a]ṅw*˽ THT239r2 (←*taṅkw*˽ not *w* alone), another is *tauw*˽ THT362r2 whose -*w*˽ is abnormal and redundant. The double dots over *akṣara* (˟*ä* of *ryañ*˟*ä*˽) is a sign of /ä/ and later this was simplified in *virāma* to one dot shaped like a comma functioning occasionally as a punctuation in the end of Pāda. Sometimes this is written even on Fremdzeichen or semi-vowel (ī and u, see above). This is not a homograph of the *anusvāra* dot. <yac˽> with *anusvāra* on <ya> is simply abnormal or a mistake. Without knowing the context, it is hard to know what the writer intended.

3) p. 225: *m̲*˟*ä*˽*ñcu* should be transliterated as *m̲ñcu*. Vocalic radicals i and o are used in ligature only on two folios in A-Toch. (˟*i*˽*śe*, ˟*i*˽*ta*, ˟*o*˽*KAT* in THT1005, *w*˟*i*˽*nā-*, ˟*o*˽*KAt* in THT1029). THT1005 is not metrical and palaeographic unskillful, so these could be mistakes (an influence of ˟*u*˽*pādhyās* in v2?). THT1029v5 is metrical and these words should be written as normal *winā-* and *oKAt*. If Sieg/Siegling gave right syllable count 20/22/10/15 (cf. Sieg/ Siegling p. 220), then the spellings are also mistakes which could be caused by the inability of the writer. There is initial non-syllabic *u-* written in Skt. words, but not Toch. since it had no initial vowel u- in native words (B-Toch. uwe, see Tamai p. 309). About <ī> see fn. 10 above.

4) p. 227: Initial ä- is found only in A-Toch., which means it is a new invention or adaptation. Malzahn's (i) is ī as is noticed. ī before u in the chart (ī + long-marker) I have never come across. ṝ- is for Skt. words, but the form is not assured, because no photos (THT108, 112, 499) exist. The right au- is found only in THT89r1 and 127v3, and I see it as mistake due to ignorance of the writer. -ṝ is for Skt. words, but I have seen it only in syllabaries. u/◌˟*u*˽ is only for <ku/k˟*u*˽>, <kr˟*u*˽i> could be <k˟*u*˽ri> because of <kwri> (metathesis /ur/ to /ru/ is possible). Labio-velar /k^{w}/ is possible as I and many scholars have thought, but I prefer rather nonsyllabic /u/ like <s˟*u*˽ka> or <p˟*u*˽ka> on p. 225 in this book, as a vertical line for <˟*u*˽> is impossible in the case of <k˟*u*˽>. ◌˟*u*˽ and ◌˟*i*˽ (only in mistaken <winā>) are not written below *Ca*, but in ligature or after *virāma*-stroke. These signs can be confused with signs in *virāma*-system which Malzahn does not mention.

5) p. 228: ṅa (also ṅ + vowels) is not used in Toch., but only <ṅ> as the upper part in the ligatures with gutturals (ṅk̆ are italics in the table), i.e. <ṅ> is an allophone of /n/. <ṅ> ← <ṅk> is caused by dropping of /k/ because of phonetic complex (occlusion and explosion) of [k], as *t[a]ṅw*˽ THT239r2 (←*taṅkw*˽) supra. va (also v + vowels) is for Skt. words, so it should be in italics. *visarga* (Skt. ***:***) can be confused with punctuation presumably due to ignorance of its function in Skt., so Skt. philologists in Central Asia call it *visarga-daṇḍa*.

6) pp. 239–253: Upper *akṣara*s in ligatures should be written without -a or -a̲ (left vertical column). p. 243 tsa̲ should be ts̲a̲. p. 249 tsa̲ should be ts̲. p. 239 n̲ka̲ is attested only in A-Toch. p. 246 rra could be ra, as I have recently noticed THT 3599v a5 TAr̲re in which r- is written over -rre (←re). Many theoretically possible ligatures are shown in the tables, but some are very rare or even do not exist as far as I see in THT0001–1101, e.g. p. 240 n̲na, p. 241 ṅra, ñra, p. 250 s̲n̲a̲, sn̲a̲, s̲n̲a̲, p. 251 śl̲a̲, s̲l̲a̲, sl̲a̲. It would be helpful to show the place

where these ligatures exist. We can see in A-Toch. some ligatures with coupled "Fremdzeichen" which are not found in B-Toch. I see an artificial development of orthography in it.

Abbreviations and Symbols:

IPA: International Phonetic Alphabet
Skt.: Sanskrit
TIES: Tocharian and Indo-European Studies
Toch.: Tocharian
THT: Tocharische Handschriften aus Turfan
Uig.: Uigur

illegible *akṣara*: ".."
illegible part of *akṣara*: "."
phonetic interpretation: [ ]
phonemic interpretation: / /
graphic interpretation: < >

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Figure. M34.4 in the Mannerheim Collection. (Repruduced by courtesy of the Finno-Ugrian Society)

T. Tamai, "Tocharian Syllabary with Uigur Explanations, M34.4 of the Mannerheim Collection in Helsinki", pp. 395–400.

PLATE 15

Fig. M34.4 in the Mannerheim Collection.

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