JOURNAL ASIATIQUE

PÉRIODIQUE TRIMESTRIEL

PUBLIÉ PAR LA SOCIÉTÉ ASIATIQUE

AVEC LE CONCOURS

DU CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE

312042

TOME CCLXIX (269)

ANNÉE 1981

Société Asiatique
3, rue Mazarine, 75006 PARIS

Librairie Orientaliste Paul Geuthner
12, rue Vavin, 75006 PARIS

MDCCCCLXXXI

БИБЛИОТЕКА
Академии Наук
СССР

ulatï, ulaḍï (i) 'and, with, as well as' Ch. 及: Skt. *saha*, *ca*: 15c(!); 16c. (ii) *-ta/tä u.* 'beginning with, and so on' Ch. 等: Skt. *-ādi*: 12c; 15b(!), *u.-ta* 19d(!).

uqït-, uqïḍ- 'to explain, express, establish, manifest' Ch. 立: *u.-mïš* 13b. See **uqïtmaz**.

uqïtmaz, uqïḍmaz 'unrevealed, unmanifested, invisible' Ch. 無表: Skt. *avijñapti*: see note 11d(2): 11d(!), *u. öŋ* 15c.

üčägü 'three together' Ch. 三: Skt. *tri*: *ü.-nüŋ* 15b(!), *ü.-g* 20d(!).

üčrär 'three each' Ch. 三: Skt. *traidha*: 20c(!).

üčün (i) 'because, for' Ch. 故: Skt. *-artham*: 17c(!); 18d(!); 19a(!), *-mïš/miš ü.* 20c. (ii) 'in order to' Ch. 爲: Skt. *-artham*: *-γalïr/gälir ü.* 19c.

üzä 'by, because of' Ch. 以: 18d(!).

yänä 'again, also' Ch. 復: Skt. *ca*: 13c(!).

ygrmi 'twenty' *säkiz y.* Ch. 十八: 17d.

yïl 'wind' Ch. 風: Skt. *vāyu*: see note 11c(1): 12b(!); 13d.

yir 'earth, land' Ch. 地: Skt. *pṛthivī*: see note 11c(1): 12b(!); 13a.

yirtinčü 'the world' Ch. 世: Skt. *loka*: see note 13b(1): *y.-täkilärniŋ* 13b(!).

yïti 'seven' Ch. 七: Skt. *sapta*: *y.-uyušlar* 16c.

ymä 'and; also, too' Ch. 亦: Skt. *ca*; 13d, *y. ök* 13c(!), d(!). *näčä ... -sar/sär ymä* Ch. 雖: 19b.

yomdar- 'to sum up' Ch. 總: *y.-u* 18a.

yörüg 'meaning, sense; explanation' Ch. 義: Skt. *artha*: *y.-i* 20b(!).

yukmäk 'aggregate, agglomeration' Ch. 蘊: Skt. *skandha*: see note 15a(3): 18b(!); 20b(!), d(!). *qïlïnč y.* 15a.

THE SOGDIAN SOUND-SYSTEM AND THE ORIGINS OF THE UYGHUR SCRIPT

BY

NICHOLAS SIMS-WILLIAMS

It is an agreed fact that the Uyghur Turkish script derives directly from the cursive Sogdian script (and thus ultimately from the Aramaic). Obviously, therefore, any attempt to analyse the phonetic structure of the documents written in Uyghur script must take as one of its starting-points the phonetic structure of Sogdian as represented in the Sogdian script.

So far as I know, the only detailed account of the development of the Uyghur script and the changes in function which its letters have undergone during their passage from Aramaic via Sogdian to Turkish —the purely palaeographic history of the script does not concern us here— is that presented by Sir Gerard Clauson in his *Turkish and Mongolian studies*. In principle, Clauson's approach to the problem was certainly the correct one. In practice, however, it is vitiated to some extent by incorrect analysis of the evidence from the Sogdian side. The mistakes arise partly from misinterpretation of the very technical Iranological literature, partly from the use of out-of-date sources such as the *Grammaire sogdienne* of Gauthiot and Benveniste.

I must make it clear that these remarks are not intended as denigration of Clauson's work, which I greatly admire. If I were to try to analyse the Turkish side of the evidence in any detail I should certainly fall into many more errors than those which Clauson has committed as a result of his laudable attempt to present the Iranian evidence. I am all too well aware of my temerity in offering to address an audience of distinguished Turcologists on the subject of the Uyghur script. If it should happen that I trespass too far into Turkish territory and betray my ignorance of what is well-known to everyone present but myself, then I must beg for indulgence.

My intention is to present in this paper an up-to-date sketch of the Sogdian sound-system and the means whereby the sounds are represented in writing in the Sogdian script. Naturally I shall pay particular attention to those points which seem to be relevant to the proper understanding of the conventions and phonological implications of the Uyghur orthography, but I must leave it to those better qualified than myself to consider what the Sogdian evidence may allow to deduce concerning the phonetics of the Turkish writtings in Uyghur script.

It is most convenient to begin by examining the Sogdian alphabet (Figure I).

Semitic name	*Transcription*	*Principal phonetic values*[1]
aleph	ʾ	ā, a (ə, i); also in combinations *ʾy* = ǐ/ĕ, *ʾw* = ŭ/ŏ, etc.
beth	β	β, f[2]
gimel	γ[3]	γ
daleth	d	(only used in the ideogram *ʾD* = *ʾt* 'to'[4])
he	h	word-final -ă̄
vau	w	w, ŭ, ŏ
zain	z[3]	z, ž[5]
cheth	x[3]	x; also represents foreign *h*-sounds
teth	ṭ	(not used)
jod	y	y, ǐ, ĕ
caph	k	k (g)
lamed	δ	δ, θ; also represents foreign *l*
mem	m	m
nun	n[3]	n; m̃ (= nasalized prolongation of a preceding vowel)
samech	s	s
ain	ʿ	(only used in the ideograms *ʿNYM*,[6] *ʿM*,[7] *ʿD*,[4] *ʿL*[8])
pe	p	p (b), f[2]
tzaddi	c	č (j)—i.e. tš (dž)
koph	q	(only used as a numeral '100'[9])
resh	r	r; ʳ (= marker of rhotacism of vowels)[10]
schin	š	š
tau	t	t (d)
	δ	

Figure I: Sogdian alphabet

[1] Sounds in parentheses are allophones of the preceding phoneme. For the meanings of the phonetic symbols, which sometimes differ from those of the IPA in order to conform with normal Iranological usage, see Figures II and III.

[2] A diacritic (e.g. *β̈* or *p̈*) is sometimes used to differentiate /f/ from /β/ and /p/.

[3] In word-final position *cheth* is almost always distinct from *gimel*, as is *nun* from *zain* (Sims-Williams 1975, pp. 132-4). Some MSS facultatively distinguish these pairs of letters internally also, by leaving *gimel* and *zain* unjoined to the letter following (in transcription: *γ-*, *z-*). The usual custom of transcribing both *gimel* and *cheth* by the single letter "*γ*" is misleading and unjustifiable. (See Sims-Williams, forthcoming).

[4] Sims-Williams 1975, pp. 134-9.

[5] In some MSS a diacritic (*z̨* or *z̲*) is used to differentiate /ž/; in others the same diacritics are used to distinguish *zain* (representing both /z/ and /ž/) from *nun* (cf. Sims-Williams 1978, pp. 257-8).

The order of the Sogdian alphabet is known from an ostracon excavated at Panjikant in 1965 and published by V.A. Livshitz (Livshitz 1970). The ostracon, which the archaeologists date to about the beginning of the eighth century, contains a complete alphabet, apparently copied as a scribal exercise. The alphabet consists of the 22 letters of the Aramaic prototype, in their traditional order, plus an extra *lamed* at the end, identical to that which appears in its proper place as the twelfth letter of the alphabet.

According to Livshitz (*ibid.*, pp. 261-3) the repetition of *lamed* may be due to the fact that this letter represents two distinct phonemes, /δ/ and /θ/. However, the Sogdians do not seem to have regarded the distinction between these two sounds as a matter of vital importance: they never distinguished between them by means of a diacritic point (as they did in the case of all other letters which represented more than one consonantal phoneme, namely *beth*, *zain* and *pe*), nor did the Manichaeans find it necessary to differentiate /δ/ and /θ/ in their otherwise precise and unambiguous script[11]. A more probable ex-

[6] Henning 1958, p. 34 with n. 1.

[7] Sims-Williams 1972.

[8] Skjærvø 1976, pp. 112-16.

[9] Livshitz 1970, p. 259 with n. 13.

[10] The letter *resh*, sometimes differentiated by a subscript mark, is also used to represent [l] (occurring almost exclusively in foreign words).

[11] On the Manichaean script, as used for the notation of Sogdian, see *GMS*, §§ 1-81.

planation for the extra *lamed* at the end of the alphabet is that it was added in direct imitation of the Uyghur alphabet, in which *tau* is followed by the so-called "hooked *resh*" (see Plate I). The hooked *resh* derives from the Sogdian *resh* with subscript diacritic mark[12]; palaeographically it is unrelated to Sogdian *lamed*. Nevertheless, the Sogdian *lamed* and the Uyghur hooked *resh* have this in common, that both are used to represent [l]. My suggestion, therefore, is that the Sogdian scribe, who knew that the Uyghur alphabet ended with a letter representing [l], added the *lamed* to harmonize the two alphabets. If this is correct, it is a good illustration of the continuing symbiosis of the Sogdian and Uyghur writing-systems.

Of the 22 letters of the Sogdian alphabet, four are not used at all as phonetic symbols (*daleth*, *teth*, *ain* and *koph*, see Figure I). Also the letter *he* is superfluous, since it has no phonetic function which cannot equally well be fulfilled by the letter *aleph*[13]. These five superfluous letters were omitted from the Uyghur alphabet, although in practice *he* continued to be employed as a line-filler[14]. Apart from the addition of hooked *resh*, this is the only point in which the Uyghur alphabet differs from the Sogdian.

A script or writing-system consists, of course, not only of a set of symbols but also of an associated set of conventions whereby the sounds of the language in question are represented by those symbols. In this particular case, although the Sogdian and Uyghur *alphabets*

[12] Müller-Lentz 1934, pp. 507-8.

[13] The development of *he* in Sogdian needs to be clearly stated, since it has been generally misunderstood. In Official Aramaic *he* represented both the consonant /h/ and the final /-ā/ of feminine nouns. In Sogdian, which has no /h/, *he* occurs only in final position, where its original function will have been as in Aramaic, e.g. *m'th* or *'MYh* (ideogram *'MY* + phonetic complement /-ā/) = proto-Sogd. /mātā/ "mother", *wnh* = /wanā/ (f.) "tree". As a result of the "rhythmic law" (on which see below), proto-Sogd. final vowels survive in some cases but are lost in others. Thus, in Sogdian as actually attested, *wnh* still stands for /wanā̆/ (a fact not mentioned or accounted for in Henning 1958, pp. 34-5, 59, Clauson 1962, pp. 102, 104 fn., Livshitz 1970, p. 258) but *m'th*/*'MYh* stands for /māt/. From instances of the latter type the silent final *he* came to be used where it had no historical justification, in particular as a convenient device for filling an unused space at the end of a line of writing.

[14] Certain Christian Sogd. MSS in Syriac script (e.g. C2) have taken over the Sogd. letter *he* as a line-filler. Some others (e.g. Text 6 in Müller-Lentz 1934) use the ideogram *ZY* for the same purpose.

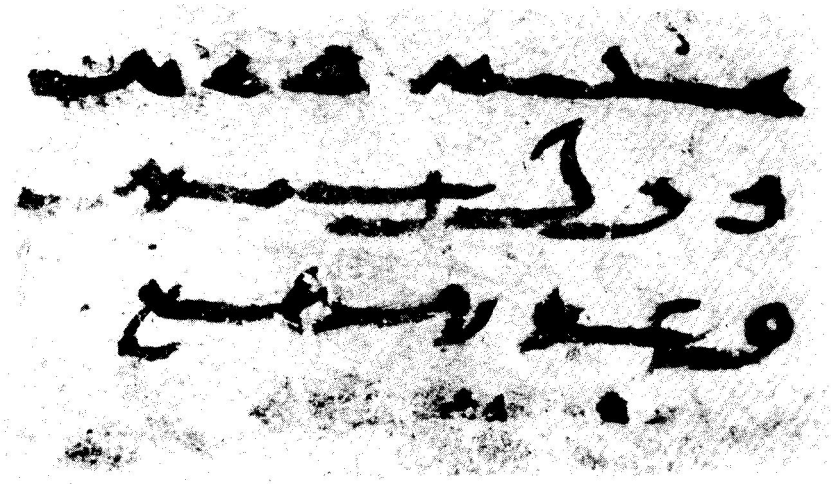


Plate I. — Uyghur alphabet from the Turfan area (T IV Xusup).
Published by kind permission of the Akademie der Wissenschaften der DDR, Zentralinstitut für Alte Geschichte und Archäologie.

are so nearly identical, the two *scripts* differ significantly, largely as a result of the substantial disparity between the sound-systems of the two languages[15]. Nevertheless I believe that the Uyghur script can be regarded as a natural development of the Sogdian and that its peculiarities arise out of the attempt to write a Turkish language in the Sogdian script without drastic or deliberate modification of the conventions which formed an integral part of it. In this I venture to disagree with Sir Gerard Clauson, who considered the differences between the two scripts to indicate that the Uyghur script must have been deliberately devised to write Turkish (Clauson 1962, p. 106). The arguments on which my view is based will be illustrated in the remainder of this paper, which deals with the sounds of Sogdian and their written representations, beginning with the consonants (Figure II).

[15] Another major cause of divergence was the abandonment by the Turks of the use of ideograms and of the historical spellings (*δrγt'k* for /žaγtə̆/ < /δraγtak/, etc.) which are such a notable feature of the Sogd. writing-system.

	bilabial/ labiodental	*dental*	*alveolar*	*palatal*	*velar/ glottal*
voiceless plosive/affricate	p	t	(ts)	č	k
voiced	(b)	(d)	(dz)	(j)	(g)
voiceless fricative	f	θ	s	š	x
voiced	β	ð	z	ž	γ
nasal	m		n		
glide	w	(l)	r	y	(h)

These sounds are indicated in writing by the following letters:

p	t	c	c	k
p	t	c	c	k
p/β[17]	ð	s	š	x
β	ð	z[17]	z[17]	γ
m		n		
w	ð/r[17]	r	y	x

Figure II: Sogdian consonants and their representation in Sogdian script[16]

We are fortunate in possessing Sogdian texts written in three different scripts: the Manichaean script, the modified Syriac script used by the Sogdian Christians and the Sogdian script itself. Comparison of Sogdian texts written in the three scripts enables one to define quite precisely the consonantal structure of the language. For instance, although /ð/ and /θ/ are written alike in the Sogd. and Man. scripts, they are consistently distinguished in Chr. script[18]. On the other hand, only the Man. script represents the voiced plosives [b, d, g] by a distinct series of letters. From the distribution of these letters it would appear that the voiced plosives normally occurred only in foreign words and after the vocalic nasal /m̓/, as allophones of /p, t, k/, though there is evidence in some late (chiefly Chr.) MSS of a more

[16] The table includes (in parentheses) some allophones and marginal phonemes.—The phonetic characterizations of certain sounds are speculative.

[17] With or without a diacritic mark.

[18] There is, however, a tendency for /θ/ to become voiced in final position, especially in adverbs and pronouns.

general tendency to voice any plosive which is preceded by a voiced sound[19].

Since the Sogd. script had no special symbols for voiced plosives, they were necessarily written with the same letters as the corresponding voiceless plosives, namely *pe*, *tau* and *caph*—never with the letters *beth*, *lamed* and *gimel*, which were reserved for fricatives. Thus, for instance, [aṇd], phonetically /am̓t/, was written *'nt*, while *'nδ* could only stand for /am̓ð/ or /am̓θ/. This being so, it is only natural that the Uyghur script should have employed *pe* for /b/ and *caph* for /g/. Similarly, one would expect *tau* to have been used for [d], as indeed it was, at least in the combination [nd]. However, it is customarily asserted that in general the Uyghur script represented [d] by *lamed*[20]. One is bound to ask whether it is really necessary to assume such an abrupt departure from the Sogdian practice.

In 1939 Henning outlined a far-reaching theory concerning the development of the proto-Sogd. dental fricatives /ð/ and /θ/ (Henning 1939, p. 97). This theory he later modified, as can be seen from Henning 1958[21]. From the phonology of Sogd. loanwords in Persian and from the way in which *lamed* is used in the Sogd. writing-system Henning deduced that there must have existed a Sogd. dialect characterized by the development of /ð/ and /θ/ into /l/ and that this dialect was the first to be committed to writing[22]. At first Henning assumed that the coalescence of /ð/ and /θ/ was wide-spread in Sogdian, but in his second article he effectively retracted this argument in view of the Chr. Sogd. and other evidence that the two sounds continued to be distinguished[23]. Another suggestion in the first article is that the Uyghur use of *lamed* for [d] indicates the existence of a Sogd. dialect in which /ð/ and /θ/ had resulted in a

[19] Examples: after /r̥/ (Chr. *mrdxmy*, *nm'nqrgɣ'*) and other vowels (Chr. *'b*, *xwdw*); after /β/ (Chr. *ywbdy'*), /z/ (Man. *'yzdṯ*, Chr. *'zd'qry'*), /ž/ (Chr. *'wžb'*) and /γ/ (Chr. *sγdy'*).

[20] Some Uyghurists (though not Clauson) have made the mistake of referring to this letter as *daleth*. Palaeographically it is certainly *lamed*, as is also proved by its position in the alphabet, between *caph* and *mem*.

[21] The development of Henning's views is summarized in Livshitz 1970, p. 262.

[22] Henning 1958, pp. 60-61.

[23] *Ibid.*, pp. 105-6.

voiced plosive. Henning did not repeat this theory and may have given it up. In my view it cannot be maintained. If it were true, one would expect to find at least an occasional sign of confusion between the letters which represent the various dental plosives and fricatives. The lack of confusion cannot be accounted for by attributing the sound-change in question to an undocumented Sogd. dialect, since it is clear on historical grounds that the Turks borrowed their writing-system from that of the attested Sogd. MSS.

As there is no evidence that *lamed* could ever represent a plosive in Sogdian, it will be worth considering the hypothesis that in Uyghur also *lamed* continued to represent [δ] and *tau* to represent [t] and [d][24]. Although this hypothesis would involve a slight revision of accepted ideas about the phonology of Uyghur Turkish—a subject on which I am ill qualified to pronounce—it would appear to fit the known facts rather neatly. It would explain, for instance, why *nun* + *lamed* was not (in the early period) an acceptable orthography for [nd]. It is strongly confirmed by the spelling of Turkish texts in Man. script, in which the letters *δ* and *t*/*t* are distributed much as *lamed* and *tau* in the Uyghur script and in which the letter *d* occurs (so far as I have observed) only after *n*. These facts are hard to reconcile with the traditional view that *lamed*/*δ* represents [d]. Further arguments could be adduced, but I hope that those already mentioned will be sufficient to indicate the desirability of a reconsideration of the whole question by a competent Turcologist.

Apart from the supposed use of *lamed* to represent [d], the only significant points in which the Uyghur writing of consonants differs from the Sogdian concern Turkish sounds which do not occur in Sogdian, namely [ŋ] and [q].

For the velar nasal /ŋ/ the Uyghur script uses the diagraph *nk*. In Sogdian this combination represents /ṁk/, probably realized [ŋg], with vocalic velar nasal[25]. Since this was the only kind of velar

[24] This does not apply, of course, to those late Uyghur texts in which *lamed* and *tau* are confounded. The confusion presumably results from a phonological change—perhaps of [δ] to [d]—which destroyed the rational basis of the relationship between phonology and orthography.

[25] The equivalent orthography in Man. script is *ng* or *nng*. The latter mode of spelling, which was used for all the Iranian languages written in Man. script, may have been devised for Middle Persian, in which case it may have been intended to represent [ŋŋ] (from [ŋg], a likely sound-change in view of the development of [nn] from [nd] in Man. Middle Persian, cf. MacKenzie, *BSOAS*, XXX, 1, 1967, p. 20).

nasal which occurred in Sogdian, the digraph was the nearest approximation to the Turkish sound which the Sogd. script was able to provide.

The case of [q], represented by *cheth*, is more complex[26]. In Sogdian this letter never indicates a plosive but only the fricative /x/ (and occasionally [h]). Nevertheless, its employment in Uyghur script as the representative of [q] was inevitable for three reasons. Firstly, the sound [x] was rare in Uyghur Turkish, so the letter *cheth* was available for re-use. Secondly, the use of *cheth* for [q] preserved its systematic relationship to *gimel* = [γ], since these two sounds form a contrasting pair (voiceless v. voiced) in Turkish just as /x/ and /γ/ do in Sogdian. Thirdly, it is probable that Sogd. /x/ and /γ/ were pronounced with the tongue in a more retracted position than for /k/. This may be deduced from the tendency of the front vowel /a/ to appear as a back vowel, perhaps [o][27], when followed by a velar fricative.

I turn now to the vocalic sounds of Sogdian, beginning with the letters which were available to represent them in the Sogdian script, namely[28]:

aleph, as a general symbol for the beginning of vowels and in particular for the open vowels /a/ (with its central allophones [ə, i]) and /ā/;

vau, for close or half-close back rounded vowels;

jod, for close or half-close front unrounded vowels;

nun, for nasalized vowels; and

resh, for rhotacized vowels.

[26] Clauson habitually refers to the letter in question as "*gimel-cheth*". However, *gimel* (= /γ/) and *cheth* (= Sogd. /x/, Uyghur /q/) were to a significant extent distinguished, not only in Sogdian (see fn. 3 above) but also in Uyghur script (see Zieme *apud* Sims-Williams, forthcoming; the distinctive forms of final *gimel* and *cheth* are well illustrated in the Uyghur alphabet T IV Xusup, see Plate I).

[27] Sometimes indicated in writing by *vau*, see *GMS*, § 113.

[28] This list does not take into account the representation of vowels in historical or pseudo-historical spellings, in which also *he* (see fn. 13 above) and *caph* effectively indicate the quality of final vowels.

All of these, except *aleph*, are also used to represent consonants. The vocalic function of *vau*, *jod*, *nun* or *resh* may be less ambiguously specified by prefixing *aleph*, e.g. *'y* = /ĭ, ĕ/, *'r* = /ṛ/. Combinations of the five symbols are employed also for diphthongs (e.g. *'y* = /āi/, *'r* = /aṛ/) and to express combinations of the characteristics which each individually symbolizes (e.g. *yr* = /iʳ/, front unrounded + rhotacized). As a final general characteristic of the Sogdian system of indicating vowels it may be noted that internal short vowels are not necessarily expressed in writing.

The polyphony of the system outlined above is somewhat abated by certain restrictive rules: (i) initial *aleph*, *vau*, *jod* and *resh* (before consonants) always represent *short* vowels; (ii) in Sogdian words, double *aleph* (") always represents long /ā/; this manner of spelling, which in medial and final position is an optional alternative to that with single *aleph* (= /a/ or /ā/), is compulsory initially.

Despite these rules, there remain many areas of ambiguity, particularly as regards the quantity and quality of the vowels represented by (')*y* and (')*w*. However, the existence and phonemic status of quantitative distinctions, at least in the cases of /e:ē/, /i:ī/ and /u:ō/ (as well as /a:ā/), is clear from the operation of the phonological and morphological rule known as the "rhythmic law", according to which proto-Sogd. vocalic endings are lost if the preceding syllable(s) of the word (or stress-unit) contain a long vowel (or diphthong)[29]. Thus, for instance, proto-Sogd. /nēšti/ "destroys" becomes Sogd. /nēšt/, but /nešti/ "perishes" remains unchanged. In addition, the qualitative opposition of /i, ī/ v. /e, ē/ is patent in writings in Chr. Sogd. script, some of which consistently distinguish by means of Syriac diacritic points between, for example, *bγy*. /βaγi/ "God" (nom.) and *bγy*: /βaγĕ/ (gen.). Since, however, the pointings *ẇ* (= /ŭ/) and *ẇ* (= /ŏ/) are very rarely employed, the phonemic status of [ū] and [o] is uncertain. With this reservation, therefore, Figure III may be regarded as showing a minimum complement of simple vowel phonemes for Sogdian.

[29] Justification for this definition of the "rhythmic law" will be given elsewhere.

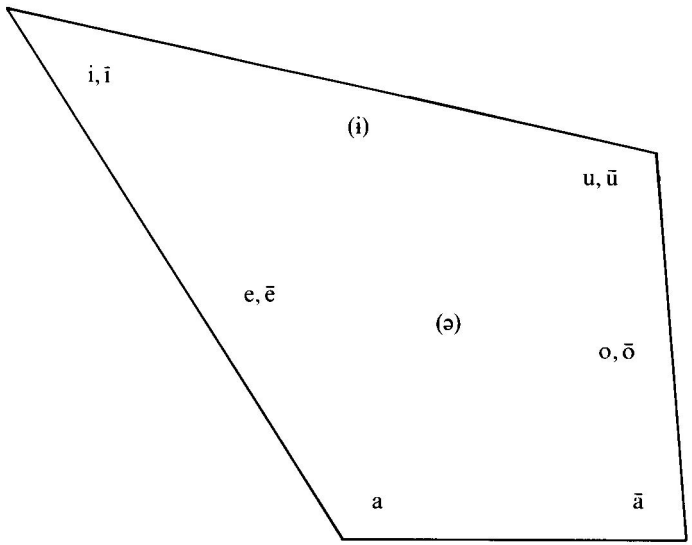


Figure III: Sogdian simple vowels[30]

Since the "rhythmic law", which governs many aspects of Sogdian phonology and morphology, is dependent on the opposition of short and long vowels, it is clear that the contrast between /a/ and /ā/ in Sogdian was primarily one of quantity. Nevertheless, it is inherently likely that the two phonemes also differed in quality, /a/ being closer to IPA [a] and /ā/ to IPA [a] as in other Iranian languages (Persian, Ossetic, etc.)[31]. Moreover, it is probable that the short [a] did not occur in initial position in Sogdian (except in the sequences /aṁ, aṛ/, which I regard as diphthongal). This may be deduced from the use of " (normally = /ā/) to render a foreign initial [a] (e.g. *"t'* < Aram. *Addā*, *"s'wr* < Skt. *asura-*, *"β'ycy* < Skt. *avīci-*). Initial *aleph* (before a consonantal letter) may therefore be taken to represent an allophone of /a/, presumably a short central vowel, since it may derive etymologically from any Old Iranian short vowel (*a*, *i*, *u*) or none (the so-called

[30] The sounds in parentheses are allophones of /a/.

[31] Cf. also W. S. Allen, *Phonetics in Ancient India*, London, 1953, pp. 57-8, on the qualitative distinction between /a/ and /ā/ in Sanskrit.

"prothetic *aleph*"). To this initial *aleph* there correspond in the Man. script both *aleph* and *ain*, the latter occurring only before /sp/ and /st/. The two letters provide evidence for the existence of two distinguishable allophonic variants of initial /a/, which have been symbolized as [ə] and [i] respectively[32].

To the speakers of a Turkish language, in which the distinction between front and back vowels was much more significant than that between short and long vowels, the primary contrast between the Sogd. initial /a/ and /ā/ would naturally have seemed to be one of quality. Thus the single initial *aleph* (= Sogd. /a/) was taken over in the Uyghur script to represent the front vowel /ä/, regardless of quantity, while the back vowel /a/, short or long, was generally symbolized in initial position by " (= Sogd. /ā/). In this point the Turkish speakers came close to adapting from the Sogd. script a coherent orthography for their own language. Consistency was never achieved, however. In particular, it seems that initial /a/ was quite frequently written ("defectively") with single *aleph* if it was followed by nasal + consonant or liquid + consonant (e.g. *'mr'x* = /amraq/, *'rsl'n* = /arslan/, *'lp* = /alp/). In view of the close similarity with the context in which Sogd. initial *aleph* = /a/ is thought to have been realized as a low front vowel (i.e. in the sequences /aṁ/ and /aṛ/), it would seem that in such cases the Uyghur spelling was intended to characterize the vowel as short and open, at the expense of leaving it undefined in respect of the contrast of back v. front.

In addition to the simple vowels shown in Figure III, Sogdian possessed (according to my reconstruction) at least three rhotacized vowel phonemes, /ṛ/ (or /ə^{r}/), /i^{r}/ and /u^{r}/[33], a nasalized vowel /ṁ/[34] and a number of diphthongs[35]. Since a discussion of these would

[32] For the phonetic definition of the latter it is relevant that the only other normal use of *ain* in Man. Sogdian is in the sequence *'y* = /ĕ, ĭ/.

[33] On the phonemic status of these vowels cf. *GMS*, §485.

[34] Nasalized prolongation of a preceding vowel, hence /uṁ/ = [uũ], /āṁ/ = [aaã], etc. The point of articulation of the nasal element was assimilated to that of a following consonant, so that in another type of close transcription /aṁk/ could be written as [aŋg]. It is possible but not yet certain that /ṁ/ also occurred interconsonantally as [ə̃].

[35] Amongst these I include not only /āi, āu, ōi, ēu/ but also /aṛ, āṛ, iṛ/ etc. and /aṁ, āṁ, iṁ/ etc.

lead us into many complexities of no apparent relevance for the Uyghur script I shall do no more than mention them here.

The only Sogdian sound not yet mentioned which calls for comment is that indicated by the digraph *wy* in such words as *xwyst* "he sweats" < Old Iranian **xwisati* or *xwyr* "sun" < **xwarya*-(?). The effects of the "rhythmic law" indicate that the sound in question must be a long vowel such as [ŏ̄] or a diphthong such as [ōi]. In either case, the orthography of this Sogdian sound may well have provided the model—exact or approximate—for the Uyghur spelling of /ö/ and /ü/ as *wy*.

In conclusion, I would like to emphasize one general point. As several of the examples discussed in this paper have indicated, it is not necessary to assume that the Sogd. script was consciously adapted for writing Turkish. One should rather see the Uyghur script as a natural development of the Sogdian, the unpremeditated outcome of the attempt to write Turkish by people familiar with the Sogd. alphabet and its associated conventions. The evident imperfections of this script as a vehicle for Uyghur Turkish result from this very fact, that the Uyghur script arose almost casually, from day-to-day contact between Turks and Sogdians, and not from the deliberations of a committee such as that which adapted the Roman script for the writing of Republican Turkish.

BIBLIOGRAPHY

Clauson 1962 = Sir Gerard Clauson, *Turkish and Mongolian studies*, London, 1962.

GMS = Ilya Gershevitch, *A grammar of Manichean Sogdian*, Oxford, 1954.

Henning 1939 = W. B. Henning, "Sogdian loan-words in New Persian", *BSOS*, X, 1, 1939, pp. 93-106.

—— 1958 = id., "Mitteliranisch", *Handbuch der Orientalistik* (ed. B. Spuler), Abt. I, Bd. 4: *Iranistik*, Abschnitt 1: *Linguistik*, Leiden, 1958, pp. 20-130.

Livshitz 1970 = V. A. Livshitz, "A Sogdian alphabet from Panjikant", *W. B. Henning memorial volume* (ed. M. Boyce & I. Gershevitch), London, 1970, pp. 256-63.

Müller-Lentz 1934 = F. W. K. Müller & W. Lentz, "Soghdische Texte II", *SPAW*, 1934, pp. 504-607.

Sims-Williams 1972 = Nicholas Sims-Williams, "A Sogdian ideogram", *BSOAS*, XXXV, 3, 1972, pp. 614-15.
—— 1975 = id., "Notes on Sogdian palaeography", *BSOAS*, XXXVIII, 1, 1975, pp. 132-9.
—— 1978 = id., Review of D. N. MacKenzie, *The Buddhist Sogdian texts of the British Library*, *IIJ*, XX, 3-4, 1978, pp. 256-60.
—— forthcoming = id., "Remarks on the Sogdian letters γ and x (with special reference to the orthography of the Sogdian version of the Manichean church-history", to appear as an appendix to W. Sundermann, *Mitteliranische Texte der Manichäer kirchengeschichtlichen Inhalts*.
Skjærvø 1976 = P. O. Skjærvø, "Sogdian notes", *AO*, XXXVII, 1976, pp. 111-16.

ÉTAT ACTUEL DES RECHERCHES SUR L'ALPHABET DE MURFATLAR ET DE PLISKA

PAR

EDWARD TRYJARSKI

Les systèmes d'écriture non-déchiffrés sont devenues très rares en Europe. Cette observation ne concerne d'ailleurs que les écritures non-alphabétiques, et l'on ne pourrait citer à ce propos que les signes sur le célèbre disque de Faystos — dont les propositions de déchiffrement apparaissent d'ailleurs de temps en temps dans divers pays — et l'écriture crétoise («minoenne») linéaire A qui a fait l'objet d'études fouillées de Bedřich Hrozný et de Cyrus Gordon. Par contre, les problèmes concernant les systèmes alphabétiques européens, leur interprétation et leur genèse semblent être résolus depuis longtemps. Ceci étant dit, je suis très content de pouvoir attirer votre attention sur un système d'écriture employé autrefois en Europe, démeuré presque inaperçu et indéchiffré. Je le fais avec une satisfaction d'autant plus grande que le système en question, bien que découvert en Europe et lié à la civilisation byzantine, est en même temps dans une grande mesure le produit d'une civilisation nomade, et vraisemblablement celle des peuples turcs.

Il y a plus d'une vingtaine d'années, les spécialistes roumains ont informé le monde de la science d'une importante découverte faite dans leur pays. En 1957, et au cours des années qui suivirent, fut notamment mis au jour dans les roches crayeuses de Murfatlar, localité anciennement connue sous le nom de Basarabi et distante d'une quinzaine de kilomètres environ de Constantza, un complexe archéologique fort intéressant, composé de quatre petites églises ou chapelles. Des grottes naturelles, reliées entre elles par des galeries artificielles, des locaux d'habitation et d'exploitation, et enfin des chambres sépulcrales ou catacombes y ont été découvertes. La datation de ce complexe, ayant clairement un caractère monastique chrétien,