Transactions of the Philological Society

PhilSoc The Philological Society

Transactions of the Philological Society Volume 00 (2026) 1–49 doi: 10.1111/1467-968x.70032

BACTRIAN IN ISSYK-KUSHAN SCRIPT: ADDITIONAL READINGS AND DECIPHERMENTS[1]

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(Submitted: 8 November, 2025; Accepted: 25 March, 2026)

Abstract

This article presents additional readings of several inscriptions written in the Issyk-Kushan script, building on the improved system of sound values recently proposed by Sims-Williams (2025b). We propose that some further lines of Dašt-i Nāwur inscription DN III and parts of several other inscriptions can now be read as Bactrian, add new first-hand data from the Almosi inscription site and suggest decipherments for a few previously undeciphered characters of the script.

Аннотация

В данной статье представлены дополнительные прочтения нескольких надписей, написанных иссык-кушанским письмом, на основе усовершенствованной системы звуковых значений, недавно предложенной Симс-Уильямсом (2025b). Мы предлагаем, что некоторые дополнительные строки надписи Дашти Навура (DN III) и части нескольких других надписей теперь можно читать как бактрийский язык, добавляем новые данные из первых рук с места находки надписи Алмоси и предлагаем расшифровку нескольких ранее нерасшифрованных знаков этого письма.

[Russian]

[1]We would like to thank all participants of the 2025 archaeo-linguistic expedition to Almosi, which was made possible by the logistical support of the National Museum of Tajikistan and the financial support of the Fritz Thyssen Foundation. We are also grateful to Nicholas Sims-Williams, Pavel Lurje, Niels Schoubben, Julian Kreidl, Chams Benoît Bernard and Natalie Korobzow for helpful comments on earlier drafts of this article and to the National Museum of Tajikistan and the National Museum of Antiquities of Tajikistan for giving us direct access to inscriptions held in their collections.

Author contributions statement: This work is the result of an intense collaborative effort shared by all co-authors. Based on epigraphic data obtained during an expedition to Almosi, Tajikistan, in 2025 by Bobomullo Bobomulloev, Muhsin Bobomulloev, Simon Fries, Jakob Halfmann, and other non-co-authoring members of the expedition team (Chams Benoît Bernard, Svenja Bonmann), Jakob Halfmann undertook a substantial initial data analysis and wrote a first draft of the article on behalf of the whole group of authors and in accordance with the other co-authors' analyses and assessments. The draft manuscript as a whole was then thoroughly reviewed, revised, and shaped into the submitted article by Simon Fries and Jakob Halfmann in consultation with Bobomullo Bobomulloev and Muhsin Bobomulloev who provided their perspectives on the issue as archaeologists. After the peer review process, the article was revised and shaped into its final form by Simon Fries and Jakob Halfmann. The authors assume sole responsibility for the findings presented in this article, and acknowledge that other expedition members should not be held accountable for anything stated therein.

1. Introduction

The discovery in 2022 of new Kushan royal inscriptions in the Almosi valley of Tajikistan (Bobomulloev et al. 2022) provided the foundation for a breakthrough in the decipherment of the hitherto unreadable so-called 'Unknown Script' (referred to in the following as the 'Issyk-Kushan script'[2]) that was otherwise primarily known from the inscriptions of Dašt-i Nāwur in Afghanistan. Following the discovery, different decipherment attempts were published in articles by Falk (2023) and Bonmann et al. (2023).

Both attempts proceeded from the same core observation of identity between sequences meaning 'king of kings' and 'Wema Taktu' (the name of a Kushan emperor) in the Graeco-Bactrian and Issyk-Kushan script parts of the two inscriptions,[3] but otherwise, the two articles offered rather different solutions to the classification of character shapes and diacritics and the identification of sound values. Falk (2023) identified the script as a personal invention of Wema Taktu and the language written with it as Bactrian. Bonmann et al. (2023), on the contrary, proposed that the script was used to write a previously unidentified Middle Iranian language and speculated about connections to the Yuezhi or 'true Tocharians', the nomadic ethnic group from which the Kushan dynasty is generally believed to have arisen.

Now, a few years later, new perspectives have emerged with Lur'e (2024),[4] a second publication from Falk (2025), and Sims-Williams (2025b). Lur'e (2024) adds previously unpublished materials to the corpus of inscriptions[5] and builds on the system proposed by Bonmann et al. (2023), with some valuable adjustments, in particular a switch of the readings H and W. He suggests that the language of the Issyk-Kushan script should be associated with the silver miners of Panjsher and environs—a daring hypothesis that is no longer tenable now, since it rests on the evidence of a vowel merger that no longer needs to be assumed after Sims-Williams (2025b). Falk (2025) contains a response to Bonmann et al. (2023), but also a retraction of large parts of his earlier interpretation and an adjustment of some of his readings.

Sims-Williams (2025b) accepts the H-W adjustment of Lur'e (2024) and adapts a few ideas of Falk (2023, 2025), but crucially also proposes to correct a number of further readings of Bonmann et al. (2023). In this way, he reaches the conclusion that the Issyk-Kushan script was indeed used as a different writing system for Bactrian. As we would like to argue in the present article, the approach of Sims-Williams should be considered a second breakthrough, which finally allows for more secure readings of the most important inscriptions in the Issyk-Kushan script. We will attempt to demonstrate this by applying the new values to the unread portions of Dašt-i Nāwur inscription DN III, Almosi inscription AG2 and a few of the shorter inscriptions.

[2] Cf. the discussion on terminology in Section 6 below.

[3] The identification of a parallel sequence shared between Dašt-i Nāwur and Almosi (which eventually turned out to be the emperor's name) was also made by several other researchers involved with the discovery at the time (P. Lurje, J. Cribb and L. Morris), though they refrained from publishing a fuller attempt at a decipherment of the script (cf. Bonmann et al. 2023: 326, fn. 9). Falk (2025: 43) casts doubt on the efforts of these researchers, writing: 'Allegedly what I read correctly was also read correctly by just any random colleague'. ('Angeblich wurde das, was ich richtig gelesen habe, auch von jedem beliebigen Kollegen richtig gelesen'.).

[4] English translation now available in Ching & Peyrot (2026: 131–176).

[5] Most of these (Ad-01, -02, -03, -04 and -07) are clear representatives of the Issyk-Kushan script. Two further ones (Ad-05, -06) are rather doubtful and might not be actual inscriptions at all.

Sims-Williams's (2025b) solution is not obvious, since it produces problems with some of the words that stood in the centre of the first phase of decipherment,[6] but its great merit is that it opens up the path for a straightforward understanding of previously elusive passages and at the same time offers a plausible resolution of the difficulties earlier encountered with the system of vowel diacritics.

In the following, we will first respond to a number of claims made by Falk (2025) (Section 1), before moving on to new readings of the inscriptions Dašt-i Nāwur DN III (Section 2), Surkh Kotal SK 7 (Section 3) and Almosi AG 2 (Section 4). Section 5 outlines the remaining open questions in the decipherment of the script, whereas Section 6 gives a re-assessment of terminology and Section 7 deals with the paleographical connections to other writing systems.

2. Responses to Falk (2025)

The publications of Lur'e (2024) and Falk (2025) show that the historiography of the initial breakthrough following the discovery of the Almosi inscriptions has already become contested: Both offer their own summaries of the events leading up to the publication of Bonmann et al. (2023), which are not always congruent with our recollection of what happened.

Falk (2025: 43) insists that Bonmann et al. (2023) was published 'clearly after Davary, after Falk and after Cribb' ('eindeutig nach Davary, nach Falk und nach Cribb') and that therefore their claims to 'primacy' ('Primat') and a 'pioneering role' ('Vorreiterrolle') in the decipherment are misplaced. It is, however, hardly surprising that Davary (2022) and Cribb[7] were able to discuss the Almosi site before the publication of Bonmann et al. (2023), since they were privately sent photographs and descriptions by the Tajik archaeologists before the general public was informed about the discovery. Moreover, on the more substantial side, neither Davary nor Cribb made any claims to decipherment of the Issyk-Kushan script, so that the dating of their contributions is irrelevant to the question of the 'primacy' of Bonmann et al. (2023). Falk's (2023) article indeed appeared in print before that of Bonmann et al. (2023), but at this time, the results of the latter were already public: They were first presented at the *International Scientific Work Seminar of the Academy of Sciences of Tajikistan on the topic 'Discovery of the Almosi Inscriptions and Their Position among the Ancient Scripts of Central Asia'* on the 1 March, 2023. The slides of the presentation were made available online on *academia.edu* a few days later.[8] This was followed shortly by Falk's upload of a pre-print version of his own article to the same website.[9]

This explanation is merely intended as a factual correction of Falk's claims. We do not in fact consider the temporal precedence of the publication of this or that article to be of any particular significance, especially since the time was obviously ripe for a breakthrough with the discovery of the Almosi inscriptions and since many scholars were working on a solution

[6] In particular, AG I *Tugutuwi* = Graeco-Bactrian Τακτοε and DN III *Kišanu* = Graeco-Bactrian κοþανο are problematic readings. However, as Sims-Williams (2025b: 8) correctly points out, '[t]he competing interpretations [. . .] by Falk, Bonmann *et al.* and Lur'e all struggle with one word or another'. The seemingly superfluous vowels in *Tugutuwi* may be less problematic when considered with the insight in mind that consonant clusters were mostly written with unpronounced inserted vowels so that /Tugtuwi/ or /Tugtwi/ would be legitimate phonological interpretations of the spelling. If the same name is indeed spelled *Tagt(u)wi* in DN III, the spelling with *u* could be interpreted as an engraving error, but this is not certain. For further discussion of *Kišanu*, see Section 2 below.

[7] Falk (2025: 42) refers to a conference presentation of Cribb's on 20 May 2023, the contents of which were later published in Cribb (2023).

[8] https://www.academia.edu/97965292/. Last accessed 2025-10-18.

[9] The pre-print has since been replaced with the published version: https://www.academia.edu/98212942/. Last accessed: 2025-10-18.

at the same time. What should matter more to us than mere chronology is whether a contribution has or has not advanced our understanding of the script. The relevant results of Bonmann et al. (2023) in this regard can be summarised as follows:

- Identification of the word divider in Dašt-i Nāwur III, revealing the structure of the inscription.
- Identification of the locations of each of the expected royal titles in Dašt-i Nāwur III.
- Correct identification of the forms of the vowel diacritics.
- Correct identification of the vowel bearer ʾ, R, and two velar consonants K_1 and K_2 (in addition to the uncontroversial letters D, Š, N, M and T).
- A full catalogue of characters and corpus of known relevant inscriptions.
- Identification of the second triscriptual from the Hoq cave on Socotra.[10]

In other areas, some erroneous proposals of the article have to be corrected,[11] for example the solution for the problem of W and H, the identifications of B, Ɣ and S, and the proposed sound values for the diacritics. Since the authors never reached more than a partial decipherment in the first place,[12] later corrections and additions were in fact to be expected.

The relevant results of Falk (2023) can be summarised as follows:

- An approximately correct interpretation of the single-stroke diacritic as *o* (better transcribed, with Sims-Williams 2025b, as *u*)[13]
- An approximately correct interpretation of the double-stroke diacritic as *e* (better transcribed, with Sims-Williams 2025b, as *i*)[14]
- Correct identification of W (in addition to the uncontroversial letters D, Š, N, M and T). This correct identification is discarded in Falk (2025: 45) in favour of an interpretation as a free-standing diphthong character expressing *oē*.

Falk (2025: 50, fn. 44) adds the correct reading of sign no. 26[15] as L—though he does not provide explicit reasoning for this and confirmation is only furnished by Sims-Williams's (2025b: 202) readings—and the identification of the third character in the Hoq inscription with sign no. 4 (Falk 2025: 47). Based on shape alone, the latter identification is certainly not obvious (cf. Sims-Williams 2025b: 198–9), but since it leads to better readings in many different positions, it is very likely correct. Though Falk also proposes the correct reading Y (i.e. IPA [j]), which emerges from the Hoq triscriptual, he in fact reads it as H in

[10] Regarding this inscription, Falk (2025: 44) writes: 'The fact that the characters of the line in between were recognised as a separate script at all is to be praised, and the circumstance that the Bactrian graffito (still as a biscriptual) was commented on by N. Sims-Williams indicates the source'. ("Die Tatsache, dass die Zeichen der Zeile dazwischen überhaupt als eigenständige Schrift erkannt wurden, ist zu preisen, und der Umstand, dass das baktrische Graffito [noch im Biskript] von N. Sims-Williams kommentiert wurde, deutet die Quelle an."). If this is supposed to mean that the inscription must have been pointed out to Bonmann et al. (2023) by Nicholas Sims-Williams, then he is mistaken.

[11] We acknowledge that our judgement of these proposals as having been erroneous is not shared by all co-authors of Bonmann et al. (2023). In particular, as far as we are aware, S. Bonmann has not changed her views since the publication of that article.

[12] If the media coverage of the decipherment has produced the impression of a greater achievement than this in the general public, this is to be regretted.

[13] In the drawing of AG I used by Falk, the single stroke appears also on the second syllabic character of the phrase corresponding to Graeco-Bactrian βαοναvο βαο 'king of kings', but photographs of the inscription show clearly that the letter has a double stroke diacritic. One part of the reasoning leading to Falk's reading as *o* was therefore erroneous.

[14] Despite this identification, Falk (2023) did not fully understand the principles of the diacritic system, postulating diacritical modifications such as addition of strokes to the right leg of a character or shortening of legs, for which there is no further evidence within the remaining corpus. His suggested *ei* diacritic also cannot be upheld.

[15] The character from Almosi AG2 tentatively identified as a variant of this sign by Bonmann et al. (2023) must be separated (cf. Section 4 below).

AG 1, based on an astonishing associative chain that takes the paleographical identity of Latin Y (of the transcription!) and Greek υ as a possible connection to the use of υ for /h/ in Graeco-Bactrian (Falk 2025: 47–9). On this foundation, he maintains that the same letter could be used both for [j] and for [h]. A better solution is offered by Sims-Williams (2025b), who consistently reads Y [j] for sign no. 4.

A central proposal of Falk's (2023) that turned out to be correct is the identification of the language as Bactrian.[16] However, this idea could not seriously be embraced in the form in which he proposed it, since his argumentation contained too many inaccuracies and inconsistencies and was not convincingly demonstrated on further material. Thus, for example the claim that sign no. 3 (the H of Lur'e 2024 and Sims-Williams 2025b) is identical with the vowel bearer sign no. 24, which is maintained in Falk (2025), is implausible both on the grounds of shape differences and due to their co-occurrence in several inscriptions as well as separate attestation with zero-, one- and two-stroke diacritics (cf. the catalogue of characters in Bonmann et al. 2023). The reading *Tokotoe* as the equivalent of Graeco-Bactrian Τακτοε is also hardly convincing when presented on its own, in the absence of further plausible readings resulting from the same inserted sound values. Such readings have only been produced by Sims-Williams (2025b), who adopted only some features of Falk's (2023, 2025) model. Falk's (2023: 260) readings of the further text of AG I (such as *reo name* —'Veneration to the Rich one') have already been discarded in Falk (2025: 48–9) and replaced with similarly unconvincing interpretations (*yeo name*—'son by the name of…' ['Sohn namens…']).

Falk's (2025) discussion of the Hoq triscriptual contains a few further errors: He unfortunately misunderstands the word 'laryngeal' in Bonmann et al. (2023: 323) as a reference to reconstructed Indo-European laryngeals, instead of taking it as a phonetic description of the sound [h], as intended.[17] The correct interpretation could have been derived from the suggested (though likely incorrect) etymology < **hu̯a-māi̯ā-ka-* '(endowed) with own powers', in which **hu̯a-* is the Iranian outcome of earlier **su̯a-* < PIE **su̯e-*.

Falk (2025) also claims that according to the reading of Bonmann et al. (2023), the Hoq inscription would have to be read as '/amuyakā/' and according to Lur'e (2024) as '/əmiyakā/', but the actual readings that would result are *Wamuyāka* (Bonmann et al. 2023) and *Həmïyāka* (Lur'e 2024)—so long as one accepts Sims-Williams' (2025b: 197) very likely contention that what Bonmann et al. (2023) read as a stroke expressing H on the first character 'is a natural groove in the stalactite rather than part of the writing'.[18] Sims-Williams' (2025b: 198, 205) reading *Humiyagu* is of course preferable to either of these, as well as to Falk's (2025: 45) *Omeyako*.

[16] This identification is, in our view, assured at least for the central inscriptions of Dašt-i Nāwur and Almosi and can also be safely assumed for some of the smaller ones. Remaining possibilities that we cannot exclude based on the limited data available are that the two scripts represent separate dialects or separate written standards of Bactrian, which could entail some minor linguistic differences. On the language of the Issyk and Ai Khanum inscriptions, see Section 5 below.

[17] Falk (2025: 45): 'with an initial laryngeal (H), which, however, had already faded away a thousand years ago at the time of the inscription' ('mit initialem Laryngal (H), der allerdings zum Zeitpunkt der Inschrift schon tausend Jahre zuvor verblichen war'.). The same confusion occurs in his discussion of the reading of Wema Taktu's name: 'Much less will it be a vocalised laryngeal, which Bonmann et al. re-invoke from primeval times' ('Noch viel weniger wird es ein vokalisierter Laryngal sein, den Bonmann et al. aus Urzeiten wiederbelegen'.) (Falk 2025: 45).

[18] Reading this stroke as part of the inscription, Bonmann et al. (2023: 323) in fact proposed the reading *Hwamuyāka*, whereas Lur'e (2024: 342), already doubting the stroke, proposed *(W?)həmïyāka*.

3. A MORE COMPLETE READING OF DN III

The adjustments suggested by Sims-Williams (2025b) enabled him to read a plausible Bactrian text in the first section of Almosi inscription AG2. It stands to reason that the same values, if applied to the unread parts of the Dašt-i Nāwur inscriptions, should also produce intelligible Bactrian—otherwise, they could not be accepted.

Following the publication of a new reading of the Graeco-Bactrian text of DN I in Halfmann et al. (2023), we proposed in an unpublished presentation at the *37th South Asian Languages Analysis Roundtable* (October 2023) that another section of DN I could be identified in DN III. This is a part of the clearest portion of DN I, which says:

l. 11: [. . .] οτηια αβο ι βαγανο
[. . .] and he the gods
l. 12: σπαχτο οτι καρανο [. . .]
served and the people/soldiers [. . .]

In the matching section of DN III (l. 9), shown in Figure 1, we read at the time:

[. . .] N^{a} | S^{a} -$?^{a}$ -$T^{\prime\prime}$ | $^{\prime a}$ -$T^{\prime\prime}$ | $K_2^{\bar{a}}$ -$R^{?}$ -N^{a} | M^{a} [. . .]

The direct correspondence between the texts of DN I and DN III in this section is rather striking and as such already casts doubt on the assumption of a separate status of the language of DN III. The appearance of K_2 in the beginning of the word corresponding to Graeco-Bactrian καρανο 'people' had led us to the conclusion also independently reached by Sims-Williams (2025b: 196–7), that K_2 with its exclusively word-initial distribution is likely to be read as K, whereas K_1 is most likely G.

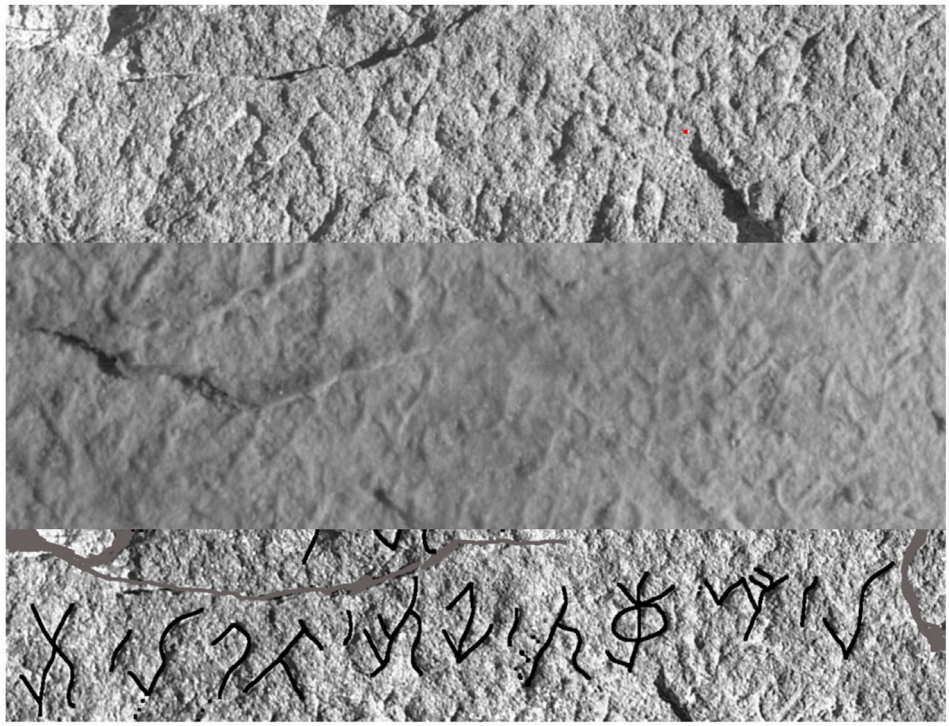


Figure 1. Section of DN III, l. 9.

For the verb form corresponding to DN I σπαχτο 'served', we had identified the first letter as our proposed S (no. 8), so that the second, the circled trident (no. 12) before final T, might have been decipherable as P (producing hypothetical *spat*V < **spašta*-), if the first letter was not an unrecognised ligature SP. With Sims-Williams's (2025b: 202) identification of the circled trident (no. 12) as X and of no. 11 (the simple trident) instead of no. 8 as S, the only remaining possibility is that of a conjunct in the first syllabic character.[19] Indeed, it seems possible to see in it a trident-shaped no. 11 combined with the top part of no. 8 growing out of it towards the left. No. 8, our previous S, must then be read as P. In Dašt-i Nāwur, this sign indeed appears in several other places where the reading P is expected, though the double-roofed shape, which appears rather clearly in this SP ligature and is confirmed by the potsherd from Čingiz Tepe (8 INC in Fussman 2011: 234),[20] is not always discernible. Instead, often only a single roof can be made out. This could be a variant of the same sign, but it might as well simply be an effect of the low quality of the photographs.[21] The correct reading of the discussed section of DN III, l. 9, with updated vowel values and a revision of the uncertain diacritic readings on SP and T, is therefore:[22]

[. . .] N^{u} | SP^{a}-X^{u}-$T^{u/i}$ | $^{\circ}{}^{u}$-T^{i} | K^{a}-$R^{a?}$-N^{u} | M^{u} [. . .]
. . .nu spaxtu uti karanu mu. . .
'[. . .] served and the people/soldiers [. . .]'

With this identification cleared up, we may turn to the mysterious dating formula, which—as Bonmann et al. (2023: 320) were able to establish—takes up a bit over two lines in DN III, whereas it occupies only a single line in DN I. In DN I, it is notably written not only in Greek script, but also in Greek language (σοθ γορπιαιου ιε). With the system of sound values proposed in Bonmann et al. (2023), the dating formula of DN III proved impossible to decipher. However, the modifications suggested by Sims-Williams (2025b), when combined with the identification of P made above, show a striking effect in just this part of the inscription, proving in our opinion that at the very least they show the right way forward towards further decipherment of the script.[23]

[19] Sims-Williams (2025b: 208, fn. 54) doubts the idea proposed in Bonmann et al. (2023) that the Issyk-Kushan script, like the neighbouring alphasyllabic scripts of India, had conjunct characters that could be used to express consonant clusters. The new readings do show that such conjuncts were not obligatory (probably also not available) for many combinations of consonants, since more often a spelling with a purely orthographical intermediate vowel appears instead. However, we should remain open to the possibility of conventional conjuncts for certain consonant clusters. Perhaps some of these were transparently composed of two independently existing elements, as in the present case of SP, whereas others were arbitrary signs with no transparent relation to the graphemes used for their component consonants, as in the case of the sign NG identified by Sims-Williams (2025b: 202). Such a situation would resemble the one seen in Kharoṣṭhi (cf. Salomon 1998: 49).

[20] This potsherd can be read as *idi pani[*. Niels Schoubben (p.c.) suggests the plausible interpretation that this is the beginning of a Gandhari word for a water vessel (either *panikuḍiya* 'water pot' or *paniyaghaḍa* 'water jar'). Such terms are attested following demonstratives in Gandhari inscriptions on similar potsherds, including ones from Termez (Fussman 2011: 72–3). Borrowed Gandhari pottery terminology also appears in other Bactrian pot inscriptions (see Fussman 2011: 106–7).

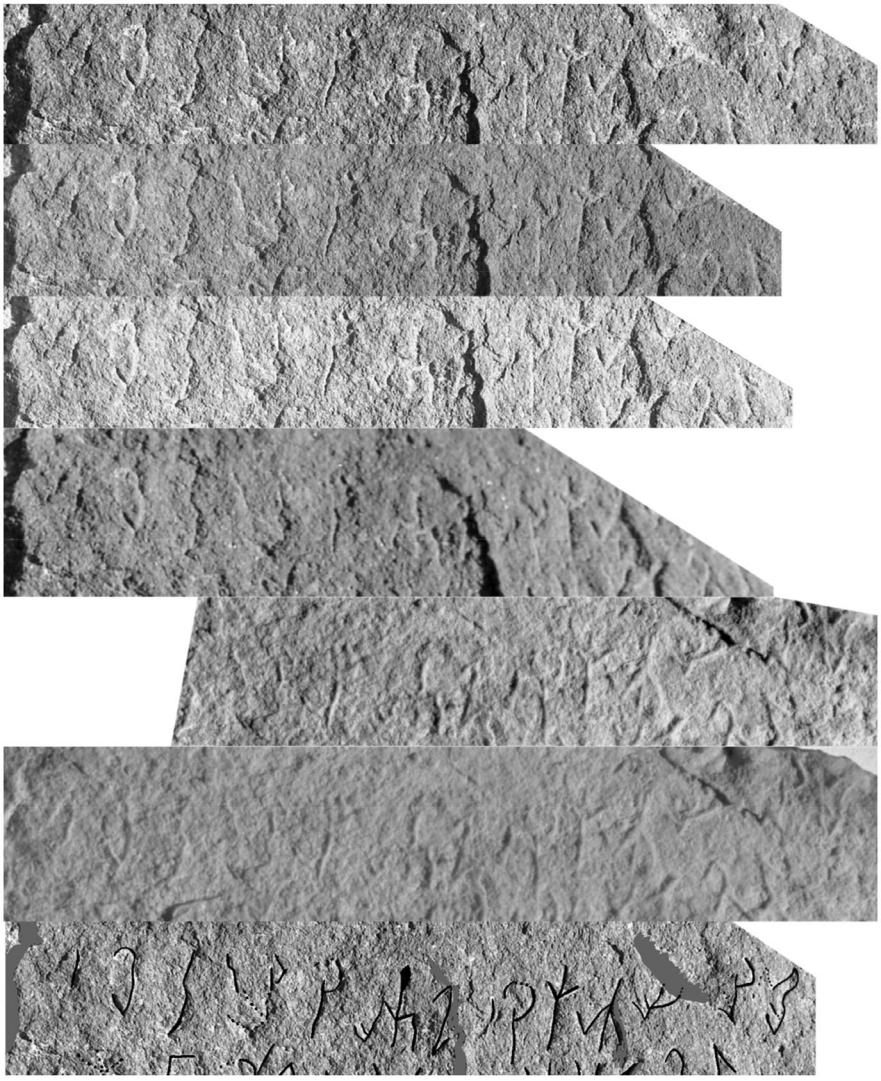
[21] Since the trident on the SP character is not very distinct, there is a third theoretical possibility that the double roof variant stands for SP, whereas P always has a single roof only. However, the double roof does appear to be present at least in some of the Ps in DN III.

[22] The form *spaxtu* as the perfective participle of *spas*- incidentally is another point of evidence in favour of a linguistic identification as Bactrian, as it attests both a likely analogical change of regional late Old Iranian (encompassing Young Avestan, Sogdian and Bactrian), in which expected **spašta*- was replaced with *spaxšta*- (cf. Halfmann 2025: 34–8), as well as the specifically Bactrian sound change **xš* > *x* (cf. Gholami 2014: 49).

[23] After the submission of our article, Filip Palunčić informed us that he had independently attempted a reading of the dating formula based on Sims-Williams's proposals. His results, which he does not intend to publish, largely coincide with ours, underscoring the plausibility of the readings presented here.

In the following, the inscription DN III is discussed line by line. Composite images with sections from the available photographs of DN III and its latex squeeze are provided for each line,[24] followed by a transliteration, transcription and translation of the text as well as detailed commentary.

3.1. DN III, line 1



P^{i}-D^{u} Y^{i} L^{u}-S^{a}-D$^{?}$ | $^{\rangle a}$-V^{i}-D^{a}-Ḍ$^{i?}$ | N^{a}-W^{u}
pidu yi lusadV avdadi nawu
'in the 279[th year]'

[24] All photographs of DN III and its latex squeeze are reproduced here by courtesy of the Collège de France (Archives—Fonds Afghanistan/Fussman). Revised drawings of DN III are courtesy of Natalie Korobzow.

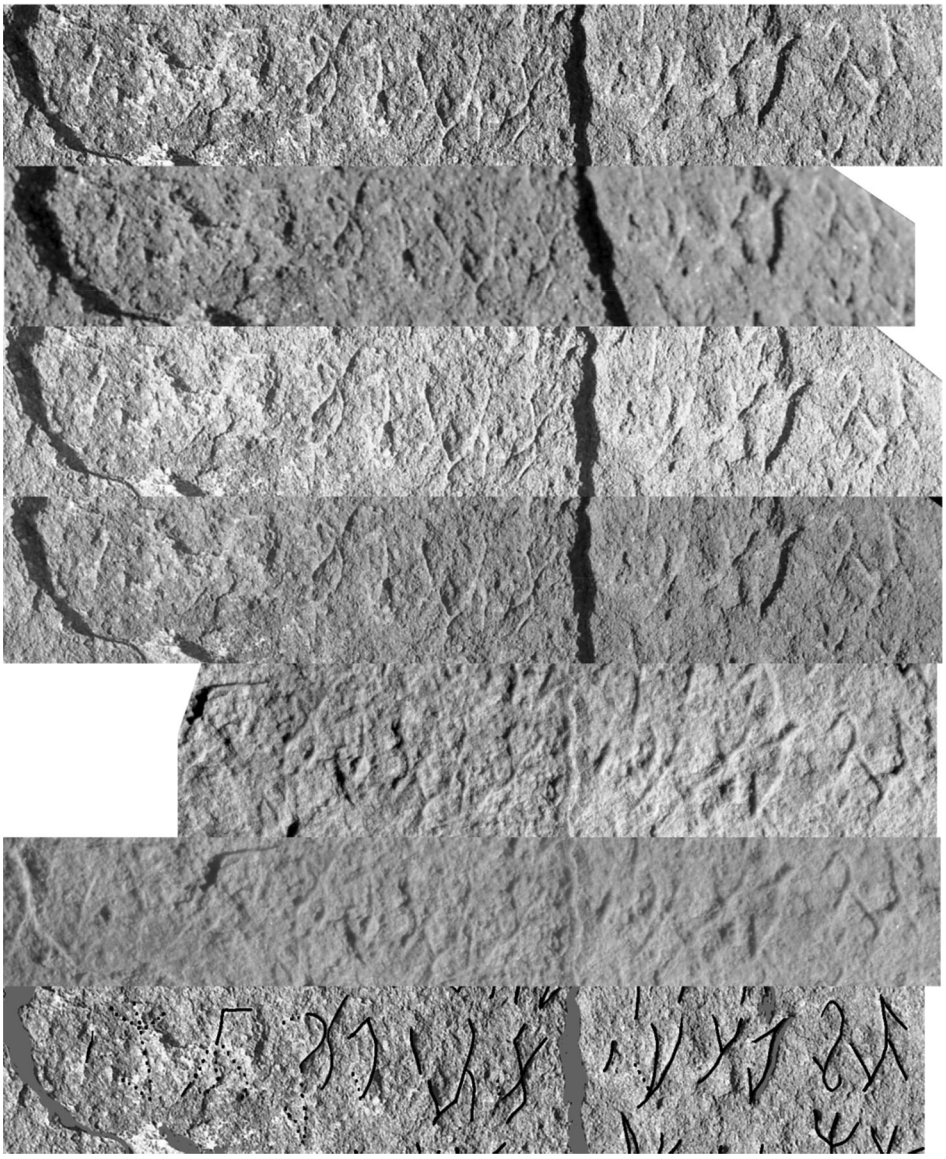
The first two characters, incised in a location that is somewhat set off from the rest of the inscription to the top right, immediately reveal the word that one would like to see at the beginning of any Bactrian dating formula of this time—P^{i}-D^{u} (or, possibly, P^{i}-D^{i}), that is the preposition written πιδο (< **pati*) in Graeco-Bactrian.[25] The following character is slightly bunched together but easily recognisable on the photographs of the latex squeeze as the article Y^{i} = Graeco-Bactrian ι. Now the number 279 should appear, in accordance with the year noted in Greek numerals as σοθ in DN I. In DN III, we can read L^{u}-S^{a}-$D^{?}$-ʾ^{a}-V^{i}-D^{a}-$Ḍ^{i?}$-N^{a}-W^{u},[26] with perfect matches for attested Graeco-Bactrian λοο 'two' and σαδο 'hundred'. The word for 'seventy' (or even 'seven') is unattested in Graeco-Bactrian, but the expected form would be *υαβδαδο < Old Iranian **haftāti-* (Avestan *haptā^{i}ti-*). Here it appears to be spelled with an initial vowel instead of *h-*.[27] The consonant cluster *vd* is broken up by an inserted vowel *i*, as in AG 2 *karalirangi* ~ καραλραγγο (cf. Sims-Williams 2025b: 210). The word for 'nine' is also unattested in Graeco-Bactrian but would be expected to have the form *ναοο < Old Iranian **nawa-*, the exact equivalent of what can be read in DN III.

[25] Cf. Surkh Kotal SK4: πιδο ι ιωγο οδο υιρσο χβοvo (Sims-Williams & de Blois 1996: 150), Nokonzik Silver Plate: πιδο ι ιωγα χβονα (Sims-Williams 2015: 257). If the correct reading is P^{i}-D^{u}, this could indicate that the vowel *u* in word-final position could be used to express a reduced central vowel in the Issyk-Kushan script, like ο in Graeco-Bactrian, since a final *u* would be etymologically unexpected in this word. The Graeco-Bactrian use of final ο probably results from a sound change of final /u/ > /ə/ (cf. Michetti 2026). Since this sound change happened in the spoken language, it could have led to similar effects both in the Issyk-Kushan script spelling and in the Graeco-Bactrian spelling.

[26] Given the use of sign no. 13 (Sims-Williams's B) for both Old Iranian intervocalic **-p-* (in AG 1 *uv-* < **upa*) and voicing-assimilated **f* in the cluster **ft* > **vd*, it is likely that it represents the merged fricative sound resulting from these sources and from Old Iranian **b* (in most positions), as attested in the orthography of the Bactrian fragment in Manichaean script. It was previously not fully clear whether this merger had already happened in Kushan times (Sims-Williams 1989: 233, fn. 25), but based on the orthographical co-expression in the Issyk-Kushan script, this seems to be the case. A separate plosive grapheme B may yet exist in the Issyk-Kushan script, since lenition of **b* likely did not apply after nasals (Sims-Williams 1989: 233) and because there is some loanword evidence that points to plosive /b/ as a result of intervocalic **-p-* in secondary word-initial position after procope (Schoubben 2024: 51). We therefore prefer to transcribe sign no. 13 with V/v, leaving the symbol B/b open for a potential plosive /b/.

[27] There are some cases of loss of initial **h-* in Bactrian, but most examples seem to be unstressed prefixes (Gholami 2014: 39). A possible explanation for the absence of **h-* in the word for '70' is a contamination between the numerals **hafta-* 'seven' and **ašta-* 'eight', which might have been carried over to other numerals formed with 'seven' (Niels Schoubben and Julian Kreidl p.c.). Such a contamination is attested in several Middle Iranian languages (Middle Persian *haft*, *hašt*; Khotanese *hauda*, *haṣṭa*; Khwarezmian *ʾβd*, *ʾšt* and *ʾβdʾc* 'seventy'). Since it appears that initial **h-* is not unconditionally dropped in Khwarezmian (cf. *hmk* 'the same' < **hama-ka-*, *hsf-* 'to become calm' < **ha-spā-*), Khwarezmian might provide a genuine parallel for the Bactrian pattern in having generalised the onset from 'eight' to 'seven'.

3.2. DN III, line 2



K^{u}-R^{u}-$P̣^{u}$-Y^{a}-$Y^{u/i}$ | $M^{a/u}$-H^{u} | $P̣^{a}$-$Ṇ$[?]$^{?}$-[?]-[?]
kurpyayu mahu pa[. . .]
'the month Gorpiaios, [fi. . .]'

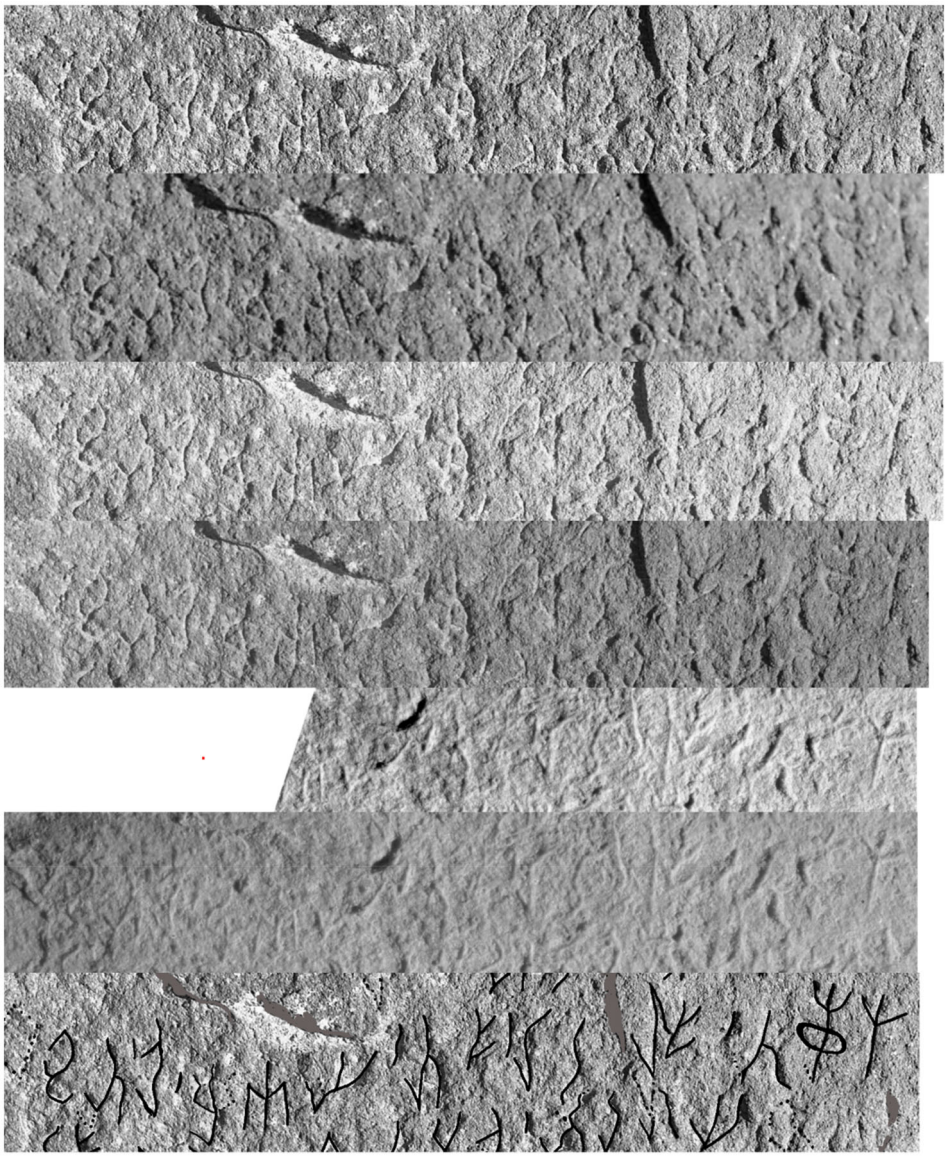
The next word expected in a Bactrian dating formula after the number of the year is the word χþovo 'regnal year'. The following word in line 2 of DN III begins with a K, either with a single-stroke diacritic (i.e. K^{u}) or with a connection to the following letter R^{u} in a potential conjunct KR. The former possibility seems more likely, since the combination KR would be phonotactically unusual in Bactrian. The shape after the R^{u} was identified in N. Korobzow's

original drawing as a possible break in the stone, but it could also be a letter, either N^{u} or perhaps P^{u}, since there appears to be a downward stroke at the top forming a single roof.

One might consider whether the equivalent of Graeco-Bactrian χþovo is here spelled as *krunu*, in which case one could refer to the hypothesis that this word was borrowed from Greek χρόνος, but this is not very likely, since there is no word divider after the second/third character. Additionally, the next piece of text marked off with word dividers reads M^{a}-H^{u} (or less likely M^{u}-H^{u}) = Graeco-Bactrian μαυο 'month'. In an inscription of this time, we would expect the month name to precede the word *mahu* (Sims-Williams & de Blois 1996: 150), so that K^{u}-R^{u} is most likely the beginning of a rendering of γορπιαῖος. The next letter is then more likely P^{u} and the following two are compatible with a reading as Y^{a}-Y^{i} or Y^{a}-Y^{u}.[28] The word χþovo thus seems to be missing from the inscription. The rest of the line must be occupied by the numeral 15 (DN I: ιε; Graeco-Bactrian *πανζολασο), since the next line begins with *saxa*/*uta*/*u* 'passed', the closing word of the dating formula (Sims-Williams 2025b: 202). Indeed, at least a single roof of a P^{a} can be recognised and after that possibly a conjunct beginning with N, but the rest of the line is too decayed or poorly photographed to reconstruct it with confidence. The traces at least do not exclude the expected reading *L^{a}-S^{u}.

[28] That γορπιαιος is rendered as *Kurpyayu* instead of, for example, **Gurpyayu* may be due to the fact that Bactrian /g/, which results in most cases from lenited intervocalic Old Iranian *-*k*-, never appeared in word-initial position in inherited words (unlike fricative /γ/ < Old Iranian **g*, see below on the identification of two separate glyphs for /g/ and /γ/ in the Issyk-Kushan script), and that thus there was probably no phonemic fortis-lenis contrast in word-initial position (as in some modern German dialects). Greek /g/, on the contrary, had almost certainly not yet fully acquired a fricative pronunciation in early Hellenistic times when Bactrian first came into contact with Greek, which would also explain the use of Greek *gamma* for both /g/ and /γ/ in Graeco-Bactrian (cf. Dieterich 1898: 86–88; Mayser 1923: 162–3; Mayser & Schmoll 1970: 141–3; Threatte 1980: 440–1). Accordingly, Bactrian /k/ may have been the most appropriate substitute available for Greek word-initial [g].

3.3. DN III, line 3



S^{a}-$X^{a/u}$-$T^{a/u}$ | $Š^{a}$-$H^{u/i}$-N^{a}-N^{u} | $Š^{a}$-H^{u} | Y^{u}-V^{a}-$Ɣ^{u}$ | P^{u}-H^{u}-R^{u}
saxta/u. Šahi/unanu šahu, yu vaɣu-puhru
'passed. The king of kings, the god-son'

After *saxta/u* 'passed', line 3 of DN III contains the title 'king of kings', which poses no greater difficulty.[29] A more problematic passage is that which corresponds to ι βωγο ι στοργο in DN I. The earlier suggestion that this could be read as *buɣāka stura* 'the great savior' (Bonmann et al. 2023: 314–5) cannot be upheld, as has been shown by Sims-Williams (2025b: 199). However, Sims-Williams (2025b: 201) refrains from offering an interpretation of his own for this phrase and Falk's (2025: 46) half-Greek reading as '*ye starko sotero*', including the assumption of a random insertion of a Kharoṣṭhi *r*, is rather far-fetched. Since the sequence B-Ɣ, which Bonmann et al. (2023) believed to have identified once here and once in line 5 in the equivalent of DN I ι βαγο ι ηζγογο (Sims-Williams in Sims-Williams & Cribb 1996: 95) / ι βαγοιηζνογο (Halfmann et al. 2023: 19), is now to be read as the sequence Y-B (= Y-V) with the inclusion of the article (Sims-Williams 2025b: 199), the following letter must still be the same in both phrases. To all appearances, there is no G (i.e. no. 17) in these places, but in line 5, the shape of the next letter is rather clear. Based on this, a similar shape can also be recognised in line 3. It appears to be a trident, but with noticeably different angles and proportions than the S-trident (no. 11), bearing a single-stroke diacritic in line 3. This is most likely the real shape of sign no. 19, drawn by Bonmann et al. (2023: appendix 3) as a bident. Most of the specimens listed there must, however, be excluded.[30] This corrected sign no. 19 can then only be interpreted as rendering Ɣ (mostly < Old Iranian **g*), since G (mostly < Old Iranian **-k-*) is already taken. This produces a clear difference between the Graeco-Bactrian and Issyk-Kushan-Bactrian orthographies, with the latter representing a phonemic distinction that is not shown in the Greek-derived script. That this distinction was present in the spoken language is already known, since it is also observed in the Bactrian fragment in Manichaean script (Sims-Williams 2011: 246; Schoubben 2024: 47–9).

We can therefore probably read Y-V-Ɣ in line 3, ostensibly corresponding to DN I ι βωγο. The article may have one or two diacritical strokes. On the V, one would expect a previously unknown diacritic standing for *ō*, since *i*, *u* and *ē* are distinguished via different diacritics. However, the available photographs show no identifiable diacritic on this character. The identification of a potential *ō* diacritic is made more difficult by the fact that no other words with *ō* have been identified in the Issyk-Kushan script so far, but as it stands we are forced to read V^a in this position. The phrase Y^u V^a-$Ɣ^u$ is delimited by a word divider.

The next word should correspond to DN I ι στοργο, but there is no visible trace of an article (unless it cuts across the top left branch of the Ɣ, before the word divider). The first character does in fact look like the sign no. 8 read here by Bonmann et al. (2023), which now should be read as P instead of S. A white stroke seems to extend out of the top of this character, but a trident sign (no. 11 = S) is not discernible. It is therefore much better to read P^u here than to try and force any other reading. This favours Sims-Williams's (2025b: 201, fn.

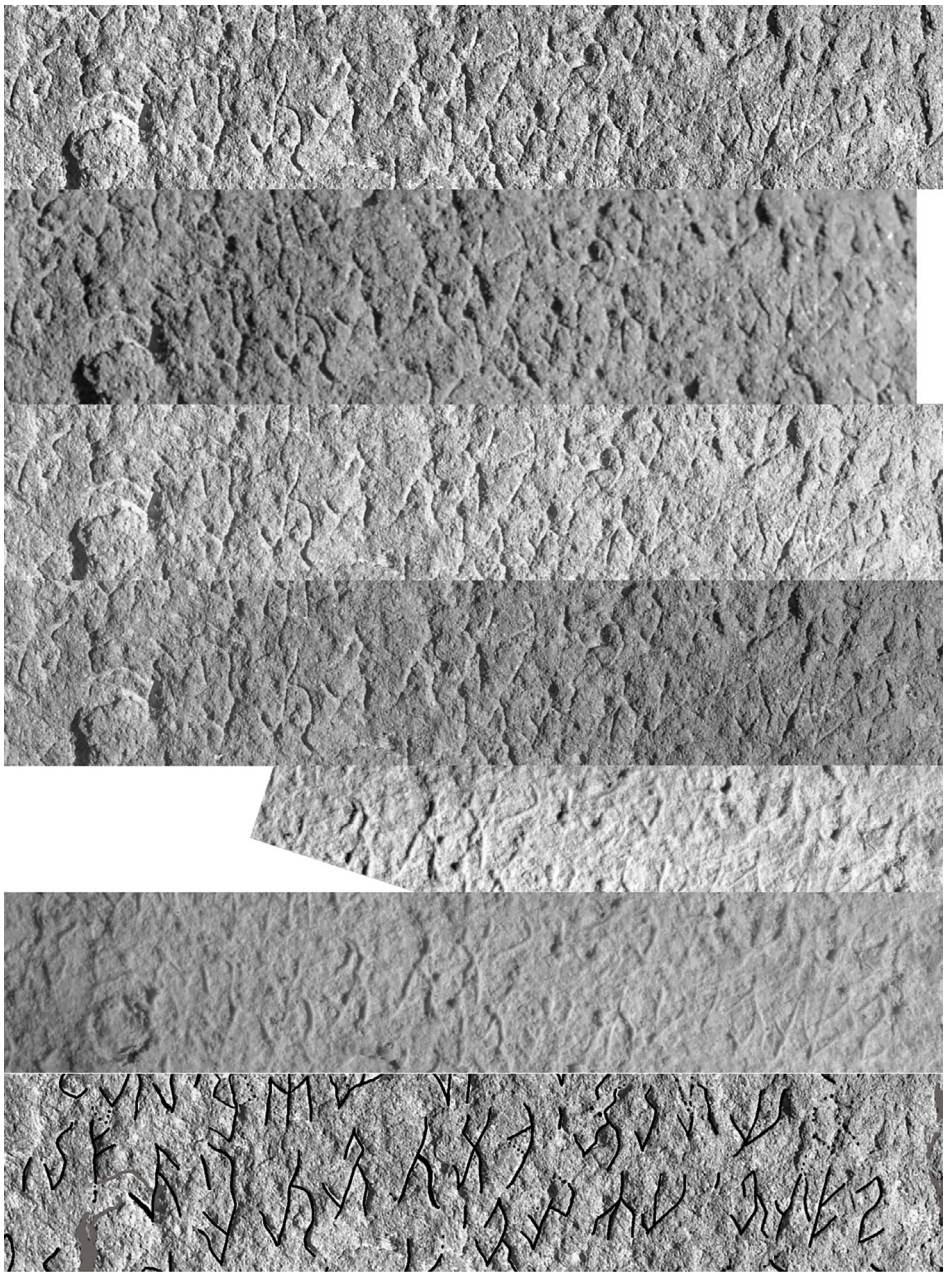
[29] Regarding the *h* in the Bactrian word for 'king', see Halfmann et al. (2023: 21, fn. 18), Lur'e (2024: 338–40), Sims-Williams (2025a: 6, fn. 13; 2025b: 197), Michetti (2026: 212). An additional piece of evidence for the presence of a *h* and against the derivation from Old Iranian **xšāwan-* is the Kushan title *ṣāhi* attested in Brahmi and Kharoṣṭhi sources including an inscription on a statue of Wema Taktu (Lüders 1961: 135; Cribb 2023: 13), which is likely a rendering of an early Bactrian nominative */šāhi/ (on the nominative ending, see Michetti 2026: 194–197). Of the possible explanations for this form mentioned by Sims-Williams (2025b: 197, fn. 25), we consider borrowing from Parthian to be the most plausible.

[30] The one from the Hoq inscription is an instance of no. 4 = Y^a, the second DN III specimen is an instance of no. 20 = D^i. On the AG 2 specimen, see Section 4 below.

29) tentative suggestion that the equivalent of Graeco-Bactrian βαγοποορο, another common Kushan royal title (= Skt. *devaputra*), may be found in this position.[31] The following characters could be read as T^{u}-R^{u}, but are also compatible with H^{u}-R^{u}—T and H can be rather difficult to distinguish in this inscription. There is then no issue with the fact that the line ends after R^{u}, though if the expected reading στοργο had otherwise been possible, one might have looked for the missing G^{u} in the next line.

[31] In Fries et al. (2025: 148–9), we were perhaps too quick to reject Palunčić et al.'s (2023: 353–4) suggestion that *devaputrasa* can be read in the same position in DN IV, though the traces in this section are certainly not unambiguous. The portions of the relevant *akṣara*s indicated as certain on the drawings of Palunčić et al. (2023: 352) and Fries et al. (2025: 147) largely coincide. The disagreement therefore appears to be over how the non-visible parts of the word are to be reconstructed, which remains an open question until better (photographic) documentation of the rock surface can be attained.

3.4. DN III, line 4



[?] Y^{u}-Ḥ^{u}-N^{u}-Ṃ^{u} | W^{ē}-M^{u}-T$^{a/u}$-G^{u}-T^{u}-W^{i}| K^{u}-Š^{a}-N^{u}|
yu [hu]n[am]u Wēmu Ta/ugtuwi Kṷšanu
'the renowned (?) Wema Taktu, the Kushan'

It is somewhat concerning that line 4 does not begin at the same point as the lines above and below. It is not impossible that one or two decayed and unrecognisable characters are

hidden at the beginning of the line. However, the first clearly visible character is a Y^u, which does seem to be the beginning of a new phrase, since it matches the form of the article used at the beginning of the preceding noun phrase.

On the basis of DN I, no further epithets would be expected before the royal name, but already the epithet *yu vaγu-puhru* 'the god-son' did not match the content of DN I, so that another divergence is no longer inconceivable. The second character of the phrase is difficult to make out, but the third is a clear N, which appears to bear a single-stroke diacritic. The last character before the word divider was interpreted in Bonmann et al. (2023: 312) as a W^a (now to be read H^u) that forms part of the royal name. This resulted from an attempt to find a parallel spelling of the name in both DN III and Almosi. However, the word divider is difficult to ignore and the supposed W^a = H^u can also be interpreted as part of a M^u, of which the top-left stroke is not really visible. This would then allow us to draw a connection to the epithet shown after the royal name in Almosi: *yi hunami* 'the renowned'. Perhaps in DN III *yu hunamu* can be read, though this would go against the apparent diacritic on N.

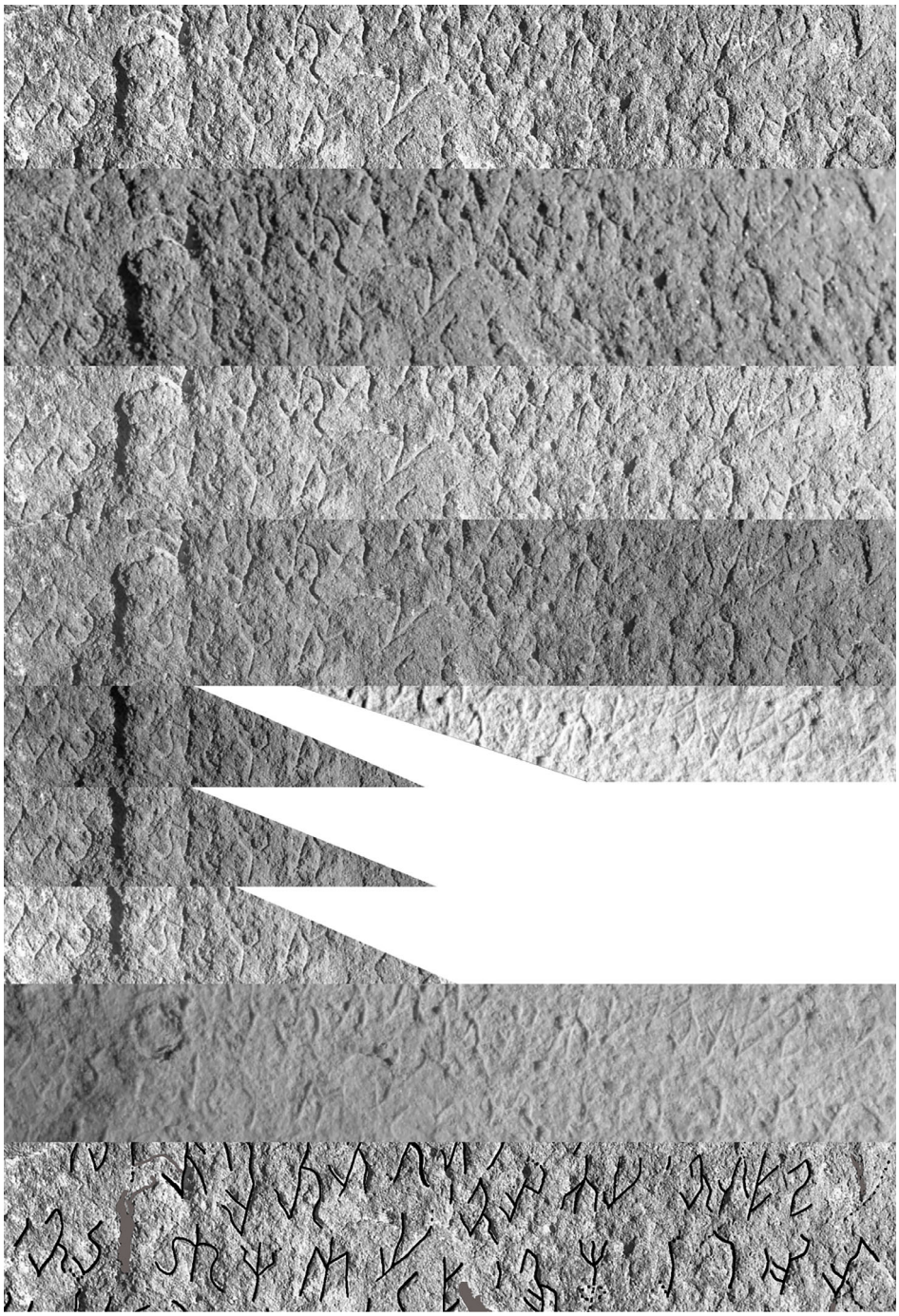
To explain the difference in the spelling of the name between DN III and Almosi, Sims-Williams (2025b: 198) proposes that the first syllable of the name *(Hu)Wemu* was optional, 'just as it is in Indian scripts'. Such an optional dropping of the first syllable does, however, require an explanation. It seems possible under the assumption that the name is etymologically composed of two elements **hu-* 'good' + **waima-* 'rock' (~ Middle Persian/Parthian *wēm* 'rock'), which would presumably still have been segmentable at the time. Monomorphemic short forms of dimorphemic full names are widely attested in Old and Middle Iranian onomastics (cf. Schmitt 2005 type B.i.1 'single-stem short names'; Sims-Williams 2010: 10). The derivation < **hu-waima-* is considered a 'less likely' option than simple **waima-* by Sims-Williams (2010: 110), but with this explanation, both etymologies would be correct, respectively, for the short and long variants of the name. In addition to the spelling in Almosi, the long form also seems to be supported by the Kharoṣṭhi spelling of (Hu-)Wema Kadphises's grandson's name *Huveṣka*, likely a diminutive of the same name (**Huwēšk(ə)* < **Hu-wēm-škə*) (cf. Sims-Williams 2010: 111; Bonmann et al. 2023: 310). Regarding the Kharosthi spelling *Ǧema* discussed by Halfmann et al. (2023: 7, fn. 3), see Schoubben (2023: 290–1).

As pointed out by Sims-Williams (2025b: 204, fn. 36), it is indeed unclear whether the second part of the name should be read *Tagtuwi* or, as in Almosi, *Tugtuwi*. The second reading is more difficult to reconcile with Graeco-Bactrian Ταχτοο but is certainly attested in this way in Almosi.

The Kushan dynastic name poses another difficulty. The photographs seem to show a double-stroke diacritic on K, implying unlikely *Kišanu*. Sims-Williams (2025b: 196) attempts to solve this problem by postulating that K and G may have been respectively associated with back and front vowels and even that G may have (originally) stood for a uvular plosive with varying voicing [ɢ ~ q]. He compares this to similar phenomena in Old Turkic, perhaps inspired by the paleographic connections drawn by Lur'e (2024: 349). In our view, this account unnecessarily complicates the functional analysis of the script. Of course, we cannot know which language the Issyk-Kushan script was originally invented for (on this, see further Section 5 below), but the only identifiable language that was written with it appears to be Bactrian, which has no uvulars in its phonological system. It also seems unlikely to us that the encoding of vowel quality in consonantal graphemes co-existed within the same writing system with independent expression of vowels via diacritics. Since K does indeed occur with the single-stroke diacritic in DN III l. 2, the vowel-harmonic theory has little to recommend itself. We would instead be more inclined to attribute the problem to the poor quality of the photographs of DN III and the proneness to error of our interpretations of these photographs.

On the latex squeeze, the lower diacritic stroke on the K of the dynastic name appears more deeply incised, but, at the same time, it also coincides with a break in the rock, visible as a circular protrusion on the squeeze. In the position of the presumable upper stroke, the traces on the squeeze are less distinct. The upper stroke is strangely connected to what was interpreted as the lower rightward branch of the following Š on N. Korobzow's drawing in Bonmann et al. (2023: 305). It also seems possible to see the second rightward branch of the Š in a higher location, so that the connecting arch between K and Š need not be part of the inscription at all and could instead be a feature of the rock. Either of the two diacritic strokes on the K can therefore be doubted, the lower one because it might be part of the break in the rock and the upper one because it might be part of a groove running up to the next letter. If only one of them is real, we may read expected *Kušanu* instead of *Kišanu*. Of course, the primary reason to doubt one of these strokes is the confidence in the new interpretation of the diacritic system that other readings have given us. Only better photographs of the inscription can demonstrate whether a single-stroke reading is really preferable in this position.

3.5. DN III, line 5



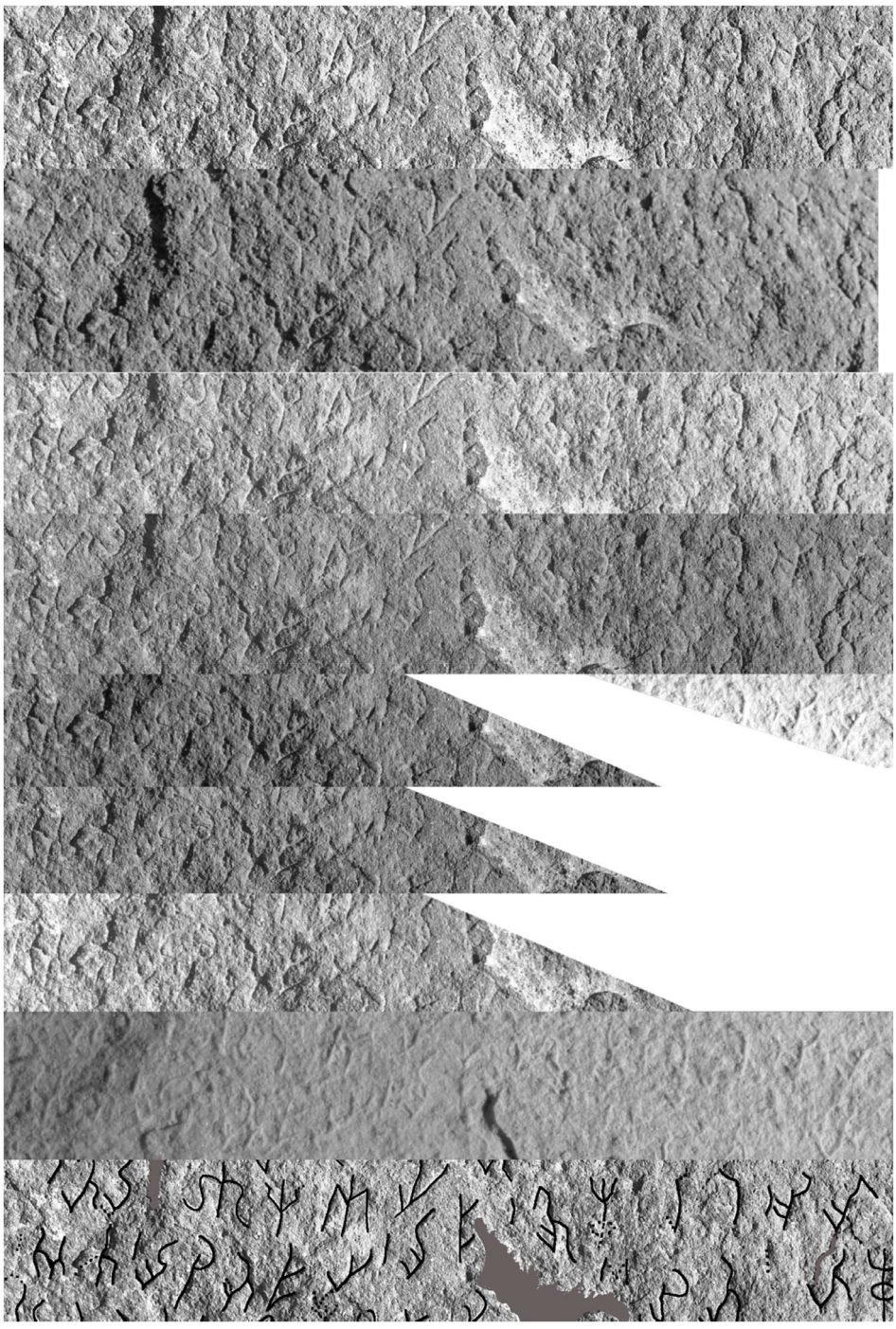
[Y] R^{a}-$ŠT^{u}$-G^{u} | Y^{u}-L^{a}-D^{i}-G^{u} | Y^{u}-V^{a}-$Ɣ^{a[ē?]}$-[Z?]-N^{u}-G^{u} |
yV raštugu, yu ladigu, yu vaɣ[ēz]nugu
'the righteous, the lawful, the pious'

This line may begin with the faintly visible lower stroke of a Y, marking another phrase that starts with the article. The reading of the following word should be adapted from *rāštaka* to *raštugu*, but the letters were essentially correctly recognised by Bonmann et al. (2023: 315). The latex squeeze indicates that the juncture of the lines of the T within the potential ŠT conjunct is probably in a higher location than that indicated by Bonmann et al. (2023). In the next phrase, Sims-Williams (2025b: 199) convincingly reads *yu ladigu*, based on Falk's (2025: 50, n. 44) almost correct reading *yo ladiko*.

More difficulties appear in the last phrase of the line, the reading and interpretation of which also remains to be settled for DN I. With the correction of B-Ɣ to Y-V and the identification of the third character as Ɣ, the number of syllables in this phrase becomes problematic. Sims-Williams's ι βαγο ι ηζνογο (Sims-Williams & Cribb 1996: 95) requires eight syllables (Y-V-Ɣ-Y-ʾ-Z-N-G) and Halfmann et al.'s (2023: 19) ι βαγοιηζνογο requires seven (Y-V-Ɣ-Y-Z-N-G). However, there is only one more character between Y-V-Ɣ and the very clear final sequence N-G. What makes matters worse is that this character is still unidentified. It bears some resemblance to V (no. 13) but is clearly distinct from it. It cannot stand for Y or ʾ, as these are already taken, but it may represent Z.[32] A potential solution could then be that the phrase written here is neither ι βαγο ι ηζνογο (**yu vaγu yu ēznugu*), nor ι βαγοιηζνογο (**yu vaγuyēznugu*), but *ι βαγηζνογο (**yu vaγēznugu*). This would require the assumption that the third character bears a triangular *ē* diacritic. A faint outline of this may be present on the photographs, but there is no certainty. If **yu vaγēznugu* is the correct interpretation of the phrase, the phonological problems with a derivation from **baga-yaʒna-ka-* would disappear: In an old compound, the sequence **-aya-* across the morpheme boundary could have contracted to *ē*, as in the month name αυρηζνο < **ahura-yaʒna-*. The spelling as βαγοιηζνογο in DN I would remain somewhat unusual, but similar cases are attested: The insertion of an unpronounced ο could be accounted for as a morphemic spelling that orthographically preserves the integrity of the element βαγο 'god', as in the Indo-Aryan loanword δηβοαγγακαρο /dēvaŋ(gə)kar/ 'name of a Buddha' < Gandhari **dīvaṁkara* < Skt. *dīpaṁkara-* (Sims-Williams 2007: 208) with folk-etymological segmentation of δηβο 'deva'. Spelling variation between η and ιη is also attested in Graeco-Bactrian (e.g. οην- ~ οιην- 'to see' < **waina-*) and may represent an occasional non-phonemic onglide to /ē/. The spelling βαγοιηζνογο might therefore stand for /vaγ$^{(y)}$ēznəgə/ (or /vaγ$^{(y)}$ēznugu/).

[32] Lur'e (2024: 343) has suggested that a stroke he found in the Issyk and Ai Khanum inscriptions should be read as Z, but the stroke in question only appears to be present in the particular set of black-and-white photographs of the Issyk inscription used by Lur'e, whereas other photographs show no incision in the relevant location. All further conclusions based on this reading are therefore highly doubtful.

3.6. DN III, line 6



K^{i}-D^{i} | P$^{?}$-[?]-[?]-[X?]-[G^{i}?] | Š^{a}-N^{i} | Y$^{u/i}$-Š^{a}-H$^{u/i}$-D^{a}-N^{i} | L$^{?}$-F^{a}
kidi p[. . .] šani yi šahudani lfa-
'who [. . .] authority, the kingship ob-'

The beginning of this line was interpreted as K_1^{u}-D^{u} by Bonmann et al. (2023: 316). If transposed to the new system, this would result in *gidi*. Sims-Williams (2025b: 208 + fn. 57) reads *kidi* without further explanation, but marks this as 'uncertain'. It does seem possible to read K_2, that is K, at the beginning of the line instead, though the letter then becomes somewhat oddly elongated to the right.

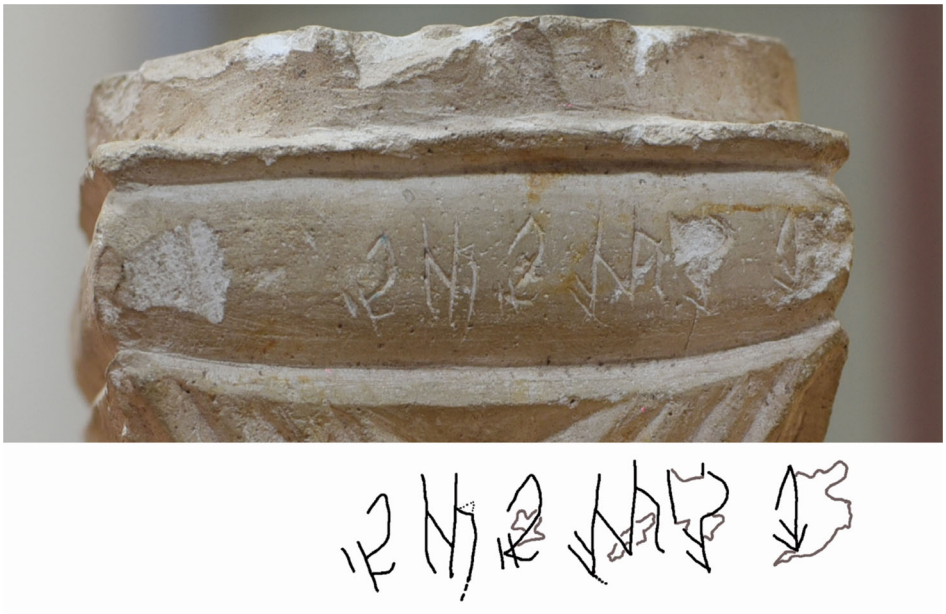
In the next phrase enclosed by word dividers, one would expect the equivalent of DN I πιδο ι χοβε, but the traces on the photographs are very indistinct. The main vertical strokes of a possible P and D are recognisable, and after this, there is enough space for another character not visible on the photographs before the top of a potential X appears. The last character of the phrase is not clear. At first glance, it does not look like the letter identified as V elsewhere (no. 13). Instead, there is more resemblance to a P or G with a double-stroke diacritic. If the cap-like section on the top left is separate from the incised letter, the left half of the expected V could perhaps be recognised in the remaining traces.[33]

The next two words were largely clear already in the reading of Bonmann et al. (2023), requiring only the correction of the alleged preposition *bu* to the article *yi* and the adjustment of the case endings from *-u* to more plausible *-i*. The last section of the line is convincingly read by Sims-Williams as *lfa-* (the first syllable of *lfaxtu*). This reveals the letter F as being a shape composed of two peaks. Sims-Williams (2025b: 202–3) describes this character as 'unfortunately quite unclear' and even 'illegible', but the main problem seems to be that no parallel occurrences have so far been identified that would allow us to delineate its standard shape more clearly.

A potential parallel may be found in a shape occurring twice on the miniature limestone altar from Kolkhozabad (present-day Balx district) (KA in Bonmann et al. 2023). The altar inscription begins with a damaged section, which is nevertheless recognisable as the demonstrative *idi* 'this' followed by a word divider (cf. already Bonmann et al. 2023: 317, fn. 5). The third and fifth characters are identical, though with different diacritics, being composed of a shape resembling sign no. 16 (T) plus an attached second peak. Purely based on a decomposition of this character into potential known elements, one could suspect it to be a conjunct TH or TW (or even HH/HW), but these combinations would be phonotactically unexpected in Bactrian. If it is instead the same two-peaked sign as in DN III l. 6, the inscription can be read as:[34]

[33] As discussed in fn. 22 above, the existence of a separate $b \neq v <$ intervocalic *-*p*- is not likely, though a plosive phoneme /b/ may exist in other positions and have a separate representation in the writing system.

[34] Photograph and drawing: Jakob Halfmann.



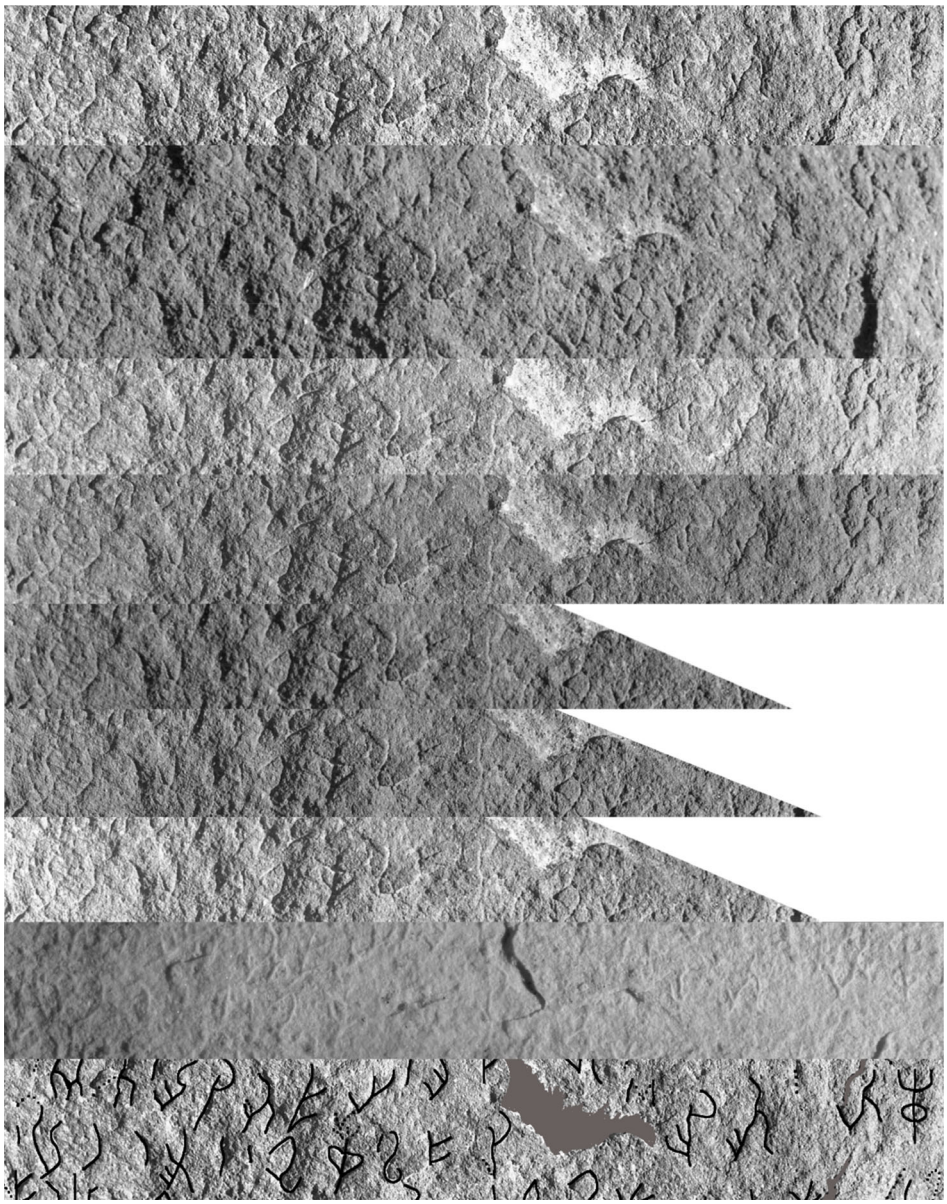
ʾ^{i}-D^{i} | F^{i}-R^{i}-F^{a}-R^{i}
idi Frifari
'This [is] of/from Friy-far(ə)'.

The personal name Friy-far(ə) (hypothetical Graeco-Bactrian *φριωφαρο or *φρειφαρο) is not otherwise attested, but both of its elements **friya*- 'dear' and **farnah*- 'glory' form part of the Bactrian (and common Iranian) onomastic inventory.[35] The spelling would indicate that this is a later inscription from a time when **rn* > *rr* had already merged with single *r* (cf. DN III l. 8 below for the geminate spelling), and the final vowel of the first element of compounds had disappeared. This is compatible with the rather vague archaeological dating of the altar to the 'first centuries CE' ('pervye veka n. ė.') (Solov'jov 1985: 133).[36] With the underlying phonology /Friyfari/, it may have been the most convenient solution to spell *iy* as *i* (cf. the variation between -ιωο- and -ει- in Graeco-Bactrian). An altar inscription could be expected to mention the deity the altar is consecrated to, or the name of a donor. Since Friy-far looks like a regular personal name, it is probably a donor inscription, or possibly even an ownership inscription.

[35] Cf. φρει-χοαδηο, φριωο-γολο, φριωο-ιαμβοχοηο, φριι-ακο; οανα-φαρο, ρηδο-φαρο, καμιρδο-φαρο, ασπανδο-φαρ ο, οαιο-φαρο, μαυο-φαρο (Sims-Williams 2010).

[36] If the personal name þαφαρο attested in the Rabatak inscription contains the same element **farnah*-, it must be assumed that variation between *rr* and *r* occurred already in the Kushan period. The same inscription also contains the word (ο)φαρρο, probably < **hu-farnah*- 'glorious', with retained geminate ρρ (Sims-Williams 2010: 156–7).

3.7. DN III, line 7



X^{a}-T^{u} | T^{i}-D^{i}-[P?]-$D^{u?}$-$Š^{?}$-R^{a}-X^{a}-R^{u} | [?]-M^{i}-[?]-W^{a}-N[$D^{?}$?] |
-xtu. Tidi pidu(?) šaraxaru(?) […]
'-tained. Then […]'

The beginning of this line contains the second half of the word *lfa-xtu* 'obtained'. After this, the expected *tidi* is clearly recognisable (cf. Sims-Williams 2025b: 203). In the following section, there may be an outline of a P, probably followed by a break in the stone and then a D^{u}. This indicates that Sims-Williams (2025b: 189, fn. 9) is probably right to prefer the

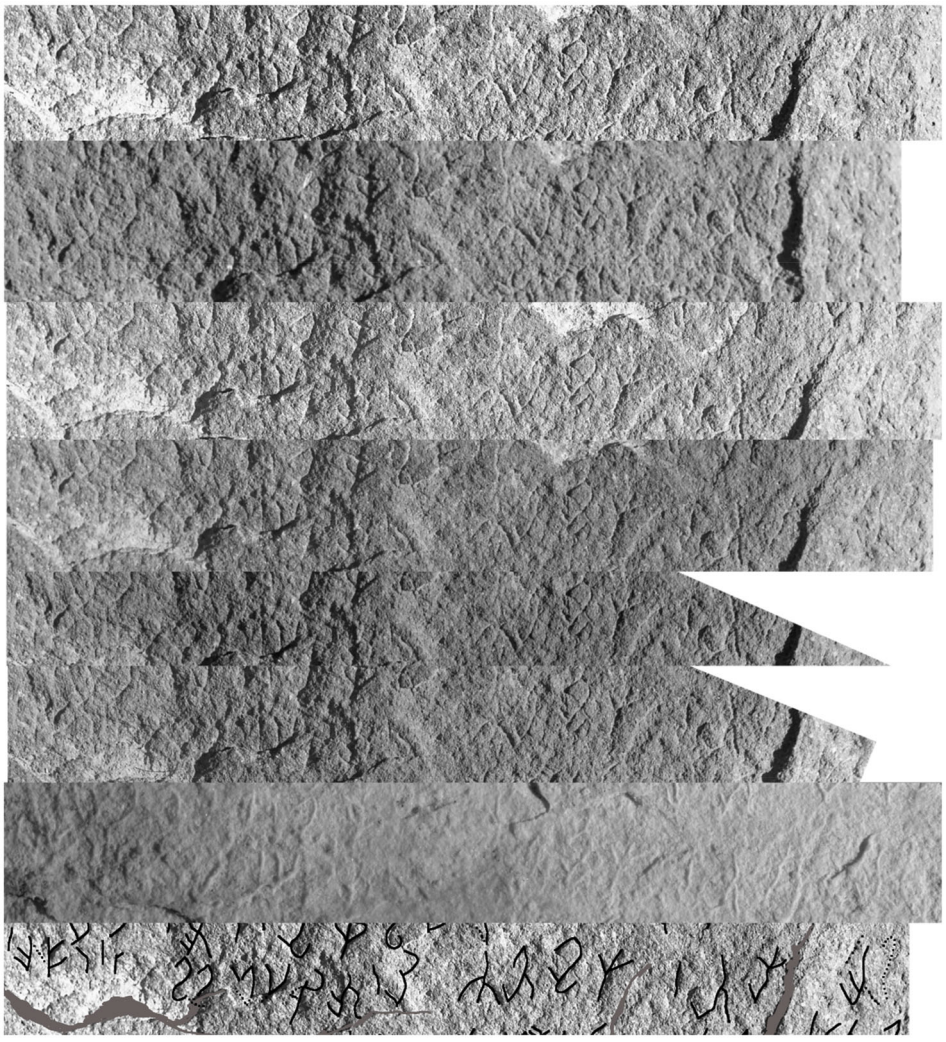
reading πιδο, chosen by Davary & Humbach (1976) and Palunčić et al. (2023) in the corresponding paragraph of DN I, over Halfmann et al.'s (2023) -ηια.

The following passage of DN I (l. 7) has no clear interpretation (see the comparison of the various unconvincing readings in Halfmann et al. (2023): 23–4). The letters of the next word in DN III are, by contrast, rather clearly identifiable as $Š^{?}$-R^{a}-X^{a}-R^{u}, but they do not yield an obvious sense and are difficult to reconcile with the traces in the corresponding section of DN I.

After the word divider, there may be another character, preceding a clear M^{i}, another unclear character of which only a side arch is possibly visible, and a W^{a} which is again clear. The last character of the line looks like an N but with a long stroke growing out of it towards the left. A similar shape can be seen in the inscription Ad-03 from Kampyr Tepe published by Lur'e (2024: 330), where it appears next to a regular N with a single-stroke diacritic, making its separate status very obvious. It may be an atypical form of Y (no. 4), as suspected by Lur'e (2024: 330). Alternatively, one could compare the sequence μο•[•]οανδο in DN I l. 9 (the δ having been read by all editors apart from us in Halfmann et al. (2023)) to the present M^{i}-[?]-W^{a}-[?] and accordingly read it as a cluster ND, producing M^{i}-[?]-W^{a}-$ND^{?}$, but this would require further confirmation from different attestations of the same sign. The Kampyr Tepe fragment does not help, as both hypothetical readings *manuya* and *manunda* do not lead to an obvious interpretation.

If content from lines 7 to 9 of DN I is covered within a single line of DN III, this would imply that DN III contains less content overall than DN I. Regardless of the interpretation of the present line, it is likely that this is the case, given that the text after the title sequence takes up only three lines in DN III, as against seven in DN I. Even with the higher information density of syllabic characters vs. the alphabetic Graeco-Bactrian spelling, some amount of text present in DN I must be missing from DN III.

3.8. DN III, line 8



[?]-[N?]^{i}-S^{u}-T^{u} | S^{a}-R^{u}-G^{u} L^{a}-D^{u} | T^{i}-D$^{\bar{e}}$-Y^{a} [P?]-R$^{?}$-R$^{?}$-([?])-[ɣ?]-[ŠT^{i}?] |
[. . .ni?]sutu sargu ladu. Tidēya pVrr[. . .]šti
'[. . .] gave pasture. Then he [. . ..]'.

The beginning of this line is unclear, containing perhaps two letters, the second of which may be N^{i}, before a break in the rock. After the break, S^{u}-T^{u} and then a word divider are clearly recognisable. N^{i}-S^{u}-T^{u} could form the negated copula (Graeco-Bactrian νιστο), which is also used as part of the negated preterite construction (Sims-Williams 2007: 47), but since the preceding character is not readable and a corresponding form is not identifiable in DN I, such a reading is rather doubtful.[37]

[37] Additionally, if the interpretation of sign no. 18 as ST, as proposed in Section 4 below, is correct, the sequence S^{u}-T^{u} is unlikely to have served to write a cluster ST.

After the word divider the inscription becomes clearer. Here we can read a certain S^{a}-R^{u}-G^{u}, which corresponds to a readable portion of DN I, where Halfmann et al. (2023: 35) alternated between the possible readings παργο λαδο and σαργο λαδο, both of which would mean 'gave' with an unclear object.

The newly discovered and edited Graeco-Bactrian birchbark text **km** from southern Afghanistan now attests a collocation which can illuminate this passage, appearing in the following sentences:

ταδμο φαρο ι υιρσογο ασπανο αβο ι χοαδηοναγγο βαορο σαργο λαηιο
'then you should give pasture to my thirty horses in the lord's province'
ταλδανο το χοαδηο πιδο ιχοβο βιζγο σαργο λαηιο
'so if your lordship in your goodness [would] give (them) pasture'
(Sims-Williams 2025a: 32; km 12–13, 14)

It appears to have been usual to speak of 'giving pasture' to animals in Bactrian, combining forms of the verb λαυ−/λαδο 'to give' with the previously unattested word σαργο 'pasture, grazing'. As Grenet (in Sims-Williams 2025a: 9, fn. 26) points out, '[t]he pastures of the Dasht-i Nawur to the west of Ghazna were famous throughout history'. It is therefore quite possible that a Kushan emperor (or whoever else it may have been that left the inscription) pastured his animals there and used the occasion to sacrifice to the full moon and the gods on a neighbouring mountain.[38]

The continuation of the phrase expected from DN I can also be found in DN III, though it is less clearly visible. A three-legged L can be seen right next to the G^{u}, while a D^{u} is located at some distance before a word divider. Beyond the diacritic stroke, its outline is only faintly visible.

Notably, the spelling S^{a}-R^{u}-G^{u} interpreted as 'pasture' implies that sign no. 8 (S) was used both for /s/ < Proto-Indo-Iranian *$\acute{c}$ (as in DN III *saxtu* 'passed', AG 2 *asangi* 'stone') + Proto-Indo-Iranian *s/_T (as in DN III *spaxtu*) and for /ts/ < Proto-Indo-Iranian *$\check{c}$ (σαργο < *$\check{c}\bar{a}ra$-*ka*-). Though these two sounds are also merged in the Graeco-Bactrian orthography, their non-distinction here is surprising, since the fragment in Manichaean script mostly keeps them apart, respectively, as ⟨s⟩ and ⟨c⟩, with only the exception of the preposition ⟨'s⟩ = Graeco-Bactrian ασο < *$hač\bar{a}$, which is usually explained as a generalised sandhi development (Sims-Williams 2011: 171; 2025a: 5). The predominant preservation of the /s/−/ts/ contrast at the comparatively late date of the Manichaean fragment requires the assumption that it was still generally maintained in Kushan times. If the indistinction in the Issyk-Kushan script can be substantiated, it would therefore most likely be a feature only of the orthography and not of the language as such.

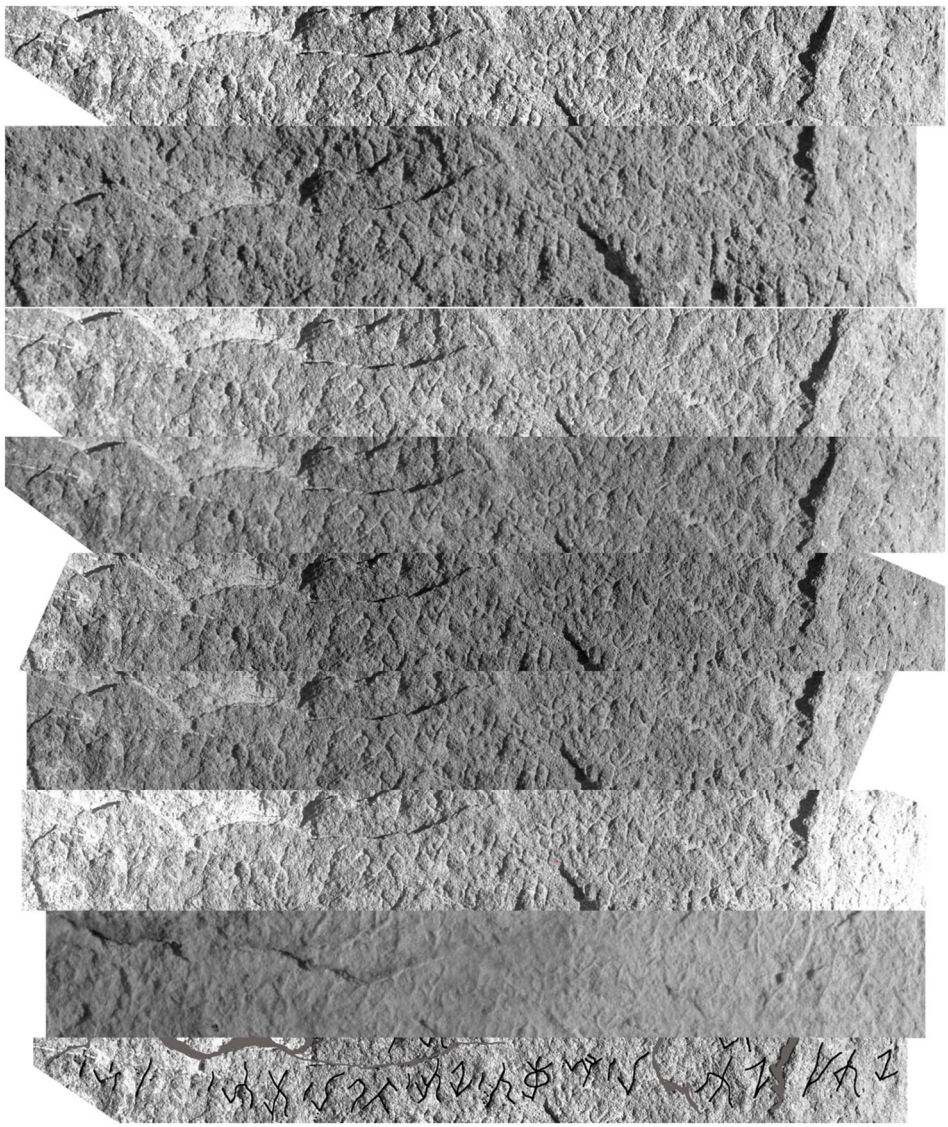
In any case, the treatment of sibilants and affricates in the Issyk-Kushan orthography requires further clarification. In particular, further evidence for the spelling of the voiced counterparts resulting from Proto-Indo-Iranian *z, *$ž$, *$\acute{j}^{(h)}$ and *$j^{(h)}$ is required to settle the issue.

Returning to DN III, the next sentence begins, as expected from DN I, with *tidēya* 'then he', possibly attesting an additional occurrence of the $\bar{e}$ diacritic beyond the royal name. The rest of the line is more difficult to read, but the top part of a possible P can be seen, followed by a double R, apparently spelling out the geminate of DN I πορριγι 'full moon'. It is not clearly visible whether or not the two Rs are joined into a conjunct.

[38] Halfmann's et al. (2023: 34) tentative reading ασο μολε 'of wine' in the position before the word σαργο no longer fits the context under this interpretation and may be discarded, though we are unable to offer a better interpretation for this part of DN I. Within the new context, one could consider whether [ζ]οαν[δ]ο in DN I l. 9 (possibly also ζο[αν-] at the end of l. 7) might be an unsuffixed form of attested Graeco-Bactrian ζοοανδο-γο 'living, alive', meaning *'animal'.

After this, the reading becomes more problematic. There is enough space for another character before the next visible lines, which are reminiscent of the top of a Ɣ, though this would be unexpected in this section. The last character in the line has the two rightward branches of Š and may in general be the same shape as the ŠT in line 5. It could plausibly be the end of the word corresponding to DN I ιβτο 'sacrificed'.

3.9. DN III, line 9



$^{\text{ϸ}}$-T$^{\bar{\text{e}}}$-Y$^{\text{a}}$| [$^{\text{ϸa}}$/Y$^{\text{u}}$]-V$^{\text{a}}$-[?]-N$^{\text{u}}$ | SP$^{\text{a}}$-X$^{\text{u}}$-T$^{\text{u/i}}$ | $^{\text{ϸu}}$-T$^{\text{i}}$ | K$^{\text{a}}$-R$^{\text{a}}$-N$^{\text{u}}$ | M$^{\text{u}}$-[L$^{\text{u}}$?] | [?]-[?]-[?]-[?]
Utēya [a/yu] va[γa]nu spaxtu uti karanu mu[lu] [. . .]
'And he served the gods and the people/soldiers wine [. . .]'.

Part of this line has already been discussed above. Its first three characters are compatible with the assumption that line 8 ends with the equivalent of DN I ιβτο. They can quite confidently be read as the sentence initial *utēya*, with yet another instance of the ē diacritic, this time clearer than in the line above.

After this, there is a break in the rock, and an unclear section that possibly starts with ʾ or Y and a somewhat misshapen V. There does not seem to be enough space before the clear N^u for an exact equivalent of DN I αβο ι βαγανο. Likely either the preposition or the article is missing.

The previously discussed section of the line, which now follows, ends with M^u. This is another difference to DN I, where the text after καρανο continues with αβο μιρο(ασανε). Since the character after M^u may well be a L^u and the unclear rest of the line cannot hold much more than four further characters, it appears that the text of DN I has here been reduced to its essentials and contains only the very end of the sentence μολο χοαρδο 'drank wine'.

4. Surkh Kotal 7

The third longest text after Dašt-i Nāwur and Almosi is the painted inscription found near the stairwell of the Surkh Kotal temple (Afghanistan). The only published photograph of this inscription (Maricq 1958: pl. IV; reproduced in Fussman 1974: pl. XXVIII) is rather difficult to use because the darker parts of the grainy surface are not distinguishable from the lines of the inscription. Two additional photographs (Figure 2) could be obtained from the archives of the French Archaeological Delegation in Afghanistan (DAFA) held at the Musée Guimet, but they do not provide much more detail, especially since they were only accessible as printouts. The original negatives appear to have been lost and colour photographs were apparently never made. The whereabouts of the inscription itself are unknown, but it is likely that it remains in some collection in Afghanistan, if it has not been destroyed. As a result of all this, the inscription remains largely enigmatic, but a few tentative readings can nevertheless be suggested.

On all photographs, the first two characters of the inscription can be clearly recognised. Fortunately, these can already be read as a well-known Bactrian word: M^a-L^u = Graeco-Bactrian μαλο 'here'. The following character is $ʾ^a$. The appearance of the vowel bearer indicates the beginning of a new word. After this, one may recognise a trident shape, which resembles Y^a more so than S^a. The resulting sequence *malu aγa*... looks like the beginning of what would be μαλο αγαδο 'came here' in Graeco-Bactrian—a very appropriate beginning for a visitor's inscription. Such an interpretation fits the location of the inscription near the stairwell of a temple. The initial phrase apparently continues up to the first Greek alpha, but the rest of the sequence is not very clear. There would be enough space for a phrase corresponding to the Graeco-Bactrian 3rd plural *μαλο αγαδινδο 'here have come:'.

The rest of the inscription, structured by interspersed Greek letters (likely used as numerals), could then be a list of the visitors' names.[39] The last line, which likely forms a full phrase, since the line before ends with an alpha, has a N^u in final position and before that a character which Bonmann et al. (2023) had interpreted as a variant of sign no. 8 (formerly S, now P). This character may, however, equally likely be a variant of G (sign no. 17), the left half of which is slightly tilted upwards. If this is so, we may be dealing with a family name

[39] Pavel Lurje (p.c.) suggests the equally possible interpretation that *aγa*[*d*...] may rather be used in its function as the past stem of αβαρ- 'to bring' here. The inscription might then instead be a list of delivered goods enumerated in their quantities or perhaps listed as numbered articles.

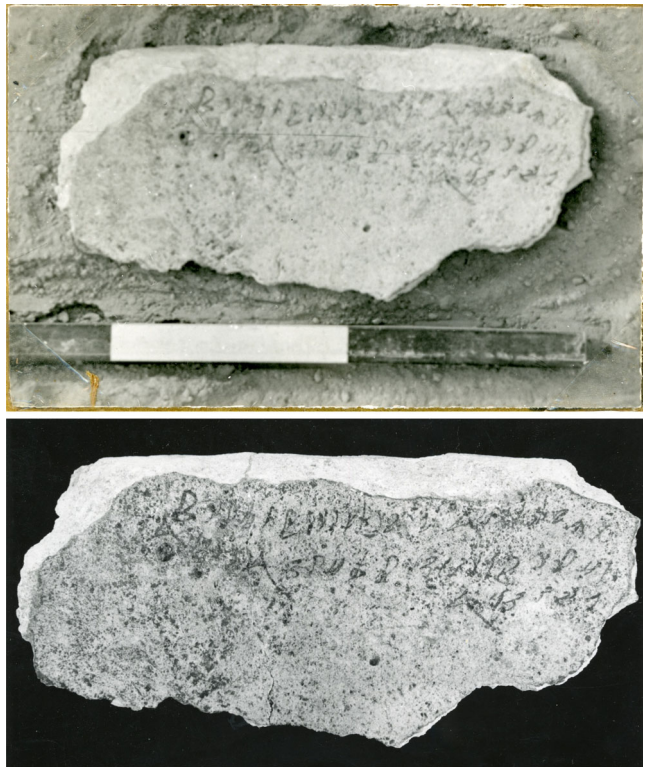


Figure 2. Previously unpublished photographs of Surkh Kotal inscription SK7 from the DAFA archives at the Musée Guimet.

ending in the suffix *-ganu* = Graeco-Bactrian -γανο. However, the name itself would be previously unattested and etymologically unclear: H^{a}-R?$^{?}$-D^{u}-G^{a}-N^{u} = *HarVduganu* (?).

5. Returning to Almosi

As Lur'e (2024: 327–8) has already reported, in the winter of 2023/2024, an attempt was made at the behest of certain authorities concerned with antiquities in Tajikistan to remove the Almosi inscriptions from their original archaeological context and to transport them to the National Museum of Tajikistan. In the course of this attempt, which was executed without due consideration of the possible consequences, stone 2 and the inscriptions on it were severely damaged, and the integrity of the site was irreversibly compromised.

As described by Lur'e (2024: 328), the rightmost section of AG 2 broke into three pieces during the process of removal and was indeed transferred to the National Museum, where it has been reassembled and fixed onto a concrete slab. A similar treatment was given to the separate stone 3, which bears the Graeco-Bactrian inscription AG 3. It was not brought to the museum in its original shape, but cut to a more easily transportable size and finally also fixed on a concrete slab. The inscription remains intact. As of August 2025, both described fragments were on display at the museum.

Also in August 2025, a renewed expedition to the Almosi site carried out by a joint Tajik-German archaeo-linguistic team including the authors of this article revealed that the damage to stone 2 is even more severe than was previously known. The surface of the remaining

Figure 3. The damaged state of Almosi Stone 2 as encountered in August 2025 (photograph: Jakob Halfmann).

section of the stone does not remain in its earlier state but had apparently also broken off and fallen to the ground at the time when the rightmost section was cut off with a stone saw. When we arrived at the site, it was still lying face-down on the ground (Figure 3). The break in the surface runs through several of the characters of the lowest line of the inscription.

Inscription AG 1 luckily remained unscathed, perhaps because of its slightly higher and more inaccessible location above a pile of rocks and boulders. AG 1 was mostly understandable even after the first decipherment, but the remaining words have been plausibly read by Sims-Williams (2025b), with the sole exception of the first character of the third line (Figure 4).

Given the fact that the royal name begins in the second line, whereas the first ends with 'king of kings', and that the original black surface extends further to the left below *hunami*, it is not likely that the inscription originally continued any further towards the left. Local residents have testified that they saw more inscribed characters in this area in their youth, but a systematic search for broken fragments of these has not resulted in any finds. For the time being, we can therefore assume that the inscription is complete.

This would mean that the first character of the third line may be the last syllable of the word beginning *hunami-*. Though tentatively classified by Bonmann et al. (2023) as a separate sign (no. 7),[40] it is rather similar to G (no. 17). The fact that it has a more rounded cap than the instance of G in the line above could potentially be related to a break in the rock running along the top of the character, where a shorter stroke might have been less noticeable.

[40] There are no other plausible occurrences of the alleged sign no. 7. The two listed in Bonmann et al.'s (2023) catalogue of characters are both best interpreted as instances of R^{u}. For the one in DN III (l. 2), see Section 2 above and for the one in SK7 (l. 1), cf. Figure 2 above.

Figure 4. Almosi inscription AG1 (photograph: Jakob Halfmann).

Instances of G with similar rounded caps are well attested in DN III. Since suffixed υοναμγο is in fact the only form attested in Graeco-Bactrian, it is possible that M[i] of line 2 and this potential G are supposed to be read as a cluster.[41] However, this leaves open the question of the diacritic: The first character of line 3 has a double stroke at the bottom, but also another downward stroke at mid-height, which appears to be deliberate. Such an additional stroke could conceivably express an additional vocalic feature, which, however, would not be expected in an equivalent of Graeco-Bactrian υοναμγο (oblique case *υοναμγι).

Despite the lamentable damage caused to stone 2, it is possible to tentatively reconstruct the unread portion of its inscription AG 2, based on the photographs from the first expedition and the on-site examination of the remaining fragments. These have been documented with Reflectance Transformation Imaging (RTI) photography, which produces a more detailed image of the surface structure. This remaining portion of the inscription can be used as an additional testing ground for the new system of readings, though the destruction of the inscription obviously introduces a number of additional uncertainties.

Figure 5 shows one of the photographs of AG 2 in its original intact state taken in 2022, along with new photographs and RTI surface images of selected parts of the fragments as we encountered them in 2025.

Though the first section of AG 2 (detail 1 in Figure 5) was read as one block of text from top to bottom by Sims-Williams (2025b), it is likely that the remaining text has to be read in two continuous lines. Despite some breaks in the surface, the individual sections are not as clearly set off from each other as the first section is from the rest. A diplomatic transcription/reconstruction of the two unread lines of text may be given as follows:

[41] Then again, if the reading suggested above for DN III, l. 4 is correct, the same word would appear without a suffix there.

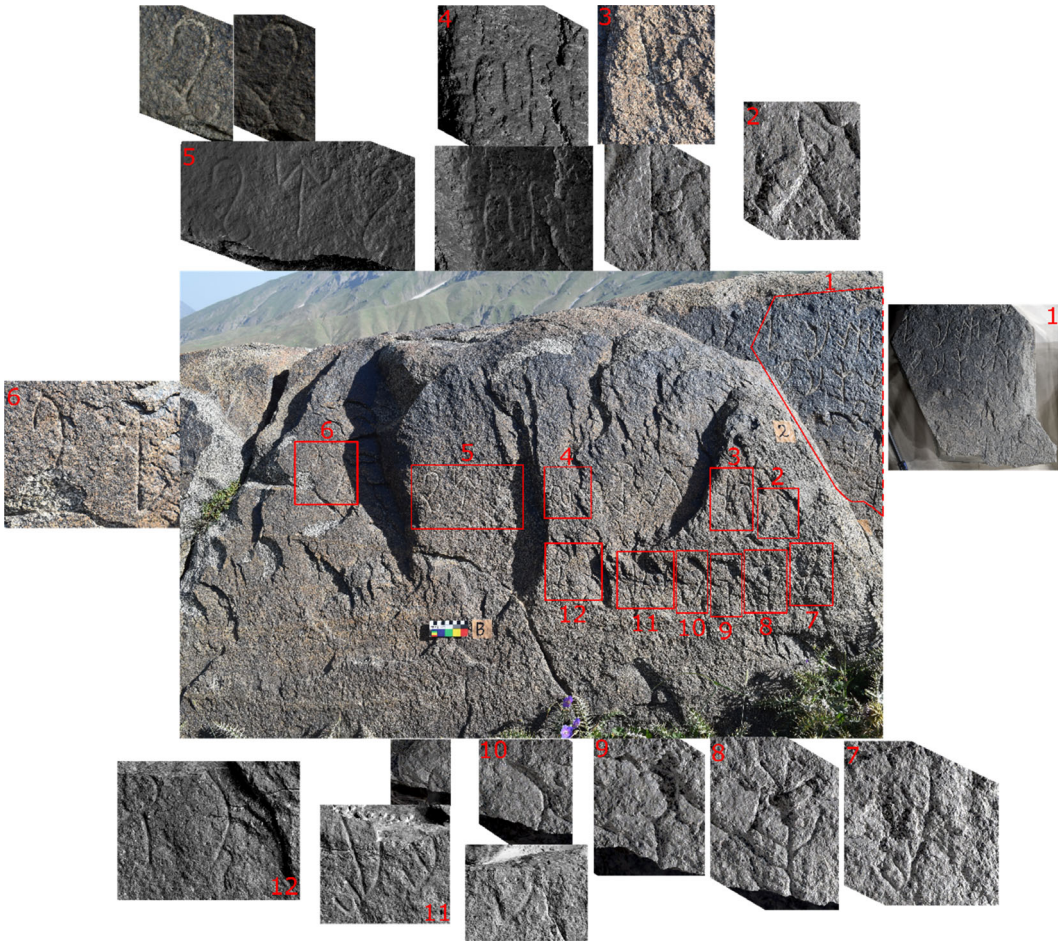


Figure 5. Almosi inscription AG 2 in its original state (2022; photograph: Bobomullo Bobomulloev) with details captured in 2025 (photographs: Jakob Halfmann).

K^{i}-[?]^{a} H^{i}-D^{i}-F^{i} R^{i}-?^{a}-R^{u} ›^{a}-$R^{?}$
[?]^{i}-X^{u}-$D^{a(\bar{e}?)}$-W^{u}-N^{i}-Y^{i}-W^{a}-D^{u}

The end of the first section contains the uninterpreted word H^{u}-?^{a}-M^{i}, with an undeciphered character in the middle that recurs once in the next section of the inscription (sign no. 18 in Bonmann et al. 2023). Among the readable signs, this character looks most similar to V (no. 13) and the one interpreted as Z in line 6 of DN III. However, V appears in the same inscription alongside it and has a very clearly distinct shape. The resemblance to Z is not very close, either. There are not many other consonants in the Bactrian phonological system which are left without a clear representation in the script. Unless some of the proposed decipherments are still incorrect, only the potential /b/ and some values from the sibilant/affricate complex (/ź/, /dz/, /dź/, /ś/, /tś/) remain from among the phonemes listed by Schoubben (2024: 62–4). If it turns out to be correct that /s/ and /ts/ were represented by one grapheme, the same could be true for /z/ and /dz/. It is unclear whether or not the secondarily palatalised sibilants and affricates were already present in the phonological system of Bactrian

at the time of Wema Taktu, and whether they would in that case have received separate consonant signs in the script. The three syllables of the sequence H^{u}-?^{a}-M^{i} do probably belong to the same word, since *hu* has no meaning on its own and the vowel *a* is not expected at the end of a word. Within such a word, the value /b/ is phonotactically implausible. The most likely values for the unclear character are therefore either Z or a consonant cluster.

It is likely that a new word begins at the start of the first of the two unread lines, since the first character (detail 2 in Figure 5) is K^{i} and the phoneme /k/ occurs predominantly in word-initial position in Bactrian. Before the first break, there is an unclear character (detail 3), which at first glance appears to consist of a vertical stroke and a rightward branch with a curl at the end. With only these two strokes, the character's shape would be isolated within the known corpus. A recognisable character would result either with a branch extending towards the left, producing a symmetrical angled trident readable as Ɣ, or with a second branch to the right above the first, producing a Š.[42] However, neither of these potential branches is visible beyond doubt.

After the break in the rock, the text continues with an apparent H^{i}. Though the shape of the character is rather spread out and not as rounded as the H in AG 1 and the first section of AG 2. It resembles the L of the first section of AG 2 but cannot be read as L since it has only two legs. There is thus no other plausible reading than H with the present understanding of the script. After this, a doubtless D^{i} can be recognised, and before the next break in the rock, there is a two-peaked shape with a double-stroke diacritic (detail 4) that can most readily be identified with the F as described above, producing the reading F^{i}.

The potential chunks *kiγa*/*kiša* or *hidifi* (as segmented by the rock structure) do not produce anything intelligible in Bactrian. It is therefore likely that the words of the text are not segmented by the breaks in the rock.

After the break following the F^{i}, we can read R^{i}-?^{a}-R^{u} (detail 5) with the unclear sign no. 18 in the middle, which is otherwise only known from H^{u}-?^{a}-M^{i} of the inscription's first section. The diacritic on the second R is not very clear (cf. the close-ups above detail 5) and could potentially also be read as ^{i} or $^{\bar{e}}$, but the most probable interpretation is that as a single stroke with a slight irregularity in the rock above it. Since the text continues with a vowel bearer, the second R^{u} is likely the end of the word. The sequence F^{i}-R^{i}-?^{a}-R^{u} is reminiscent of F^{i}-R^{i}-F^{a}-R^{i} on the Kolkhozabad altar, which we have interpreted as a personal name Friy-far. In the present context, a personal name with the first element *Friy-* is less appropriate, but since the inscription certainly mentions an official bearing the title of *Karalrang*, one could draw a comparison to the title sequence of the *Karalrang* Nukunzuk in the great Surkh Kotal inscription, which says:

νοκονζοκο ι καραλραγγο ι φρειχοαδηογο κιδο φρειστααρο αβο βαο
'Nukunzuk the lord of the marches, the lord's favorite, who is most dear to the king'

If it was appropriate for a *Karalrang* serving at the time of Kaneshka to stress his personal closeness and dearness to the king in an inscription, the same might have been true already at the time of Wema Taktu. The sequence F^{i}-R^{i}-?^{a}-R^{u} could then be an equivalent of Graeco-Bactrian φρειστααρο 'most dear', which implies a cluster reading ST for the previously undeciphered sign no. 18. Given that SP (and possibly also ŠT) is expressed with a single syllabic character, it would not be surprising if there was also a single character for the cluster ST. The reading *fristaru* and the comparison to the titles of Nukunzuk then also allows us to interpret the preceding syllables: *Ki* is most likely the relative pronoun, which in later Bactrian appears mostly in the form κιδο, with the attached particle -δο < −δι < **uti*. This combination of relative pronoun + particle appears in DN I as κιδι and in DN III as *kidi*.

[42] If read as Š, the final curl of the (lower) rightward branch is probably not part of the actual character.

In independent use, the same particle generally appears after the first element in a clause and it is likely that the fixed combination with the relative pronoun originates in this usage. At an earlier stage, the combination was likely not as fixed and placement of the particle was more flexible.[43] We can therefore assume that the syllable *-di* before the word *fristaru* in AG 2 is in fact the particle *-di*, here not attached to the relative pronoun *ki*, but to the word following it. Among the possible readings of this word discussed above, *šahi* is then by far the most likely, since it provides a good further parallel to Nokonzok's title sequence. The resulting phrase is *ki šahi-di fristaru* 'who is the king's dearest'.

By inserting the reading ST at the end of the first section of AG 2, we receive the word *hustami*. Sims-Williams (2025b: 202) suggests that 'a noun in the direct case appears to be required' in this position, under the assumption that the first section forms a self-contained text, in which this would be the predicative element of a nominal sentence without a copula. With its ending *-i*, *hustami* could be a direct plural form but might as well be an oblique singular. The stem is unattested but could be interpreted as consisting etymologically of Old Iranian **hu-* 'good' and **stāman-* 'station, standing',[44] the latter of which is reflected in Middle Persian *abe-stām* 'refuge, support, trust' and has an external cognate in Old Indo-Aryan *sthāman-* 'station, seat, place; strength, power'. In Old Indo-Aryan, the formation *su-ṣṭhāman-* (with *su-* = Old Iranian **hu-*) is attested in the sense of 'having a firm support or frame', but the form in AG 2 must be a later parallel formation rather than a direct cognate of this, since it exhibits no effects of the RUKI change. An attribute like 'having a good station', 'having good support' or 'having a good standing' (very much in the figurative sense of the modern English expression) could be an appropriate title for a Karalrang.[45] The word *hustami* might then be another attribute within the same title sequence, rather than the predicative element of a nominal sentence. This would also make the point of reference of the following relative clause somewhat clearer.

The next word after the relative clause begins with $^{\text{'a}}$-R$^{?}$- (detail 6). The lower half of the R is broken off, but there is no real doubt about its identity. The vowel diacritic, on the contrary, is missing and not recoverable. Given the spacing, it is not very likely that the line originally continued beyond these two characters, though there is evidently some recent breakage to the left of them. It is therefore possible that the same word continues into the next line.

The second line is written on a more rough and uneven surface, where it is at times rather difficult to distinguish incised lines from irregularities in the rock. In addition, the break caused by the recent cutting of the inscription runs through some of the characters in this line, which makes them more difficult to read/reconstruct.

The line begins with a character that is not entirely clear (detail 7). The certain parts are a diagonal main stroke and a double-stroke diacritic. This shape is theoretically compatible with a T, G or even M, depending on whether there are strokes extending to the bottom right or top left. However, there is also a rather clear beginning of an incised stroke extending upwards from above the diacritic, at an angle that is most compatible with the shape of a Y. The further extension of the stroke is not visible, but it may have broken off or eroded, since

[43] Cf., for example the placement of elements in the later Bactrian conjunction κι-ζαμνι-δο 'as soon as', where, however, κι and ζαμνι belong to the same phrase, unlike in the present case. It may alternatively be possible to restore another D before the presumable Š, leading to *ki[di ša]hi-di*, but, as Nicholas Sims-Williams (p.c.) points out to us, neither doubled use of *-di*, nor *-di* displaced from *kidi* has good precedent in attested Bactrian.

[44] In order to explain this inflection, one has to assume that the word was transferred to the regular thematic inflection class, which was already predominant in the Kushan period and eventually ousted all the other declension classes in later Bactrian.

[45] Alternatively, a semantic interpretation closer to Khotanese *stāmā-* 'exertion' (from the same Old Iranian root **stā-*) could also be considered, for example in the sense 'exerting oneself well, energetic' (Nicholas Sims-Williams p.c.).

the surface is rather rough and appears to be broken in the area where one would expect it to be. We therefore regard Y^{i} as the most likely reading.

The second character (detail 8) is a clear X, most likely with a single-stroke diacritic, producing X^{u}. The circle below the trident is more heart- or diamond-shaped than fully round, but such forms are attested within the corpus. What looks a bit like a second diacritical stroke on the older photographs is in fact a protruding section of the rock that extends further to the left. The original archaeological drawing recognised only the lower half of the character, including the lower part of the circle, but not its upper section or the trident on top of the character.

The following character (detail 9) looks like a normal D, but with an unusual straight stroke extending outward below the character's semi-circular head. There appears to be no diacritic on the bottom. The head of the character is surrounded on the top by the same protruding section that meets the X further to the right, which may have been the reason why it does not appear on the original archaeological drawing. The character may be read as D^{a}, if the straight stroke at mid-height has no phonological significance. Perhaps the stroke could also be interpreted as a form of the triangular mid-height diacritic $^{\bar{e}}$, since a similar form of this possibly occurs in the name *Wēmu* in DN III. The next character (detail 10) consists only of a wide bow with a single-stroke diacritic and can accordingly be read as W^{u}. Following it, there is a probable N^{i} and a secure Y^{i} (detail 11).

The next character (right in detail 12) is crossed by some irregularities in the rock, making it a bit difficult to distinguish incised lines from natural ones. However, only the simple bow, which also appears on the original archaeological drawing, shows the same lighter patination as the other incised strokes, indicating that the correct reading is W^{a}.

Finally, there is another clear D (left in detail 12). Below the semi-circular head, there are two extensions of the head-stroke, one that follows the previous angle of the stroke downwards and a more deeply incised second one that curves upwards. Perhaps the downward stroke was corrected during the process of incision. Next to the opening of the head, there is an irregularity in the stone that produces the impression of a closed head when looked at from afar, but this is not part of the inscription. The vowel diacritic on this final character is most likely a single stroke, though it is relatively short.

The remaining text that results from these readings after the intelligible *fristaru* is more difficult to interpret. It must be kept in mind that its understanding may be impeded by errors or deficiencies at multiple levels: our incomplete knowledge and decipherment of the script, the error-prone reconstruction of the text from the damaged fragments and the limited current level of knowledge of early Bactrian lexicon and grammar. The interpretations we present in the following should therefore be taken with great caution, and it must be understood that a minor adjustment at any of the mentioned levels could quickly render them obsolete.

The foundation for a possible interpretation may be drawn from morphosyntactic considerations. The title sequence features the oblique case (with the exception of *fristaru*, which is not part of the matrix clause but the predicative element of a relative clause). Syntactically, it could therefore function as a possessor within a possessive phrase or as an ergative agent of a transitive past tense sentence. For the interpretation as an accusative patient of a transitive non-past sentence—another theoretical possibility—an equivalent of the Graeco-Bactrian preposition αβο may be expected, which is not present in AG 2.

The second line contains two occurrences of *yi*, which theoretically could both be oblique case articles, like the *yi* in the first section of AG 1. However, at least the second one is not followed by a noun in the oblique case, since after it, the line ends with *wadu*. The word following the first *yi* is not fully clear. The sequence *xud(a/ē)wu* is reminiscent of Graeco-Bactrian χοαδηο ~ χοδδηο ~ χοηο 'lord', though in the Kushan period, one would expect the

full form χοαδηο rather than the reduced variant χοδδηο.[46] Additionally, it is not fully clear whether the second vowel may be read as *ē*.[47] In any case, *xud(a/ē)wu* would again be a direct case form. Since the segmentation is uncertain, it would also be possible to read *xud(a/ē)wuni* as an *n*-stem oblique case form equivalent to that presupposed by the attested plural formation χοηονανο (= *χοαδηονανο) and derivate χοηναγγο (= *χοαδηοναγγο) (cf. Sims-Williams 2007: 278). In that case, the *yi* would be interpretable as an oblique case article, but the sequence *ar_* from the line above would remain unclear. A better option might be to segment *ar_yi*, and to interpret it as a form of the adjective αριαο[48] 'Bactrian, *Aryan, *noble' attested in the Rabatak inscription. In this way, the sequence can be understood either as two separate noun phrases *ariyi* 'the noble (obl.)' and *xud(a/ē)wu* 'lord (dir.)' or as a single noun phrase *ariyi xud(a/ē)wuni* 'the noble lord (obl.)'.

This leaves the final sequence *yiwadu* or *niyiwadu*. Neither of the two possible shapes has a clear equivalent in Graeco-Bactrian. On its own, *wadu* could be equated with οαδο 'wind, wind god, spirit/soul' (the latter meaning attested in SK οαδοβαργανο 'living beings'), but the preceding syllables make this segmentation difficult to maintain.

If the whole inscription is interpreted as a nominal sentence, saying 'on the stone [is] X of the Karalrang Siyar,. . .', the interpretation with a single noun phrase *ar_yi xud(a/ē)wuni* 'the noble lord (obl.)' would be preferable, which would then be a part of the continued title sequence. A noun *yiwadu* is then left as the final and decisive element of the nominal sentence. Unfortunately, however, such a word is not interpretable based on the attested Bactrian lexicon. Segmenting *yi wadu* 'the wind/spirit' would be problematic because of the lack of case agreement between the article and the noun, though correct agreement is otherwise maintained in the rest of the text.[49]

If the whole inscription is a verbal sentence with Siyar the Karalrang as an ergative agent, an absolutive patient in the direct case would be required. This could then be *xud(a/ē)wu* 'the lord', whereas oblique *ar_yi* *'the noble' would need to be part of the sequence of titles. The final verb would then be *niyiwadu*. The overall shape of this hypothetical word is generally plausible as a Bactrian 3rd sg. preterite form: Theoretically, *ni-* could be a prefix (< Old Iranian **ni*), *yiw-* the root and *-adu* a secondary past stem suffix (cf. Sims-Williams 2007: 41). However, a corresponding verb root or stem is so far unattested in Bactrian and also has no parallels in other Middle Iranian languages. In the absence of parallels, an interpretation based purely on etymology is naturally extremely uncertain. The only root that could theoretically be connected is Proto-Indo-Iranian *$\underset{\frown}{i}au\underset{\frown}{}$- 'to bind', reflected by Old Indo-Aryan *yav-* and possibly Iranian **yaw-* in Young Avestan **niiuuaṇt-* 'binding' (Cheung 2007: 215).[50]

[46] According to Sims-Williams (2025a: 98), the prefix χοα- is 'regularly reduced to χο- from the 6th century onwards', though the older form χοα- occasionally resurfaces in later times, perhaps as a dialectal form (see Sims-Williams 2007: 38; Sims-Williams & de Blois 2018: 60, fn. 186). Since we do not know how the cluster /xw/ was generally represented in the Issyk-Kushan script, the anachronistic appearance of the form *xud(a/ē)wu* could potentially also be due to orthographic convention.

[47] This vowel is always spelled with η in Graeco-Bactrian, though α might in fact be more expected from the etymological source **hwa-tāwan-* cited by Sims-Williams (2007: 278). Davary (1982: 292) derives χοαδηο from **hwa-tāw-ya-*, which is phonologically more acceptable, but cannot account for the seeming traces of an *n*-stem. These may however be another case of the same unexplained *-n-* extension in the genitive plural as in βαοναvο, πουρανανο, etc.

[48] The attested form αριαο contains a suffix -αο, but it implies the existence of a basic adjective *αριο or *αριυο (Sims-Williams & Cribb 1996: 90).

[49] Gholami (2011: 17) notes that the Graeco-Bactrian article/ezafe ι (= Issyk-Kushan *yi*) 'is not used to express possession', but in its function as a determiner it can nevertheless occur before possessed elements, e.g. in **al** 3–4 ασιδο-μο ι βραδο 'which my brother. . .'. The presence of the article itself is therefore not an issue for the interpretation as a possessive phrase.

[50] As for the vocalism in *yiw-*, a case could be made that a sound change */ya/ > /ye/ has some parallels in attested Bactrian (e.g. ιεσ- 'to take' < **(ā)-yasa-*) and that/ye/would be represented as *yi* in the absence of a vowel sign for short /e/, though for the time being, this remains purely speculative without confirmation from attested parallels.

At least in Old Indo-Aryan, this root is combined with *ni-* 'down' to form a verb meaning 'to fasten'.

It is best not to base a translation or any further interpretations on these uncertain possibilities, since—as mentioned above—small adjustments at various levels could easily make them obsolete.

Further archaeological insights are required to establish the original purpose of the Almosi site, i.e. whether it might have been used for Zoroastrian excarnation rituals (as suggested by Falk 2025) and/or as a burial place of the emperor himself (as suggested by Sims-Williams 2025b: 193, 204, fn. 38). Vultures and other birds of prey do often fly by above the site, and it can certainly be described as a *barəzišta- gātu-* ('most high place') in the sense of Vidēvdād 5.44–5,[51] but that alone is not enough to establish the purpose of the entire complex. We hope that it will eventually be possible to arrive at a more secure reading of the inscription based on a synthesis of archaeological and linguistic insights.

6. What remains to be deciphered

The two oldest inscriptions in the Issyk-Kushan script, the silver inscriptions from the Issyk kurgan (3rd–2nd c. BCE) and the treasury of Ai Khanum (~ 145 BCE),[52] remain the most mysterious. Since they are still mostly uninterpretable even with the new readings and the 'Bactrian turn', Sims-Williams (2025b: 209, 211) concludes that the script may also have been used for the native language of the Kushan dynasty after all, as suggested by Bonmann et al. (2023), with these two inscriptions being the only examples of this.

Though nothing can be said with certainty until there is a plausible interpretation of the earlier inscriptions, it may be methodologically preferable to start from the hypothesis that all inscriptions are written in (different chronological stages of) the same language. Our efforts to read the two early inscriptions as an early form of Bactrian have, however, not led to a convincing interpretation of the two texts.

Apart from the language, the idea that the Issyk and Ai Khanum inscriptions are written in the same script as the inscriptions of the Kushan era has also at times been doubted (e.g. by Fussman 1994; 2011: 133). Though there are a few character shapes in the two early inscription which are not attested in the later corpus, the general overlap in character forms and the similarities in the diacritic system are, in our opinion, too striking to assume that we are dealing with two completely separate writing systems.

Of the signs that are still undeciphered, one appears two (or perhaps three) times in the Issyk inscription and probably once in the later fragment 3 INC from Termez (see Table 1).[53] Ai Khanum has two doubtful occurrences. It cannot be excluded that it is an unrecognised variant of one of the known signs. It resembles the F sign, but the rightmost stroke is missing. It also has some resemblance to the NG sign known from Almosi, but it is more rounded and the central stroke goes in the opposite direction (bottom right to top left).

A sign that is attested in the Ai Khanum inscription and possibly also in Issyk, but not in the later corpus, consists of a bow opening to the right. In Issyk, it appears right next to a shape that may be read as Y^{a}, and it is not clear whether the two elements should be read as

[51] 44. [. . .] *kuua. narąm. iristanąm. tanūm. barāma. ahura. mazda. kuua. nidaϑāma. 45. āaţ. mraoţ. ahurō. mazdå: barəzištaēšuuaca. paiti. gātušuua. spitama. zaraϑuštra. yaδōiţ. dim. bāiδištəm. auuazanąn. sūnō. vā. kərəfš.xvarō. vaiiō. vā. kərəfš.xvarō.* '"Whither shall we bring, where shall we lay the bodies of the dead, O Ahura Mazda?" Ahura Mazda answered: "On the highest summits, where they know there are always corpse-eating dogs and corpse-eating birds, O holy Zarathustra!"'. Text edition: Fritz et al. (1985); translation: Darmesteter (1880: 72–3).

[52] Dates based on Lur'e (2024: 344–6).

[53] Bonmann et al. (2023) identified this shape as a conjunct HW, but this interpretation can now be discarded, since the reading of the Hoq inscription, it was based on has turned out to be almost certainly incorrect.

Table 1. Undeciphered sign 1 with comparison to similar signs.

Undeciphered sign			F	NG
Issyk	3 INC	Ai Khanum		
				

separate characters. The Ai Khanum inscription has two comparable bows, though they are somewhat smaller and raised above the baseline. In both cases, they appear after a vowel bearer, once with an *i* diacritic and once with an *u* diacritic. In Issyk, the preceding character is also a vowel bearer, but without a diacritic. The appearance directly after the vowel bearer makes it unlikely that it is a variant of the word divider. Table 2 shows the occurrences along with the surrounding context.

Another sign, which has the shape of a simple round hook (no. 2a in Bonmann et al. 2023), appears only in the Ai Khanum inscription. Here, too, it is not impossible that we are dealing

Table 2. Undeciphered sign 2 (shown with surrounding context).

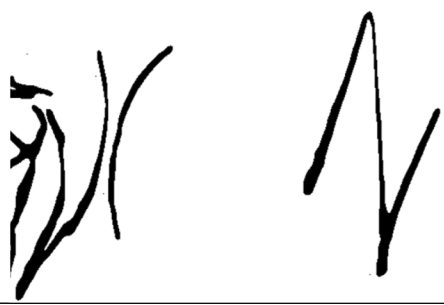
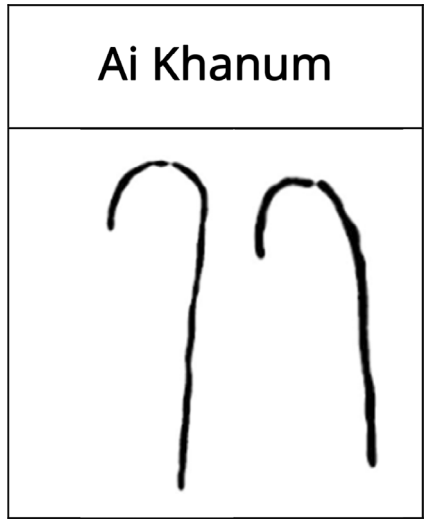
Issyk	Ai Khanum
	

Table 3. Undeciphered sign 3.



with a variant of a known sign, such as the D or P, but it might as well be a separate sign (Table 3).

A sign that prominently appears in the Ai Khanum inscription, but which is also attested throughout the later corpus, is the D-shaped sign (no. 5 in Bonmann et al. 2023) shown in Table 4.[54] This is the clearest remaining case of an undeciphered sign that can be expected to have an equivalent in the Bactrian phonological system.

Two cases of possible undeciphered diacritical modifications can also be found. Firstly, a double diagonal stroke on the inside of a character appears once on the fragment Add-07 from Kalai Kafirnigan first published by Lur'e (2024: 333) (shown in Table 4).[55] Here it co-occurs with a regular single-stroke vowel diacritic. It is not clear whether this modification—which does not appear to be attested anywhere else—has a linguistic significance, or whether it is an aesthetic modification that merely fills the open space inside the character.

Secondly, a round hook appears alongside regular vowel diacritics (*i* and *u*) in Issyk, Almosi and Surkh Kotal (SK 7) (Table 5). It is not clear whether it is the same kind of modifier in all of these places.

The existence of an undeciphered diacritic for *ō* is likely, but neither of the two modifications just mentioned are probable candidates, since they both co-occur with the known vowel diacritics.

7. Terminology

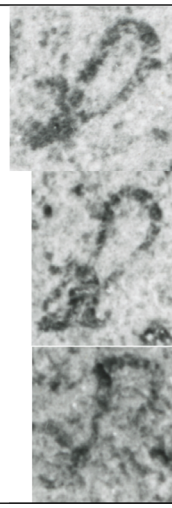
Since the 'Unknown Script' has in recent years become less 'unknown' than it used to be, it would be practical to have a universally accepted name to refer to it. Unfortunately, no consensus has so far emerged on this point.

While choosing a title for Bonmann et al. (2023), we were faced with the problem that the name 'Unknown Script' was so unspecific that potential readers might not have understood

[54] In SK 7, the distinction of this sign from the Greek beta that also occurs several times in the inscription is not always straightforward.

[55] This fragment is currently exhibited at the National Museum for Antiquities in Dushanbe.

Table 4. Undeciphered sign 4.

Ai Khanum	Surkh Kotal (SK 7)	Jagat Tepe	Kalai Kafirnigan (Add-07)
			

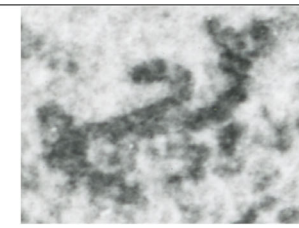
which script was being referred to. We therefore introduced the additional qualifier 'Kushan' in the title and eventually became used to referring to the script as the 'Kushan script'. At the end of our article, we suggested the term '(Issyk)-Kushan script' as a new designation, including the name of the earliest site Issyk, in order to emphasise that not all examples belong to the Kushan era.

Though Sims-Williams (2025b: 187) adopts 'Kushan script' as a term of convenience, with the qualification that 'it is not intended to imply that it was used only by the Kushan kings, let alone that it was invented by or for them', Lur'e (2024) and Falk (2025) were not convinced by our suggestion. Lur'e (2024: 352) expects that the term will cause confusion with Kushan Bactrian (in Greek script). As a neutral designation, his alternative suggestion 'the script of Dašt-i Nāwur' (*pis'mennost' Dašti Navura*) appears to be adequate, but no better or worse than 'Issyk-Kushan script'.

Falk (2025: 42) holds onto the term 'Wema Takhtu script' (or 'WT script' for short), which he introduced in Falk (2023). This term, which is based on the idea that the script was invented by or for Wema Taktu, is in conflict with the evidence, since there are clear cases of the script that have no relation to this ruler whatsoever, having been written before or after his lifetime and/or outside of any kind of royal context.

Since the script is at least partially modelled on Aramaic letter shapes, which were introduced to the region from the west by the Achaemenid administration, whereas the system of vowel diacritics is structurally comparable to that seen in Indian scripts like Kharoṣṭhi and

Table 5. Possible hook modifier.

Issyk (Š + hook + *i* strokes)	Almosi (G? + hook + *i* strokes)	Surkh Kotal (R + hook? + *u* stroke)
		

Brahmi, used directly to the south of Bactria, we can perhaps follow the same argument that Henning (1960: 47) made for the name of the Bactrian language:[56]

> The language [...] occupies an intermediary position between Pashto and Yidgha-Munji on the one hand, Sogdian, Khwarezmian, and Parthian on the other: it is thus in its natural and rightful place in Bactria; [...] It would then be best to call it *Bactrian*.

Given its sources and points of contact, the 'Unknown Script' is in the same way 'in its natural and rightful place in Bactria' as the Bactrian language. Since additionally all interpretable examples of it appear to be written in Bactrian, we suspect that in the future, it may turn out that the best designation is simply 'the Bactrian script', or more precisely 'the Old Bactrian script', since it was later complemented and superseded by scripts originally intended for other languages, namely the Graeco-Bactrian and Manichaean-Bactrian scripts.

However, without a full understanding of the script and its history, this idea is at present impossible to prove. For the time being, it is therefore safer to stick with one of the possible placeholder names 'Unknown Script', '(Issyk-)Kushan script' or 'script of Dašt-i Nāwur' until the original use context of the script is more fully understood.

8. Relatives of the Issyk-Kushan script

In addition to the terminological question, Lur'e (2024: 346–52) has opened up another topic of discussion—that of the paleographical relation of the 'Unknown Script' not just to Imperial Aramaic and Kharoṣṭhi, but also to the Old Turkic script. With the present deciphered values, the paleographical comparisons look somewhat different than before, and we can get a more accurate picture of the similarities and differences between the 'Unknown Script' and its possible relatives.

Table 6 shows a comparison between Imperial Aramaic, Old Sogdian, the 'Unknown Script' according to the current understanding, Kharoṣṭhi and the Old Turkic script. For

[56] Incidentally, this paragraph makes up part of Henning's argument against the use of 'Eteo-Tocharian' for Graeco-Bactrian. This term, recently reintroduced by Bonmann et al. (2023), has now, in a way, returned home and come to refer to Bactrian once again. If the Issyk and Ai Khanum inscriptions indeed turn out to be written in an unknown language that has a provable relation to the 'true Tocharians', the term may be reserved for that language. If not, it can safely be returned to the realm of obsolete terminology, where it originated.

Table 6. Script comparison.

	Imperial Aramaic		Issyk-Kushan script	Old Sogdian	Kharoṣṭhi	Old Turkic
	Inscr.	Papyri				
ʾ					a 	a/ä  
b			–		ba 	 
g					ga 	
d					da 	
h					ha 	–

visual ease, the Issyk-Kushan graphemes are represented by a single exemplar with removed diacritics, which may not fully represent the variety of shapes encountered in the corpus.[57]

Though the new readings require some adjustments to the comparisons made by Bonmann et al. (2023: 317–9), particularly with regard to 'B' = Y, 'S' = P, G and K, the overall point that there is an apparent relationship to Imperial Aramaic remains valid.[58] The exclusion of Kharoṣṭhi as an intermediary can also be upheld, as there are no cases where Kharoṣṭhi and the Issyk-Kushan script diverge from the Aramaic model in the same way.

In their general aesthetic, the Issyk-Kushan graphemes appear to be somewhat more upright than their Aramaic equivalents and generally oriented around a vertical axis. The Aramaic models are in some cases twisted or pushed in such a way that they fit this style (e.g. the *ʾ*, *k* and *š̌*). Despite its non-cursive and perhaps more 'monumental' appearance, the Issyk-Kushan letter forms in several cases are closer to the manuscript variants than to the monumental or lapidary variants of the Aramaic letters (e.g. with *ʾ*, *d*, *h* and *k*). As was already noted by Bonmann et al. (2023: 317), two letter forms, the *r* and *d*, are mirrored with

[57] Sources: Imperial Aramaic (inscriptions from Asia Minor; papyri from Elephantine) from Segert (1975: 60–1), Old Sogdian (Kultobe inscription K19) from Sims-Williams (2023: 16; pl. VII), Kharoṣṭhi (Aśokan rock inscription 12 of Shahbazgarhi) from Falk & Hellwig (2017), Old Turkic from Róna-Tas (1991: 111).

[58] Like Sims-Williams (2025b: 210–211), we see no reason to assume 'arbitrary borrowings from Kharoṣṭhi, Brahmi, Greek and offshoots of Aramaic' ('willkürlich[e] Anleihen bei Kharoṣṭhī, Brāhmī, Griechisch und Aramäisch-Ausläufern'), as proposed by Falk (2025: 42, fn. 9). Nor is there, in our view, anything 'anachronistic' (Falk 2025: 46, fn. 24) about the idea of an Imperial Aramaic inspiration for the Issyk-Kushan script. The time gap between the fall of the Achaemenid empire and the earliest surviving attestations of the script is not significantly larger than with Kharoṣṭhi, for which there is general consensus on Imperial Aramaic as the most likely model (Salomon 1998: 52–3). The Aramaic script tradition of the Achaemenid Empire was in any case carried on even after its fall, though over time, it disintegrated into a variety of regional styles.

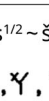
Table 6. Continued

w					va 	o, u 
z					–	
ḥ			–		–	–
ṭ			–		–	–
y					ya 	
k					ka 	
l					la 	
m					ma 	
n					na 	
s			–		sa 	s$^{1/2}$ ~ š$^{1/2}$ 
ʿ			–		–	

respect to their Aramaic equivalents. In one case, an Issyk-Kushan grapheme shows more resemblance to later forms of the Aramaic script than to the usual Imperial variants: The G more closely resembles square script ג than the Imperial Aramaic ʌ shape. This agreement could perhaps be explained as an independent convergent development from a common source. The three-legged L is rather distant from its Aramaic equivalent but could conceivably have developed out of it, since comparable shapes are encountered in Palmyrene and Nabataean Aramaic.

For the S deciphered by Sims-Williams (2025b), the closest match seems not to be the Aramaic *Samekh* (*s*), but the affricate *Tsade* (*ṣ*). This is compatible with the observation made

Table 6. Continued

p					pa 	
ṣ					ca 	č 
q			–		–	k¹ [q] 
r					ra 	
š					śa 	s¹/² ~ š¹/² 
t					ta 	
F	–	–				
ɣ	–	–				g¹ 
V	–	–				
X	–	–				
NG	–	–				
ST	–	–				
SP	–	–				
ŠT?	–	–				

above that this sign appears to be used for both the sibilant /s/ and the affricate /ts/, though the reason for the non-distinction of the two remains unclear.

The match between Imperial Aramaic and Issyk-Kushan *y* is not very close, but still within the realm of the possible. By contrast, the graphemes for *z* do not seem to match at all. As there is only one occurrence of the presumable *z* sign in the Issyk-Kushan corpus, there is still room for correction here, but it is also possible that the indistinct character of the Aramaic *z* —a simple vertical stroke that might have been easily confused with a word divider—could have inspired a replacement with a more easily recognisable shape.

Since the Imperial Aramaic language likely did not yet have the *begadkefat* postvocalic lenition of stops (Gzella 2011: 575), and the graphemes *k*, *g*, *t*, *d*, *p*, *b* accordingly stood only for plosives, it comes as no surprise that the fricative graphemes needed for a Middle Iranian language do not draw on an Aramaic inspiration. They appear to be independent inventions. The same goes for the consonant cluster graphemes, which were not necessary in the non-syllabic Aramaic system.

In the comparison with the Old Turkic script, the first clear point of difference is that the Old Turkic system has specific graphemes used, respectively, with front and back vowels, producing a double correspondence to the other scripts in some cases. Most commonly, the back vowel variant (transliterated with a superscript ^{1} and shown in the upper line in Table 6) is formally closer to the corresponding Aramaic letter, with the exception of *t* and *y*, where the front vowel variant (transliterated with a superscript ^{2} and shown in the lower line in Table 6) looks more Aramaic.

Though there appears to be sufficient formal similarity to assume that the Old Turkic script in some way drew inspiration from the Aramaic script or one of its relatives, the relationship is rather more distant than in the case of the Issyk-Kushan script and there are far fewer obvious formal matches. At least one of the vowel-harmonic series was most likely invented from scratch, since a model for this kind of double representation was not available in Aramaic.

There is, in our view, no clear evidence that the Issyk-Kushan script served as an intermediary between Aramaic and Old Turkic script. Most notably, the Old Turkic system of vowel notation is structurally very different from that of the Issyk-Kushan script and could hardly have developed this way in the case of a natural transmission of the writing system. Additionally, the Old Turkic script in some cases appears to stay closer to Imperial Aramaic than to the Issyk-Kushan script. F Old Turkic r^1 and l^1 are closer to the Aramaic model than the mirrored R and the three-legged L of the Issyk-Kushan script.[59] Possible shared divergences between Old Turkic and Issyk-Kushan script are limited to Ɣ (when compared to Turkic g^1 [ɢ ~ ʁ]) and Z, where both scripts have somewhat similar letter shapes that are not found in Aramaic.[60] This could have some relevance in the case of the Z, where the available Aramaic grapheme was not used, but, then again, the formal match between the two is not complete or by any means beyond doubt.

It seems most likely to us that the Issyk-Kushan Script, Kharoṣṭhi, the Old Turkic script and even Brahmi were part of a regional trend of 'inspired inventions' set off by the spread of Aramaic writing to the region with the Achaemenid empire, rather than natural developments

[59] The grapheme k^1, which represented the uvular plosive [q], a sound that existed in Aramaic and Old Turkic but not in Bactrian or any other Middle Iranian language, could also be said to resemble a mirror image of the corresponding Aramaic grapheme, but this is much less certain.

[60] Issyk-Kushan ʾ and Old Turkic *a* ~ *ä* are also different from Aramaic aleph in similar ways, but in this case, the shapes are not distant enough from the Aramaic model to be significant.

from a particular transmitted source.[61] The stark contrast to the Aramaic-derived scripts used in other parts of the former Achaemenid empire, which developed directly out of the Aramaic script tradition, retaining the vowellessness of the source system, mostly making do with the existing consonant signs and even holding onto heterographic elements (Aramaeograms), shows rather clearly that some degree of conscious invention was involved in the creation of these scripts. They are, in our view, best seen as deliberate creations that nevertheless drew to some extent on the formal inventory of a pre-existing system.[62]

Working on the foundation of a vowelless writing system, the inventors of all of these scripts solved the issue of vowel representation in slightly different ways. For Old Turkic, the system of vowel harmony peculiar to the language was exploited in order to encode vowel values in consonantal graphemes. The Issyk-Kushan and Kharoṣṭhi scripts both worked with vowel diacritics but found different solutions for the representation of consonant clusters, the system of conjunct characters being developed further in the Indian scripts than in the Issyk-Kushan script. It is possible, but not strictly necessary, to assume that the inventors of some of these scripts were aware of each other's work and took inspiration from each other in some regards.

One last point is worth mentioning with regard to the paleographical relations of the Issyk-Kushan script. For the most part, Graeco-Bactrian is written only with the letters of the regular Greek alphabet. The appropriation of the Greek *ypsilon* as a way to spell /h/ is a later phenomenon that became fully conventionalised only after the Kushan period. However, from the time of the earliest Bactrian words appearing on coins, there is one additional letter —þ—which is not known from Greek. Earlier researchers had believed this to be a form of Greek ρ, but after a while it became clear that it is a separate grapheme with the value /š/. The present consensus is that this letter developed out of the Greek *ρ*, but the reason why particularly *ρ*, as opposed to, for example *σ*, should have been modified to produce a letter for /š/, is not really clear.[63]

In a similar sociolinguistic situation, in Hellenistic and post-Hellenistic Egypt, the Egyptian (Coptic) language also began to be written in Greek script. Here, the letter inventory of the Greek script proved inadequate to represent all the sounds of Coptic, so that some graphemes were simply borrowed from the earlier Demotic script tradition.

It is therefore, in our opinion, worth considering whether the Graeco-Bactrian letter þ might not have been borrowed from the Issyk-Kushan sign for Š (see Table 7), thereby becoming the most enduring legacy of this script even after the rest of it faded away.

[61] In the case of the Old Turkic script, the chronological gap is wider, since Turkic speakers arrived in western Central Asia in the second half of the first millennium CE, whereas the Achaemenid Empire disintegrated in the 4th century BCE. Here, it is worth considering whether Sogdian writing could have acted as an intermediary inspiration, as proposed by Livšic (1978).

[62] A comparable case could be the Armenian script, which was a conscious invention, but took some structural and formal inspiration from the Greek script (Sanjian 1996: 356–7). In the case of the Issyk-Kushan script, there appear to have been more formal borrowings from the model than in the case of Armenian.

[63] The best available explanation is that a positionally restricted voiceless pronunciation of ρ occurred in some contexts in Greek, which could have been felt to be similar to a sibilant (Schoubben 2024: 75–9). Falk (2022: 155–67) sees evidence for a chronological development from ρ to þ for /š/ in coin legends, but since the only distinction between the two is a slightly longer back stroke in þ, the alleged examples for the use of an actual ρ for /š/ are not unambiguous. Errors in the legends also cannot be excluded.

Table 7. Comparison of Graeco-Bactrian and Issyk-Kushan Š.

Monumental (Dašt-i Nāwur)	Rounded (Almosi)	
		

Acknowledgement

Open Access funding enabled and organized by Projekt DEAL.

Data Availability Statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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