

Before enclitics, a final nasal which would otherwise be written, is retained: *gʷiθʷamʷca* = *gaidām-cā*; *xšačam-šim*, *parwam-ciy*, *adam-šim*.

For *-ny-* and *-nw-*, *-niy-* and *-nuw-* are written (§§25-6): *anʷiyʷ* = *aniya*, Skt. *anyās*; *tʷunʷmʷ* = *tunwaʷlam*, for **tunwantam*.

§40. OLD PERSIAN REDUCED FINAL CONSONANTS were omitted in writing: these were *s* (after *ā*), *t*, *d*, *n*, *nt*; *s* had become *h* and *nt* had been reduced to *n* in pAryan. That they were still pronounced, though with a minimal value, at least after short *ā*, is shown by the fact that they prevented the representation of a preceding *ā* by a long vowel (§36.III): thus voc. *martiyā* for *-yā*, Skt. *-ya*; but nom. *martiya* for *-yaʰ*, Skt. *-yah*. The unwritten consonants may be represented by raised letters in normalized transcription, when desirable: thus *hyaʰ*, *tyaʰ*, *abaraʰ*, *abaraʷ* (for *-nt*), *nāmaʷ*; nom. pl. *martiyāʰ*, abl. sg. *Pārsāʰ*. There is one example of such a reduced consonant after *i*:¹ enclitic *-ciy*, = Av. *-cī*, Skt. *cid*, Lt. *quid*. There is no example of the reduced final consonants after *u*.²

§41. REPETITION OF THE SAME CONSONANT-SIGN is permitted only when the inherent vowel of the prior character is a pronounced vowel: *adʷdʷa* = *adaā*, *imʷmʷ* = *imam*. Any long consonants which had developed by assimilation had been shortened in Iranian; even the doubles that came from enclisis were graphically reduced to singles: *āpišim* DB 1.95f = *āpiš-šim*, *taumanišaiy* DNb 25f = *taumaniš-šaiy*, [*nʷā*]kama AʷSa 4 = *niyākam-maiy* (§52.I). An error in cutting the characters, or in the drafting of the model copy, has given a repeated *mʷ* in *ciyʷakʷamʷmʷmʷciyʷ*, twice in DNb 51-2, for *-mʷmʷciyʷ*, = *ciyākaramcamaiy*.

§42. THE IDEOGRAMS are five in number, standing respectively for *xšāyabiya* 'king', *dahyāuš* 'province', *būmiš* 'earth', *Auramazdā* 'Ahuramazda', and *baga* 'god'; they are transcribed by *XŠ*, *DH*, *BU*, *AM*, *BG*. In DSk 4 there is what seems to be a ligature for *AM-ha*.

The ideograms, without addition of syllabic characters, stand for the nominative singular;

¹ Final *s* after *ī* and *ū* became *š* in pAryan, and this final *š* is written in OP. ² The final *t* was analogically replaced by *š* in such forms of 3d sg. *akunauš* (= Skt. *ākṛnot*); §228.III.

other forms are indicated by writing after the ideogram the last character or characters of the full word. Thus acc. *xšāyabiyam* is written *XŠmʷ* or *XŠ-yʷmʷ* = *XŠm* or *XŠyam*; gen. *xšāyabiyaḥyā* is written *XŠ-yʷa* *XŠ-hʷyʷa* *XŠ-yʷhʷyʷa* = *XŠyā* *XŠhyā* *XŠahyā*; but *XŠ-ahʷyʷa* AʷSd 2 is a misspelling, since this should mean *XŠāhyā* rather than the intended *XŠāhyā*.

The use of ideograms had its limitations in time and place, to judge by the extant inscriptions. Darius I used no ideograms at Behistan, Naqš-i-Rustam, Elvend, and on the weights; Xerxes used none at Elvend and Van. Darius I used only *XŠ* at Suez, and varied between *XŠ* and none at Persepolis; Xerxes also varies between *XŠ* and none at Persepolis, but in XPj has *XŠ* and *DH*, but not *BU*. At Susa, Darius I varied from the use of none to the use of *XŠ* only, and that of *XŠ DH BU AM*, so far as they occur (on DSe DSf DSm DSt, see below); Xerxes in his two short inscriptions gives no proof of using any ideogram, but Darius II seems to have used all five, including *BG* which appears only in DʷSa; Artaxerxes II certainly used four ideograms, but may also have entirely avoided their use in another inscription. At Hamadan, Ariaramnes has no ideogram; Darius I has only *XŠ*; Xerxes has only *XŠ*, but happens not to use the other words; Artaxerxes II has four (but see below on AʷHe), but writes *baga* in full in AʷHe. The other texts are too brief or defective to warrant special remark.

In general, then, more ideograms appear in later texts, and they were more used at Susa than elsewhere. Further, *XŠ* was the ideogram of most widespread use, and the order of introduction into texts was *DH*, *BU*, *AM*, *BG*. Few texts have any irregularity in this respect, and few use both ideogram and full writing for the same word; there are the following exceptions: DSe contains all five words, with a regular use of *XŠ*, and the rest in full, except that after four occurrences of *Auramazdā* and its forms *AM* is found in line 50 (restored but certain). DSf has both *būmim* and *BU BUyā*; otherwise *XŠ* and *DH*, but *Auramazdā* and *baga* in full. DSm, as restored by Brandenstein, WZKM 39.55-8, has *XŠ* and *xšāyabiyam*, *DHnām* and *dahyāwa*, *būmiyā*, *AMhā* and *AMmai*; it is probable that all the words should be written

in full, but in presenting the text it seemed hardly worth while to make the alterations, since only a few slight fragments are preserved.

DSt, as restored, has XŠ and *xšāyabiya* (both entirely restored), and *būmim Auramazdā ba-yaibiš*; this should not be, but I fail to see any alternative.

A²Sc seems to have XŠ and *xšāyabiya*; but this is a much mutilated text, and also the inscriptions of Artaxerxes II are not accurately written.

A²Hc agrees with DSf; it has *būmim* and *BUyā*, otherwise XŠ and *DH*, but *Auramazdā* and *baqa*.

A²Pa has *xšāyabiya*, *DH*, *būmām* (sic) and *BUyā*, *Auramazdā*, *baqa*; a state of variation which is attributable to the inaccuracy of OP writing at this period.

§43. NUMERALS: The cardinals are not written in full (except *aiwa*- 'one' in a formulaic phrase), but are indicated by signs: 1, a single long vertical wedge; 2, two short vertical wedges, one above the other; 3, two short verticals with a long vertical to the right, and so on; 10, an angle with point to the left; 20, two small angles, one above the other; 100, two short horizontal wedges meeting at their points, above a single vertical wedge. Smaller units are placed to the right of larger units. But the ordinals are written in full, with the regular characters.

The cuneiform characters for the numerals are given at the end of the Lexicon, where their occurrences also are listed.

§44. THE SEPARATION OF WORDS is made in OP by a word-divider, which in the Behistan text has the form of an angle with the point to the left, and in other texts is a single slanting wedge running from upper left to lower right. The divider stands at the beginning of each column and of each section and each smaller inscription at Behistan, and at the end of Behistan a-g, i-j; elsewhere it does not stand at the beginning, but it stands at the end of DPd, of some copies of XPd, of A²Pa, and of some of the items in A²P. It is frequently lacking between words in Scheil's texts from Susa, notably in DSa, DSe, DSd, DSG, DSi, DSj, DSy, A²Sd; these texts have been published not in mechanical reproductions, but only in hand-drawn copies, but the

reliability of the copyist is confirmed by similar omissions in DSy, our text of which has been read from a carbon rubbing of the original.¹ In other inscriptions omission of the divider is extremely rare: examples are *yadimaniyāiy* XPh 47 = *yadi(y) : maniyā(ha)iy*, and *upā Artarša- [çām]* Sf. The gen. *Auramazdāha* is replaced in XPc 10 by *Aurahyā Mazdāha*, with declension of both parts of the compound, but no divider.²

The emphatic adverb *apiy* is sometimes attached to the preceding as an enclitic, and sometimes separated from it by a divider. The enclitic pronoun *diš* is preceded by a divider in DB 4.34, 35, 36. At DB 5.11, *utā : daiy : mardā* is probably to be emended to *utā : viyamardā*, with wrongly inserted divider;³ other peculiarities in connection with enclitics are given in §133.

Two compound words are sometimes cut by the divider; these are *Ariya : ciçā* and *Ariyaciçā*, *parw : zanānām* and *paruzanānām paruzanānām*. There is also variation between the phrasal adverb *paradraya* and the prepositional phrase *para : draya*. But in Fragment Theta of DSf, the . . .]y^a-:-k^a-[. . . supposed to belong to *dāranīyakarā* 49 should be read . . .]y^a-:-s^a-[. . . as part of *awaīy : Spardiya* 51-2.

§45. THE NORMALIZATION OF OP TEXTS.¹ The first step is to make a close transcription of the text, representing the inherent vowels of the consonantal characters by raised letters. Then in normalizing.²

¹ Cf. JAOS 67.32-3. ² For possible haplography of the divider with the angle-sign of the adjacent character, see notes on DB 4.71 and 4.83. ³ So Wb. ZfA 46.55, for KT's reading; cf. Lex. s.vv. *-di-* and *mard-*.

§45.¹ The normalized text is not necessarily a phonetic text, but only an approximation to such a text. Especially note the normal writings

(a) final *-ā -īy -ūv* for phonetic *-ā -ī -ū*.
 (b) *iy* and *uv* for postconsonantal *y* and *v*.
 (c) *h^a* or rarely *i* for *hi*, and especially *hy* for (phonetic) *hi* or *hiy* or final *hi*.
 (d) *u* for *hu*, and especially *uv* for (phonetic) *hu* or *huu* or final *-hu*.

² This system of normalization for Old Persian texts has become standard among scholars; it is the outcome of a long series of attempts to reach sound conclusions, made by the earlier workers in the field (§16; §14.n1, citing Weissbach's article in which earlier literature may be traced). The proof of its correctness lies in the fact that it works, enabling us to make cogent comparisons with cognates in other IE languages and with

- A. The vowel character *a* initial becomes (normalized) *ā* or *ā*, or the prior part of a diphthong *āi* or *āu*: medial, *ā* or the prior part of *āi āu*: final, *ā*.
- B. The vowel characters *i* and *u* become *ī* or *ū*, *ī* or *ū*; or the second part of a diphthong.
- C. The consonantal characters with inherent *i* and *u*, if standing before *i* or *u*, lose the inherent vowel.
- D. The consonant characters with inherent *a*
- (a) keep the *a* to show the vowel sound before a medial consonant, or as part of the diphthongs *ai* and *au*, or final before an unwritten minimal consonant (*t d n h*);
 - (b) lose the *a* when the consonant sound is immediately followed by another consonant, or by the character *a* (= *ā*), or when the consonant is final in the word (-š -m -r -y -v), or when the *a*-inherent character functions for an *i*- or *u*-inherent character before the characters *i* or *u*.
- E. Raised *i u a* are used in the normalized text to show:
- (a) *i* and *u*, to show *i*- and *u*-inherent characters after which the *i* and *u* failed to be written.
 - (b) *a*, to show *a*-inherent characters functioning for *i*-inherent characters after which *i* failed to be written.
- F. Raised *n* and *h* medial, *t d n h* final, may optionally be supplied to mark sounds not indicated in the writing:
- (a) medial *n*, before a consonant not *y* nor *v*.

(b) medial *h*, before *u* and rarely before *i* and *m*.

(c) final *t d n h*, after *ā* and *ā*.

§46. THE REDUCTION OF OP TO WRITING. The scribes, in analyzing the OP words into sounds, must have spoken the words slowly, prolonging them until the sound-units could be clearly distinguished and receive each a symbol. This procedure was, apparently, responsible for the most conspicuous of the peculiarities of the syllabary, notably the following: every consonant which stood before a consonant or final was equipped with the common vowel *a*; postconsonantal *y* and *v* became *iy* or *w* (§25, §26); final *ā* was prolonged to *ā* (§36), though the reduced final consonants, even though they were never written, checked the prolongation and caused the keeping of *ā* (§40): final *i* and *u* were prolonged to *iy* and *w* (§37, §38; after *i* and *u* the reduced final consonants seem to have been entirely lost, §40); anteconsonantal *ī* and *ū* were occasionally prolonged to *īy* and *ūv* (§23); medial *ay* and *aw* occasionally became *aiy* and *aw* (§48).

This procedure, however, does not explain the peculiarities in the writing of *h* before *i* and *u* (§27, §28), nor the omission of the anteconsonantal nasal and of certain reduced final consonants (§39, §40); the most that we can say is that they were disregarded in writing because they were weak sounds, yet most of them survived into later periods of Persian.

§47. IRREGULARITIES AND ERRORS IN OP WRITING are, of course, to be found; in the preceding sections we have listed the examples of the following irregular phenomena:

Lack of *i* or *u* after a consonant with inherent *i* or *u*, to denote *i* or *u*; §22.

Lack of *i* after a consonant with inherent *a*, to denote *i*; §22.

Lack of *a* final, to mark absolutely final *ā* as *ā*; §36.

Writing of *hi* by *h^a* or by *i* or by *hⁱi*; §27.

Writing of *tja*- and its forms by *t^ay^a*- instead of by *tⁱiy^a*-; §25.

Occasional writing of *iy^a* and *w^a* to denote *ī* and *ū*; §23.

Variation between ideograms and full writing in the same inscription; §42.

borrowed words in non-IE languages. Although some scholars use other symbols to represent certain OP syllabic characters (§20), there is no important disagreement in method, and there is no gain in using those other characters. A goodly amount of ambiguity still remains in connection with initial *a* and with *a*-inherent characters (§21, §22), and with the value of (normalized) *ar*, which is phonetic *ar* or *r* (§29-§35); such problems must be settled by etymological comparison or by comparison with borrowings in other languages; but these are only problems relating to individual words or forms, not affecting the general method of normalization. On these, one should consult the Lexicon, where divergent views are cited under the words concerned. Some scholars, it is true, normalize or rather 'interpret' OP *ai* and *au* as *e* and *o*, but the only result is to obscure the relation between the word and its cuneiform representation; it is quite simple, if one so desires, to regard *ai* and *au* as symbols for the sounds *e* and *o*.

Irregularities in word division and in the use of the word-divider; §44.

Other irregularities and errors will be discussed in §48-§57.

§48. MEDIAL *ay* AND *aw* were occasionally prolonged in the analysis for reduction to writing, so that they became *aiy* and *aww* (cf. JAOS 62.271-2); the examples are the following: *adāraya* DB 1.85, 2.9, 3.23, DNa 41; *adāraiya* DNa 22.

amānaya DB 2.48, 2.63; *amānaiya* DB 2.28. *paradraya* DNa 28f; *paradrāiya* A?P 24 (cf. *draya*, *drayahyā*, *drayahiyyā*).

Perhaps [*va*]r*taiyaiy* DB 4.44, for *vartaiyaiy*. Cf. also the sandhi phenomena of *dūraiapiy* DNa 12, *dūrayapiy* DNa 46, and the same as two words, *dūraiapy*.

bavaliy DNb 14, *bawaliy* DNbv 14. *gūtavā* DB 1.62f, etc.; *dahyavā* DB 1.34. *tawīyā* DSe 39, cf. Skt. *sthavīyas-*.

yawīyā DZc 8f, 10; cf. Skt. *yavyā*. *hawam* DB 1.29, for **hav-am*, from *haw* + enclitic *-am*.

§49. VARIATIONS IN CONSONANTS sometimes appear in the writing, though this can usually be explained as the product of special causes: lateness, dialect, borrowing from other languages.

(a) *t/d*, in the late *Ardaxšaça* AVsa, for *Artaxšaça*.

in borrowed *tacaram* DPa 6, XPj, and *dacaram* DSd 3.

(b) *c/š*, in late inscriptions:

haša A³Sde 4, for the usual *hacā*. *Xšayārcahyā* A³Sa 2 bis, for *Xšayāršā* etc.

[*usta*]canām A³Sc 5f, for *ustašanām* A³Pa 22.

Ardaxšaça AVsa for *Artaxšaça*.

(c) *ç* and variants: in late *Ardaxšaça* AVsa, for *Artaxšaça*.

in late *Mit[ra]*, *M'tra*, *M'ōra* (see Lexicon), and the Persian personal name *Vau-misa* DB 2.49 etc.

Other variants are explained in the phonology as being due to admixture of Median forms; cf. §8.

§50. THE ERRORS OF WRITING can be divided into the following heads:

1. Metathesis of characters; §51.

2. Omission of characters and of groups of characters; §52.

3. Addition of characters or of groups of characters; §53.

4. Alteration of characters by omission or addition of a stroke; §54.

5. Miswritings less easily classified; §55.

6. Syntactical misuse of forms; §56.

7. Creation of new incorrect forms; §57.

Some examples might be classified under more than one of these headings, but will be arbitrarily assigned to the places which are most appropriate. As will be seen, most of these errors belong to late inscriptions, that is, after those of Xerxes. For by this time the development to Middle Persian was under way; sounds were undergoing changes, new words and meanings were coming in, the final syllables were being lost. OP had ceased to be a vernacular, and the scribes who composed the inscriptions had no experience of the language as it had been. They were thrown back upon the use of words and forms found in the older records, the use of which they often failed to understand. The result was inevitably an inaccurate orthography, most notably in the final syllables.

§51. METATHESIS OF CHARACTERS. The examples are the following:

ciyākaramm^ociy^o DNb 51, 51f, for *-c^om^oiy^o*, = *ciyākaram-ca-maiy*.

im^oy^o A?P 22, for *iy^om^o*, = *iyam*.

Dārayavahauš nom. XPf 25, *Dārayavauš* gen.

XPf 28: the original copy had *-v^ouš^o* in both places, and the corrector, finding the error in 28, made the insertion in the word where it stood in 25.

Skudrā XPh 27, *Kūšiya* XPh 28: a similar error; the lacking *a* should have been added to *k^ouš^oiy^o*, but was actually added to *s^ok^oud^or^o*, which stood just above it.

šrastibara DNC 2, written *š^or^os^ot^oi^ob^or^o*: the original copy had *ar^os^ot^oi^ob^or^o* = *arstibara*, and in endeavoring to change to *ar^oš^ot^oi^ob^or^o* = *arštibara*, the scribe altered the first character instead of the third.

Haxamān^ošiya A³Sa 3, with *-x^om^oan^o* for *-x^oam^on^o*. *dāvadāvam* XPhb 37f for the correct *-dānam* in copy a; the *v^o* for *n^o* stands at the end of line 37, and is copied from line 36, where the last character is *v^o*.

§52. OMISSIONS OF CHARACTERS: The omissions fall into several classes.

I. The characters *iy*^a at the end of a word are sometimes omitted after an *a*-inherent consonant: *t^ay^a* = *tya(iy)* XPh 23; *an^aiy^ašc^a* = *aniyašc(iy)*

XPh 41f; *p^ar^aiy^ai^a* = *pariyait(iy)* XPh 52.
apan^ayākama^a = *apan^ayākama(iy)* A²Sa 3;
[n^ay^aa]k^am^a = *[n^ay^a]kama(iy)* A²Sa 4.
p^aar^aš^a = (loc.) *Pārsa(iy)* AsH 3.
a[v^aa]m^aš^a = *a[v^a]mc(iy)* DB 5.2f (probable restoration).

II. The *-i-* may be omitted in final *-aiy*:

Auramazdā-tay DB 4.58, for *-taiy*.

maniyāhay DPe 20, for *-haiy*.

uta-may A²Sdc 4, for *uta-maiy* (which is in db).

Cf. forms of *dūrai*, with enclitic *apiy* (§136).

III. The character *a* was sometimes omitted where it marked length:

XŠyānām DPh 1, DH 1, *xšyayāyānām* A²Sc 2f, A²Pa 10, for *-yānām*.

awabā XPh 30, for the common *awabā*.

Auramazdāhā XPh 34, 43, XPh 14, 33, 37, 44, A¹Pa 18f, for *-āhā*.

ahāviy XPh 47, 48 (1st sg. subj.) = Skt. *āsāni*; unless the *ā* is analogical to the *ā* in other forms, such as 3d sg. *ahatiy*.

stūnāyā D²Sa 1, A²Hb, perhaps 1sf. for *-āyā*.

framātāram A²Pa 8, for the common *framātāram*.

Anāhūtā, *Anāhūtā*, in A²Sa, A²Sd, A²Ha, for (Av.)

Anāhūtā.

hyā waspā AmH 6, for *hyā*.

tyā ukārām waspām AsH 9f, for *tyām ukārām waspām* (cf. §56. V).

IV. The character *a*, representing the augment, seems to be lacking in *avāhar[da]* DB 2.94. On an apparently unaugmented *marda* DB 5.11, cf. §44 and Lex. s.v. *mard-*.

V. Final *m* is lacking in *iya* DB 4.90; *twa* XPh 46; *XŠyānā* A²Sb; *apadāna* A²Sa 3, A²Ha 5; *ab^ayopara* A²Sa 4. For all but the last, the forms with *-m* are found in other passages. Cf. also *tya* AsH 9, 13^a, for *tyām* (§52. III, §56. V).

VI. Miscellaneous characters are lacking as follows; for brevity we put the omitted value in the word, in parenthesis:

Auramaz(d)ām DB 1.54f; *u(l)ā* DB 3.77; perhaps *awa(θ)ā* DB 4.51; *i(ya)m* DB 4.91; in *U]tā[na : n]āma* DB 4.83, according to KT, the gap is inadequate for *n^a : n^a*; *im^a* DB 4.89 (Cameron), for *i(mā)m*; *Nabuku(d)racara* DBi 5f.

Auramazdā(ma)iy DNa 50; *ayāu(ma)iniš* DNb 59.

y^ad^aim^an^aiy^aaiy^a XPh 47, for *yadi(y :) maniyā-(ha)iy*.

ahyā(yā) A²Sdc 1 = *ahyāyā* A²Sdb 1.

utamaiy : kartam A²Sdb 4 (-*may* de), for *ut(ā : tyā)mai^ay : kartam*.

Dārayava(u)šahyā A²Ha 2, 2^a, 4, 4^a.

marbi(yā)hyā A²Pa 4f; *ašaga(i)nām* A²Pa 22.

VII. A serious haplography occurs, according to Bv. MSLP 23.182-3, in DB 1.66, where he would read *adīnā : adam : (patiyābaram : adam :) kāram*; but his assumption is not necessary for an interpretation.

§53. ADDITION OF CHARACTERS: in almost all examples the addition is of the character *a*: *awājanīyā* DB 1.51, 52, perhaps for *awajanīyā*; cf. JAOS 62.274.

patiyābaram DB 1.68, perhaps for *patiyābaram*; cf. JAOS 62.275.

Hāzāmānišiya XPa 10f, for *Hazāmānišiya*.

āhām XPh 15f, for *āham*.

akumawuš XSab 2, for *akumauš*, as in XSaa 2.

Artaxšačāhyā A²Sa 2 bis, for *Artaxšačāhyā* (or as in §172).

XŠahr^aya = *XŠāhyā* A²Sd 2, for *XŠhr^aya* = *XŠhyā* or *XŠy^ahr^aya* = *XŠyahyā*.

akumawām A²Sdb 3, for *akunawam*.

gāstā A²Sda 4, db 4, for *gastā* (as in A²Sdc, and elsewhere).

pučā A²Hb, for *puča* (after *napā*, acc. to Brd. WZKM 39.92).

Pārsā AmH 5, for *Pārsa*.

asmānām A²Pa 3, for *asmānam*.

Doublet forms, one with and the other without the character *a*, sometimes occur, where doubt may exist as to whether two pronunciations actually existed, or one of the two writings is erroneous:

wāipāšiyam DB 1.47, but *wāipāšiyahyā* DNb 15. *ciyākaram* DNb 50, 51, 51f, but *ciyākaram* DNa 39.

gen. *Cišpāiš* DB 1.5f, but *Cišpāiš* DBa 8, AmH 3; cf. §179. IV, Lg. 19.222.

acc. *dahyāum* DPd 15, 18, DNa 53; but *-y^aum^a* = *-y^aum* or *-yum*, in *visadahy^aum^a* XPa 12, *DHy^aum^a* A²Pa 26.

In A²Sb an extra *XŠ* is inscribed after *XŠyānā*; unless indeed the engraver has omitted the word

DHyānām immediately after the apparently extra *XŠ*.

§54. ALTERATION OF CHARACTERS BY OMISSION OR ADDITION OF A STROKE sometimes occurs, altering the value; the error may be either in original engraving, or in the reading by the modern observer:

I. The stroke is lacking; the corrected form is given first:

[A]tamaita DB 5.5, formerly read *m^emⁱt^e*; see Lexicon.

ṭadayālaiy DSa 5, formerly read *-m^eiy^a = miy*; cf. Hz. ApI 156-8.

utava DB 4.71f, for KT's *d^el^es^e*.

abaraha XPh 17, inscribed *ab^re^rn^e*.

Ṭatagudaya, perhaps to be read for *Ṭataguiya* A?P 11; see Lexicon.

II. The stroke is in excess:

agarabatā DB 3.55, inscribed *ag^rur^rta*, acc. to KT.

abara DB 3.67, inscribed *ab^rra*, acc. to KT.

akariyatā DB 3.92, inscribed *as^rra*. acc. to KT.

vikānāhy DB 4.71, 73, inscribed *vⁱis^e*. acc. to KT.

vikānāh^ediš DB 4.77, inscribed *vⁱis^e*. acc. to KT.

paśava : had^ā : k[ā]rā DB 5.21, correction from KT's *hadā : kār^ā* : Sa[kām].

f^ra^šm^a = frašam DSa 5, rather than *f^ra^šm^a = frašta*; cf. Hz. ApI 156-8.

§55. MISCELLANEOUS ERRORS OF WRITING are in the following:

I. The word is recognizable, but is considerably changed from the writing known in other passages:

š^kaurim^a = škaurim DB 4.65, for *š^kur^uim^a = skaurim*.

y^daiyāiša = yadaiyaiša XPh 39, for *y^daiyⁱiša = yadaiyaiša*.

y^dāyā = yadāyā XPh 39, apparently for *yadāyā*.

vⁱas^pra = viāspā A²Sdb 4, for *vⁱis^pra = vispā* (so A²Sda, dc 4).

b^um^am^a = būmām A²Pa 2, for *b^umⁱm^a = būmim*.

šⁱayātām = šāyatām A³Pa 4, for *šⁱayātām = šāyatām*.

ak^uun^am^a = akunām XSc 3 and A²Ha 5f (only *ām* visible), A²Sa 4 and 5 (restored); *ak^uun^a = akunā* A²Ha 7; *ak^uun^ašaš^a = akuwanašāša* A²Sdc 3 (and *ak^uun^ram^a = akunawām* A²Sdb 3, see §53); all for *ak^uun^rm^a = akunavam*.

ak^uun^aš^a = akunaš A²Sa 3f, D²Sbb 3, for *ak^uun^ruš^a = akunauš*.

II. The word is itself problematic or obscure: *a+^ra+* DB 4.89, as read by KT; see now Cameron's reading.

am^ram^ra DB 4.92, as read by KT; perhaps *hamazmatā* (JAOS 62.269).

af^ruw^aay^a DNb 38, perhaps for *aruwāyā* (JNES 4. 44, 52).

b^rat^uug^ra = siyⁱm^am^a = bātugara : siyamam AI; uncertain words.

jⁱr^di^ya = p^rr^adⁱy^ad^am^a = jⁱadiy : paradaiyādām A²Sd 3; uncertain words.

All the words on Seals b, c, d, e; uncertain.

§56. ERRORS IN SYNTAX may be either the product of an intentional writing of a form other than that called for by the use of the word in its context, or the product of a fortuitous miswriting which accidentally yields a form not called for by the context. Those occurring in the OP inscriptions may be classified as follows:

I. The nominative form, in a group of two or more words, is used as appositive or as predicate to a noun in another case or to an adverb; see §312, §313, §247E.

II. The nominative is apparently misused for the genitive, or the genitive for the nominative, in genealogies of Artaxerxes I-II-III; these misuses are explainable as examples of anacoluthon; see §313.

III. The labels of the throne-bearers in DN and A?P are sometimes written with the plural of the ethnic, or with the province-name for the ethnic; we give the examples, with a literal translation:

DN xv *iyam : Sakā : tigraxa[udā]* 'this is the Pointed-Cap Scythians'.

DN xxix *iyam : Maciyā* 'this is the men of Maka'.

A?P 9 *iyam : Zrakā* 'this is the Drangians'.

A?P 14 *iyam : Sakā : haumawargā* 'this is the Amyrgian Scythians'.

A?P 15 *iyam : Sakā : tigraxa[ud]ā* (as above).

A?P 23 *iyam : Yawnā* 'this is the Ionians'.

A?P 24 *iyam : Sakā : paradraiya* 'this is the Scythians across the sea'.

A?P 26 *iyam : Yawna : takabarā* 'this is the Ionian (sg.), petasos-wearers (pl.)'.

DN xvi [*iyam : Bā]biruš*, A?P 16 *iyam : Bābiruš* 'this is Babylon'.

IV. The use of masculine plural pronouns with

collective antecedents either masculine or feminine, exemplifies the constructio ad sensum rather than syntactical error; examples in §258.III.

V. Miscellaneous errors concerned with cases and genders:

AmH 2 *Pārsā* for loc. (§314.b); 5 *tya* as asf. (= *tyām*); 8f *iyam dahyāuš*, nom. for loc. (§314.b).

AsH 2 *Pārsa*, nsm. for lsf. (§52.I); 9f *tya ukāram waspam*, nt. for fem. *tyām ukārām waspām* (possibly by imitation of the phrasing seen in DSf 11, where the agreement is with nt. *xšaçam*).

XPh 33 *ava* (for *avām*) *dahyāvam*.

A¹I *hya* (nsm. for gsm.) *imam* (asm. for nsm. *iyam*) *bābugara siyamam* (asm. for nsm. *-ma*).

A²Sc 4f [i]mām (asf. for asn. *ima*) *hadiš*; 6 *tya* (for asf. *tyām*) *abagainām*.

A²Sd 3 *imām* (asf. for nsn. *ima*) *hadiš*.

A²Ha 7 *imam* (asm. for asn. *ima*) *tya*; so also

A²Sa 5 (restored).

A²Pa 22f *imam ustašanām abaganam* (for nom. *iyam ustašanā abaginā*) *mām* (perhaps for *manā*) *upā mām kartā*.

A²Pa 26 *tya mām kartā* (perhaps for *manā kartam*).

§57. NEOLOGISMS IN THE LATER INSCRIPTIONS, that is, after Xerxes, may perhaps be counted as errors, though susceptible of explanation. There are the following, all new formations for the genitive—presumably after the gen. *xšāyāviyahyā*, with which the genitives of the royal name were constantly associated, and gen. *Artaxšaçaahyā*: *Haxāmanišahyā* AmH 3f.

Dārayavaušahyā in A¹I, A²Sa, A²Hc, and restored in A²Sc; *Dārayavašahyā* in A²Ha.

Xšayāršahyā in A¹Pa, A¹I, A²Ha; *Xšayārcahyā* (§49b) in A²Sa; *Xšayāršahyā* (§187) in A²Hc.

CHAPTER III. PHONOLOGY

§58. THE PIE SOUNDS, whose history will be traced down into OP, were the following:

I. Vowels:	pure	semi-consonantal
short:	<i>e o a</i>	<i>i u r l ʔ n ʔ</i>
reduced:	<i>ɛ ɔ ə</i>	
long:	<i>ē ō ā</i>	<i>ī ū ȳ l ȳ n ȳ</i>

II. Diphthongs:		
short:	<i>ei oi ai əi</i>	<i>eu ou au əu</i>
long:	<i>ēi ōi āi</i>	<i>ēu ōu āu</i>

III. Consonants:

	voiceless		voiced		Nasals
	non-asp.	aspi-rate	non-asp.	asp.	
Stops					
labial	<i>p</i>	<i>ph</i>	<i>b</i>	<i>bh</i>	<i>m</i>
dental	<i>t</i>	<i>th</i>	<i>d</i>	<i>dh</i>	<i>n</i>
palatal	<i>k̄</i>	<i>k̄h</i>	<i>ǵ</i>	<i>ǵh</i>	<i>ñ</i>
pure velar	<i>q</i>	<i>qh</i>	<i>g</i>	<i>gh</i>	} <i>ɳ</i>
labiovelar	<i>qʷ</i>	<i>qʷh</i>	<i>gʷ</i>	<i>gʷh</i>	
Clusters					
dental	<i>tst</i>	<i>tsth</i>	<i>dzd</i>	<i>dzdh</i>	

Continuants (voiced, except *s*)

sibilants	<i>s</i>	<i>z</i>
liquids		<i>l r</i>
semivowels		<i>ɰ ʏ</i>

Remarks on the list of PIE sounds:

A. I have omitted from this list (a) Brugmann's *b bh ǵ ǵh*,¹ sounds of problematic nature which are posited to explain the occurrence of dental stops in Greek corresponding to sibilants in other IE languages; (b) Sturtevant's *z* and preaspirated continuants,² which also explain only certain peculiarities of development in Greek; (c) Brugmann's *sh* and *zh*,³ from *s* after voiceless and voiced aspirated stops, no distinctive product of which appears in any IE language; (d) short and long vocalic *ñ* and *ɳ*, since they were non-phonemic, and so rare that they seem not to occur in the extant words of OP.

B. Not all the sounds in the list were phonemic: *ñ* and *ɳ* developed only from a nasal standing before palatal and velar stops respectively; *z* developed only from *s* before voiced stops and after voiced aspirated stops, and in the voiced dental clusters.

C. There is no need for a special symbol to denote velar *g*, since the Aryan developments (§73.I-III) distinguish velar *g* from palatal *ǵ*.

D. The dental clusters were clusters consisting

¹ Brugmann, Gdr.² 1.790-3; cf. §102. ² Sturtevant, IH Laryngeals §80b, §73-§77. ³ Brugmann, Gdr.² 1.721, 724.

of three phonemes each, but of such peculiarity in their developments in the separate languages as to deserve places in the list; they originated in pre-Indo-Hittite from the following combinations:

tst < *t-t d-t*

tsth < *th-t th-th t-th d-th*

dzd < *t-d d-d*

dzdh < *lh-t dh-th dh-d dh-dh th-d t-dh th-dh d-dh*

The most important of these are the combinations of *t d dh* with *t* of a suffix.

E. Of the 'reduced vowels', *ɐ* is a reduction of *e*; *ɔ* is a reduction of *o*; *ə* is a reduction of *ē* *ō* *ā*.

§59. THE OLD PERSIAN SOUNDS are represented, in the normalized orthography, by the following equipment of graphic signs:

Vowels: *a i u ā ī ū*

Diphthongs: *ai au āi āu*

Stops and corresponding Spirants and Nasals:

Labial *p b f m*

Dental *t d θ n*

Palatal *c j*

Velar *k g x*

Sibilants *s š ç z*

Other Continuants *r l y v h*

The sounds represented by these symbols cannot be defined with entire precision; but in general they may be said to be those usually represented by these symbols, with the following limitations:

(a) *b d g* were probably voiced spirants when intervocalic, rather than voiced stops.¹

(b) *c j* were not stops, but the affricates *č* and *ǰ* (as in Eng. *church* and *judge*); but *j* represented also *ž* (as in *azure*).

(c) *f θ x* were voiceless spirants.

(d) *ç* appears to have been a voiceless sibilant between dental *s* and alveolar *š*.

(e) *v* was the voiced labial semivowel, as in Eng. *we*.

(f) The sound *r* was indicated by *r^a* preceded by the character *a* or an *a*-inherent consonantal character, and is indistinguishable graphically from phonetic *ar*; see §29.

(g) For other sounds present in the spoken language and not represented in the writing, see §27, §28, §39, §40, §103.II, §118.II.

(h) Other details will be presented in connection with the history of the sounds concerned.

(i) There is no evidence as to the position and nature of the syllabic accent of OP, except that the presence of enclitic words shows that there was an accent.

§60. THE POSITION OF SOUNDS AND SOUND-CLUSTERS IN OP WORDS.

I. The vowels *ā ā ī ī ū ū r* and the diphthongs *āi āi āu āu*, may occur anywhere in the word; there are extant examples initially of *ā ā ī ī ū ū r* *āi āu*, medially of all, final of *ā ā ī ī ū āi āu*.

II. All the consonants occur initially before vowels, except *f*; all occur medially intervocalic.

III. The following clusters of two consonants occur initially before vowels: *xr xš dr dv fr br sk st sp zr hy*; *ty* only in the stem *tya-* (see Lex. s.v.). The only initial cluster of three is *xšn*.

IV. The following clusters of two consonants occur medially between vowels: *xt xθ* xn xm* xr xš, gd gn gm gr, jy, tp* tr*, θb* θm θr*, dr dv, ny nw, fr, br, mn my, rk rx rg re rj rt rθ rd rn rb rm ry rv rs rš, ld*, st sp sm, šc šc št šd* šn šp šm šy šv, zd zb* zm zr, hy*. In the clusters *nk nx* ng nt nd mp mb hm hv*, all of which actually occur, the prior sound is omitted in the writing. Of those marked with *, *θb* occurs by analogical formation; *xθ* only in an uninterpretable word; *xm, θr*, and *zb*, only in Median words; *nx* only in a Scythian name; *tp, tr, ld* only in non-Iranian names of persons and places; *šd* only in apparently corrupt writings.

V. Clusters of three or four sounds occur medially intervocalic, as follows: *xšn*, transferred from the initial position (III); *xtr* and *xštr*, which are Median; *ngm*, written *gm*; *ršt, ršn, ršy; rvy*, unless this is phonetically *rviy*.

VI. In final position only single consonants are found, and of these only *m r š* are written; but peculiarities of the script show that final *t, d, n* (from *n* and *nt*), *h* (from *s* after pAr. *ā*) survived in the speech as faintly pronounced (i.e., minimal or reduced) sounds.

§61. PIE *e o a* fell together into one sound *a* in pAr., and this situation remained unchanged in pIr. and OP:¹

¹ Some scholars argue that OP *a* was pronounced *e* and *o* before *y* and *v* respectively, and that the OP diphthongs *ai* and *au* were pronounced *ē* and *ō* respec-

¹ On the phonetic value of *b d g*, see MB Gr. §§127-9.

- **ebherom*, OP *abaram*, Skt. *ābharam*, Gk. ἔφερον.
 **ekyam*, OP *asam*, Skt. *āsram*, Lt. *equom*.
 **pro*, OP *fra-*, Skt. *prā*, Gk. πρῶ.
 **apo*, OP prefix *apa-*, Skt. *āpa*, Gk. ἀπό 'from',
 Lt. *ab*.
 **akmōn-*, OP acc. *asmānam*, Skt. *āsmānam*, Gk.
 nom. ἄκμων 'anvil'.

In many words it is impossible to determine from what pIE vowel the OP *ā* has developed; a cognate outside Aryan, from a language which preserves the distinctions among the original vowels, is necessary, except where a pIE front vowel has palatalized a preceding velar stop and has thus indicated its own original quality (§73. III).

Absolutely final *ā* in OP was written *-ā*; that is, with addition of the character *a*, as though it were lengthened. This does not apply where the *-ā* was protected by a following unwritten minimal consonant. See §36.I, §40.

For *-ay-* becoming *-aiy-* and *-av-* becoming *-aw-*, see §48; for contraction of *ahah* to *āh* after dissimilative loss of the prior *h*, see §131.

- §62. PIE *ē* *ō* *ā*, like the corresponding short vowels, fell together in pAr. in the one quality *ā*, and remained in this value in OP:
 **e-dhē-t*, OP *adā* 'he made', Skt. *ādāt*, Lt. *fē-cit*.
 **mātē[r]*, OP *-mātā*, Skt. *mātā*, Gk. (Dor.) μάτηρ.
 root **dō-*, OP *dadātuv* 'let him give', Skt. *dādātu*,
 cf. Gk. δίδωμι 'I give'.
 subj. **ǵmō-skē-ti*, OP *xšnāsātiy* 'he shall know',
 Lt. (fut.) *nōscet* 'he will learn'.
 **bhrātēr*, OP *brātā*, Skt. *bhrātā*, Gk. φράτηρ 'clan-brother'.

§63. PIE REDUCED VOWELS.

I. pIE *ɛ* was the reduction of full-grade *e*, and *ɛ* the reduction of full-grade *o*; in the remains of OP they are convincingly seen only as the vowel remaining before liquid or nasal + vowel, in situations in which the liquid or nasal might be expected to assume merely vocalic value. Examples are given of *ɛ* in connection with vocalic *l* and *r*, and vocalic *m* and *n* (§66.II, §67.I-II);

tively; cf. MB Gr. §88, Hz. ApI 116, König Burgbau 62. These views are not supported by the OP orthography (cf. §48), and rest on the transliterations into Elamite and Akkadian, which sometimes stand in opposition to each other, and on the developments in Middle Iranian, which are not necessarily to be pushed back to the period of the OP inscriptions.

there are the following probable examples of *ɛ*, where other languages, notably the Skt. *u*, seem to indicate that the reduction is from *o* rather than from *e*:

- **poros*, OP *para*, Skt. *purás*, Gk. πάρος.
 **polu-*, OP *paru-*, Skt. *purú-*, Gk. πολύς.
 II. pIE *ə* was the reduction of *ē* or *ō* or *ā*; it became *i* in pAr., but *a* in all other IE branches.¹
 **patē[r]* 'father', OP *pitā*, Skt. *pitā*, Gk. πατήρ.
 **sedas*, OP *hadīš* 'abode', but **sedos*, Gk. ἔδος 'seat'.
 **menas*, OP *-maniš* in personal names, but **menos*, Gk. μένος 'vigor (of spirit)'.

In *hadīš* and *-maniš* the *ə* varies with a short vowel, which indicates another origin; the problem is too complicated for adequate discussion here.

But before *ǰ* or *ǰ* of the same or the next syllable, pIE *ə* became *a* even in pAryan; see §71.

§64. PIE *i* AND *u* have undergone very few changes in the various languages; they appear unchanged in OP:

- **ǵid*, OP *-ciy*, Skt. *cid*, Gk. τί 'what', Lt. *quid*.
 **peri*, OP *pariy*, Skt. *pāri*, Gk. περὶ 'around'.
 **esisteto*, OP *a'īštata*, cf. Skt. *dīṣṭhata*.
 **su-* 'good, well', OP *u-fraštam*, Skt. *su-*, Gk. ὑγιής 'healthy'.
 **pullo-*, OP *puca*, Skt. *putrā-*, Osc. *puclō-*.
 **susko-*, OP *huška-*, Skt. *śuška-*, Lith. *sausas* 'dry'.

Final *i* was in OP always followed by the character *y*, and final *u* by the character *v*; this was true whether the *i* and *u* were monophthongal or in diphthongs. See §37, §38.

For the method of writing *i* and *u* in OP, and irregularities therein, see §22; for the method of writing *hi* and *hu*, see §27, §28.

§65. PIE *ī* AND *ū* survived into most IE languages, including OP, without change; but because of the nature of the OP system of writing they can with rare exceptions be distinguished from *ī* and *ū*, only by etymological considerations:

- **ǵivyoš* 'living', OP *ǰiva*, Skt. *jīvās*, Lt. *vivos*.
 **dhi-dhi* (§129), OP inv. *dādiy* 'see', cf. NPers. *dīdān* 'to see', Skt. root *dhi-* 'think'.

¹ To identify pIE *ə*, it is necessary to have two cognates, one in Aryan and the other outside; or to have a cognate with the long-vowel grade.

**bhūmi-*, OP acc. *būmim* 'earth', Skt. *bhūmim*.
pAr. **dūra-*, OP adv. *dūraiṅ* 'afar', Skt. *dūrā-*
'far'.

For the occasional use of *w^o* = *w*, and possibly
of *iṅ* = *iy*, to denote *ū* and *ī*, see §23.

§66. PIE *r* AND *l* fell together in pAr. in the
sound *r*, which remained unchanged in Skt., and
so apparently in OP, though its written repre-
sentation is by *r^o* preceded by *a* or by an
a-inherent consonant: thus *k^or^om^o*, normalized
kartam, is *kṛtam*, Skt. *kṛtām*; *a^or^o-*, normalized
arta-, is *ṛta-*, Skt. *ṛtā-*. For details, see §29-§35.

I. Apparently PIE *r* became OP *u* before *n*,
though this value is seen only in forms of *kar-*
'make, do'; and this peculiar development is
rather to be attributed to the influence of other
verbs with *u* in the root before the *-nav-* suffix.¹
pAr. **kṛnavati*, OP *kunavaiy*, Skt. *kṛṇōti*; so also
other forms of the present and imperfect, such
as 1st sg. inf. *akunavam*, 1st sg. subj. mid.
kunavānaiy, etc.; and by extension in the
strong aorist: 3d sg. mid. *akutā*, etc.

II. When *r* (of either origin) is expected to
stand before a vowel, it must be either as con-
sonant *r*, or as the reduced vowel + consonant *r*.
The latter combination² appears in OP as *-ar-*:
pIE **ǵh^wl-enjo-*, OP *daraniya-* 'gold', Skt. *hiraṅya-*.
pIE **e-k^wri^onto-*, OP *akariya^otā*, cf. Skt. *akri-*
yanta.³

Before *i* and *y* there seems to have been the
same development as before a vowel; it is possible
that OP *akariya^otā* is based rather on **ek^wri^onto-*.

§67. PIE *ṛ* AND *ṛ̥* became pAr. *a* before con-
sonants.

**m̥bi-*, OP *abiy*, Skt. *abhī*, oHG *umbi* (but see
Lex. s.v. *abiy*).

**kṛtom* '100', in *θata-guš* (uncertain etymology,
see Lex. s.v.).

**bh^wdh-to-*, OP *basta-* (§85), Skt. *baddhā-*, cf. Eng.
bound.

negative prefix **ṛ-* in *a-xšaina-*, *a-xšala-*, etc.

**sṛ^w-dhe*, OP *hadā*, Skt. *sahā* 'with'.

I. Before a vowel or *i* or *y*, PIE *ṛ* and *ṛ̥* must,

¹ Lg. 18.79-82. ² Phonetically proper when the *r* was
preceded by two consonants, or by one consonant which
was itself preceded by a long vowel or a diphthong:
Edgerton, Lg. 10.257. ³ The OP must not be normalized
akr- (like the Skt.), since *kr* became *xr* in Iranian;
§103.I.

like *r* (§66.II), appear as *ṛn* and *ṛm*, which
became OP *an* and *am*:

**ǵ^wm-ṛēt*, Skt. *gamyāt*, OP *ā-jamiyā* 'may it come'
(with analogical *j*, §101).

neg. prefix **m-* in *An-āhitā* (never so written,
see Lexicon) 'The Spotless Goddess'.

In *a-yāu(ma)iniš*, negative of *yāumainiš*, the
prefix has been generalized in the antecorsonan-
tal form.

II. When final in the word, PIE *ṛ* and *ṛ̥*
became pAr. *a*, which of course was written *ā*
in OP (§36.I):

acc. **nōmṛ* 'name', OP *nāmā*, Skt. *nāma*, Lt.
nōmen.

But if *-ṛ* was the ending of the acc. sg. of a
noun or of the 1st sg. of a verb, the value *-am*
for *-ṛm* which was proper before an initial vowel
of the next word, was generalized: doubtless this
-am was fixed as normal by the concurrent influ-
ence of the *-am* in the acc. sg. of *-ō-* stems and in
the 1st sg. of the imperfect of thematic verbs:

acc. *viθ-am*, *asmān-am*; cf. *kāra-m*, *martiya-m*.

**ēs-ṛ* 'I was', OP *āh-am*, Skt. *ās-am*, Gk. (Hom.)
ῆ-α; cf. OP *abara-m*, Skt. *ābhara-m*, Gk.
ἔφερο-ν.

§68. PIE *ī* *ī̄* *ṝ* relate to the corresponding
pIE short vowels as *ī* *ū* to *ī* *u*; the first two be-
came OP *ar*, Skt. *īr* or *ūr*, the latter two became
ā in OP and Skt. alike. A few examples only
can be recognized with some probability, on the
basis of the Skt. equivalents:

**ālgho-* 'long', OP *dargam*, Skt. *dirghā*, Gk.
δολιχός.

**ǵ^wm-tu-* 'place', OP *gāthu-*, Skt. *gātū-* to the root
**ǵ^wem-* 'come'.

**e-ǵṛ-nā-t* 'he knew', OP *adānā*, Skt. *ājānāt*, to
root **ǵnō-*; unless this tense-formation really
be **ǵnō-nā-*, with pAr. dissimilative loss of
the prior *n*.

**ṛṅom*, OP *parwam* 'formerly', Skt. *pārvam*.

§69. THE PIE SHORT DIPHTHONGS IN *i*, namely
ei *oi* *ai*,¹ all became pAr. *ai*, which remained in
OP,² but became Av. *aē* or *ōi*, and Skt. *e*; they
remained distinct in Greek, with virtually no
change, and in Latin, where they became re-
spectively *ī*, *oe* or *ū*, *ae*. The ambiguity of OP

¹ No certain examples of pIE *ai* can be identified in
the OP vocabulary; for pIE *ai*, see §71. ² On the theory
that OP *ai* was sounded *ē*, see §61.n1.