



AVESTAN LANGUAGE II. THE PHONOLOGY OF AVESTAN

ii. The Phonology of Avestan

Attested forms and stages of development. Avestan is attested in two forms, known respectively as Old Avestan (OAv.) or Gathic Avestan and Young Avestan (YAv.). They differ from each other not only chronologically but also dialectally. Avestan, which is associated with northeastern Iran, and Old Persian, which belongs to the southwest, together constitute what is called Old Iranian. It is possible to some extent to reconstruct Proto-Iranian by comparing Avestan with Old Persian. This Proto-Iranian is closely related to the Vedic language of ancient India. Both Proto-Iranian and Vedic go back to Proto-Indo-Iranian or Proto-Aryan, which in turn descends from Proto-Indo-European.

By comparison with Vedic, whose phonemes are consistently recorded, Avestan in the form in which it has been handed down in manuscripts from 1288 A.D. onwards is attested in a very irregular notation. Apart from errors introduced in the post-Sasanian period, the essential features of the manuscript tradition of the Avesta must have been present already in the Sasanian archetype. When the Avestan texts were first recorded, perhaps as early as the fourth century A.D., each sound of the current Avestan pronunciation was designated by a special letter. The fact that a phonetic notation was used rather than a phonemic one means that it is possible to



assess the linguistic significance of the individual spellings with regard to both the synchronic description of the language and its historical development.

Every Avestan text, whether composed originally in Old Avestan or in Young Avestan, went through several stages of transmission before it was recorded in the extant manuscripts. During the course of transmission many changes took place.

For Old Avestan the following stages may be assumed: 1. The original language of the Zarathustrian *Gāthās*, the *Yasna Haptaŋhāiti*, and the four sacred prayers; 2. Changes involved by the practice of slow chanting; 3. Changes due to transmission by YAv. priests, who introduced many YAv. sound forms into the OAv. texts; 4. Deliberate alteration of the text in the course of an orthoepic revision (“School text”); 5. Continued transmission of the OAv. texts along with the YAv. texts.

Young Avestan went through the following stages: 1. The original language of the composers of grammatically correct YAv. texts; perhaps in Marv or Herat; 2. Dialect influences as a result of the transfer of the Av. texts to Southeast Iran (Arachosia?); 3. Transfer of the Avesta to Persis in Southwest Iran, possibly earlier than 500 B.C.; 4. Transmission of the Avesta in a Southwest Iranian theological school, probably in Eṣṭakr: Old Pers. and Mid. Pers. influences, the insistence on fantastic pronunciations by semi-learned schoolmasters (Av. *aēθrapaiti-*), the composition of ungrammatical late Av. texts, the adaptation of portions of texts taken from other regions where they were recited; 5. The end of the oral transmission: phonetic notation of the Avestan texts in the Sasanian archetype, probably in the fourth century A.D.; 6. Post-Sasanian deterioration of the written transmission due to incorrect pronunciation (Vulgate); 7. In the ninth and tenth centuries A.D. the manuscript copies of individual texts were made on which the extant manuscripts are based; 8. Earlier manuscripts were copied in manuscripts dating from A.D. 1288 till the nineteenth century by scribes who introduced errors and corruptions. These are the manuscripts extant today.

Many phonetic features can not be ascribed with certainty to a particular stage since there may be more than one possibility. Every phonetic form that can be ascribed to the Sasanian archetype on the basis of critical assessment of the manuscript evidence must have gone through the stages mentioned above so that “Old Avestan” and “Young Avestan” really mean no more than “Old Avestan and Young Avestan of the Sasanian period.”



The vowels. The Proto-Indo-Ir. vowels *a*, *ā*, *i*, *ī*, *u*, *ū* and the diphthongs *ai*, *āi*, *au*, *āu* (= Vedic *e*, *ai*, *o*, *au*) remained unchanged in Proto-Iranian. Proto-Indo-Ir. *i* that arose from Proto-IE. *ə* (the vocalization of a consonantal laryngal *H*) is attested by such forms as Av. *pitár-* “father;” OAv. *sīšā* “teach,” cf. Vedic *śiṣat*, from Proto-IE. **k̑se-*; OAv. *-maidī*, cf. Vedic *-mahi*, 1 plur. verb ending, from Proto-IE. **-med^hə*. But Proto-IE *H* was maintained under certain accentual conditions in Proto-Ir. and was lost in Av. Hence we find such contrasting forms as Av. *draonah-* “possession” beside Vedic *dráviṇas-*; OAv. *dugədar-* “daughter” beside Vedic *duhitár-*; OAv. *vəṛəntē* “he wishes” beside Vedic *vṛṇīte*; OAv. *fəδrōi* “to the father” beside OAv. *piθrē*. Proto-Indo-Ir. sonant *r* (= Vedic *ṛ*) became in Proto-Ir. and Av. *ər* but before *š* the tradition introduced the YAv. spelling *ar(š)* also into OAv. texts. The corresponding long vowel *ṛ* from Proto-IE. *ṛH* developed in Proto-Ir. and Av. to *ar* whereas Vedic had either *ir/ur* or *īr/ūr*.

There is a wide variety in the representation of the vowels in the manuscripts. Most of these features were already present in the Sasanian archetype.

Numerous anaptyctic vowels, represented mostly by *ə* but also by *a*, *ō*, and other vowel signs, were used to simplify consonant clusters especially after *r*: *arəθa-*, *karapan-*, *vīžibiiō*, *θβarōždūm*, etc. These anaptyctic vowels were introduced during the course of transmission in order to account for the pronunciation used in the slow chanting of the texts.

A late feature, perhaps arising in Southwest Iran, is the use of epenthetic *i* before consonants that are followed by *i*, *ii* or *ē/ě*: *aiti*, *mrūtē*, *irista-*, *iθiiejah-*. This epenthesis is not found before *ń*, *ńj*, *st*, *št*, *m*, *hm*, but it does occur before *rm*: *zairimiia-* “house,” cf. Vedic *harmyá-*; *airime* “quiet” beside *armaē*^o. Anaptyxis and epenthesis may occur together: YAv. *kəṛəiti-*; OAv. *daibitā*.

Epenthetic *u* occurs only before *ru*, *ru*: *uruθβarə*, *pouru*. It is a genuine YAv. development in the case of *-uri-* arising from older **-urūi-*: YAv. *paoiriia-* “first” from **paūriia-* from older **parūiia-*, cf. OAv. *paouruuiia-*; YAv. *tūiriia-* “father’s brother” from **təuriia-* from older **təṛūiia-* and ultimately from Proto-Indo-Ir. **pHṛūiia-*, cf. Vedic *pitṛvya-*. (On the phonological status of epenthetic *i* and *u*, see Morgenstierne, “Orthography and Sound-system,” pp. 55-58 par. ix.)

There is a consistent pattern in the representation of the quantities of the



vowels *a*, *ā*, *ə*, *ə̄*, *i*, *ī*, *u*, *ū*, *e*, *ē*, *o*, *ō* in final position: in OAv. they are always long, that is, both original *a* and *ā* are written *ā*, etc., while in YAv. they are always short, except for *-ō*, *-ə̄* (the YAv. final *-q* is always long) and in monosyllabic words. The short vowels were probably closed, the long open, as in Attic Greek. Hence in the Sasanian archetype short and long vowels were often used to indicate degrees of openness of the vowels rather than their quantities. Thus we find *vīspa-* “all” with *ī* indicating a (short) open vowel: cf. Vedic *vísva-*. Similarly explainable are the spellings of *ahura-* “lord,” with (long ?) closed *u*, beside the derivative *ahūiri-* with (short ?) open *u* (through dissimilation with the closed *i* ?); note also *ao* from **aū* beside *aē* from **ai*.

Qualitative changes are seldom found in the case of *ī/ĩ* and *ū/ũ* but note OAv. *əñaiti-* from **əniiti-* and *drəguuañt-* from **druguant-*. As in East Iranian dialects, Av. **-ū̄-* became *-uu-* in *juua-* “living,” cf. Vedic *jīvā-*, and *cuuañt-* “how much, how big” from **čūuant-*.

Proto-Ir. *a* suffered very many changes: to *ā*, *ə*, *ə̄*, *e*, *o*, *ō*. These came about partly due to phonological development caused by the surrounding sounds, partly due to the liturgical chanting, and partly due to dialect influence. Before final *-n* and *-m*, *a* always became *ə/ə̄*. This was originally the case also in word-interior position but *ə* was often replaced by *a* in this position in YAv., from where it was introduced also into OAv. Thus both OAv. and YAv. have *nəmah-* beside *manah-*. Before *-ŋh-* (*-ŋgh-*) where the nasal is etymological (*-ŋh-* from **-ns-*), OAv. has only *ə/ə̄* in *səñgha-* “pronouncement,” cf. Vedic *śámśa-*. But before *-ŋh-* where the nasal is secondary (*-ŋh-* from **-s-*), OAv. has only *a*, e.g. in *manəṅhā*, cf. Vedic *mánasā*. In both cases YAv. has *a*: *saṅha-*, *manəṅha*. In final position **-ans* became *-əñg* in OAv. and *-ə̄* in YAv.

In YAv. *ə* developed further to *i* after *ĩ*, *č*, *ǰ*: YAv. *yim* beside OAv. *yəṁm*; YAv. *drujim*, beside OAv. *drujə/ə̄ṁm*. Postconsonantal **-iə-* became first **-iĩ-*, then YAv. *-ĩ/ĩ̄-*, which was introduced from YAv. into OAv.: YAv. *ainim*, OAv. *aniiəṁm*, *ainim*, cf. Vedic *anyám* “other.” Similarly **-uə-* became *-uu* and then *ū/ũ*: YAv. *tūm*, OAv. *tuuəṁm*, cf. Vedic *tvám* “you.” Note that *-aiiūə-* became *-ōiiu-* by umlaut: YAv. *ōiiium* from *aēuua-* “one;” YAv. *vīdōiiium* from *vīdaēuua-* “abjuring the devils;” YAv. *Harōiiium* beside OPers. *Haraiva-*. An exception is *daēum* (not **dōiiium*!) from *daēuua-* “devil.” Proto-Av. **aiə*, **āiə*, **auə*, and **āuə* before *n*, *m* were reduced in YAv. to the disyllabic diphthongs *aē*, *āi*, *ao*, *āu* respectively: YAv. *aem* beside OAv. *aiiəṁm* “this;” YAv. *daēnā-* “religion” (from **daiəñā-*) was introduced into OAv.



Before *-*ui*-, *a* became *ə*: *səuuišta*- “strongest,” cf. Vedic *śáviṣṭha*-. In certain environments *a* became *e*: between *ḷ* and *j*, cf. *iṭiiejah*- “abandonment;” between *ḷ* and a syllable containing *ī/ĩ*, *ii*, or *ē/ě*, cf. *yesne*, loc. sing. from *yasna*- “veneration.” In some environments *a* became *o*: between *p*, *m*, *u* and a syllable containing *u* (but not *u*): *pouru* “much;” *mošū* “soon;” *vohu* “good,” but there are exceptions: *vaṇhuš* “good;” *pasu*- “cattle;” *maḍu*- “wine.”

Proto-Ir. **ā/ān* became *q* before spirants *x*, *θ*, *f*, *s*, *z*, *š*, *hi*: *mąθra*- “sacred utterance,” cf. Vedic *mántra*-; *qsa*- “party,” cf. Vedic *ámśa*-; *mąsta* “he thought,” cf. Vedic *maṁsta*; *qzō* “narrowness,” cf. Vedic *ámhas*-; *dąhišta*- “most versed,” cf. Vedic *dámśiṣṭha*-; *vąs* “he prevailed” (from **uānst*); *sąstā* (2 plur. inv.) “appear,” cf. Vedic *á-chāntta*; *frąš* “forward” (from **prāṇ*^{kš}).

In OAv. final *-ah* (cf. Vedic *-aḥ* from *-as*) became *-ə̄* but it has in most cases been replaced by YAv. *-ō*. That even YAv. originally had *-ə̄* (cf. Khot. *-ä[ə]* from **-ah*) is indicated by such forms as YAv. *vacəbīš* (instr. plur.) based on nom. sing. OAv. *vacə̄* (= Vedic *vácaḥ*).

We often find long, that is, open (*back*) *ā* instead of closed (*front*) *a* in initial position: *ārmaiti*- “right-mindedness,” cf. Vedic *arámati*-; *kāuuaiiō* “princes,” cf. Vedic *kaváyaḥ* “seers;” *srāuuahiieitī* “he desires fame,” cf. Vedic *śravasyáti*; *hātąm* (gen. plur.) “of the existing (ones),” cf. Vedic *satā́m*. Note also *ā* for *a* after *i* and *u*: *vii-ādarəsəm* “I have seen,” cf. Vedic *adarśam*; *vərəziiātąm*, *nīdiiātąm*, *viš’iiātā*, *hēmiiāsaite*, *paitii-āmraot*, *aiβii-āma*-, *drəguuātā*, *drəguuāitē* (but *drəguuatō*), etc.

Proro-Ir. **aḷ* usually becomes *aē* in open syllables (*vaēdā/ā* “he knows”) but *ōi* in closed syllables (*vōistā/ā* “you know”). In final position it appears as *-ōi* in OAv. but as *-e* in YAv. The spelling *-ē* in OAv. is due to YAv. YAv. has *-ōi* only in *yōi* and *mai’iiōi*. The dat. sing. forms OAv. *axtōiiōi* and YAv. *anumatəē* point to an original **-ə/ə̄/ə̄/ə̄* from Proto-Indo-Ir. **-aiḷai*, cf. Vedic. *-aye*.

Proto-Ir. *au* became *ao*, but before final *-š* it usually became *əu* in OAv. and YAv.: *gəuš*, *maṛiiəuš*, *mərəθiiaoš*. In final position *-au* became sometimes *-uō*, sometimes *-ō* (cf. Vedic *-o*): OAv. *huuō* “yonder” (from **hau*, cf. OPers. *hauv*); *ərəzuuō* (voc. sing.) “O straight one;” *huxratuuō* (voc. sing.) “O skilful one,” cf. Vedic *sukrato*; but *mainiiō* (voc. sing.) “O spirit,” cf. Vedic *manyō*; *aṇhuuō* (loc. sing.) “in the life;” *gātuuō* “in the place;” *daṇhuuō* “in the land” beside *daṇhō*; *haētō* “on the bridge;” *š’ātō* “in



peace;” *vaštō* “in the wish;” *həntō* “in gain,” cf. Vedic *sánitau*.

Many changes are found in the case of Proto-Ir. *ā*, e.g. *q*: *uruuqñō* “souls” beside *uruuānō* (in final position always *qm*, *qn*); *ā̄*: *mazāñtəm* (acc. sing.) “great;” *māñhəm* (acc. sing.) “moon;” *e*: *aiienī* “I shall go,” cf. Vedic *ayāni*; *zbaiiemi* “I call,” cf. Vedic *hvayāmi*. Final *-āh* became *-ā̄* (cf. Vedic. *-āḥ* from *-ās*); *sāsnā* “commandments” (by analogy also *sāsnās-ca* “and commandments”).

Original *ā* is often shortened, as in *dātaras-ca* beside *dātārō* “creators;” *-anqm*, gen. plur. ending with disyllabic *-qm*, cf. Vedic and OPers. *-ānām*; *aētarñqm*, cf. Vedic *etā́sām*: *-at̥haca* (instead of **-āt̥haca*), but *-āat̥cā/ā̄* in *ašāat̥cā/ā̄*.

Before a vowel, *āi* and *āu* are often shortened to *ai* and *au*, a feature shared by Avestan with East Iranian dialects such as Sogdian: *vaiiu-* “wind,” cf. Vedic *vāyú-*; *zaiiata* “he was born,” cf. Vedic *jāyata*; *-aiiā*, gen. sing. fem. ending, cf. Vedic *-āyāḥ*; *-aiiāi*, dat. sing. fem. ending, cf. Vedic *-āyai*; *nauuāza-* “boatman,” cf. Vedic *nāvājá-*; *yauuāñt-* “as great, as much,” cf. Vedic *yāvant-*; *ašāuuā* “righteous,” cf. Vedic *ṛtāvā*.

The consonants: (a) *Semivowels.* In the Sasanian archetype the semivowels *i̯* and *u̯* were always written *y* and *v* in word-initial position. These sounds probably represent an intermediate stage in the development of initial *i̯* and *u̯* to *j* and *b* as seen in NPers. In the Indian manuscripts *y* is replaced by *y*, whose original value was probably palatal *ǰ*. In medial position the manuscripts have *ii*, *uu* and not *y*, *v* as earlier transcriptions seemed to indicate, (e.g., *vayu-* for *vaiiu-*). The graphs *ii* and *uu* are to be interpreted phonetically as *i̯i* and *u̯u*: *friia* “dear,” cf. Vedic *priyá-*; *druua-* “firm,” cf. Vedic *dhruvā-*. The fact that *jiia* “bowstring” and *kuua* “where” were disyllabic in YAv., cf. Vedic *jyā́* and *kṵvā* respectively, is proved by their being written with a short final vowel, since the final vowel of monosyllables was regularly written long in YAv. *i̯i* and *u̯u* may have developed in West Iran under the influence of Old Persian, where every postconsonantal *i̯* and *u̯* became *iy* and *uv* respectively: Av. *aiiia-* (from **ani̯ia-*, cf. Vedic *anyá-*) like OPers. *aniya-*; Av. *hauruua-* (from **haru̯a-*, cf. Vedic *sárva-*) like OPers. *haruva-*. Even intervocalic *i̯* and *u̯* are sometimes written *iy* and *uv* in OPers. Thus Av. *dāraiiia-* and *bauuaiti* correspond to OPers. *adāraiiya* and *bauvatiy*. Note too that intervocalic *ii* and *uu* may even be etymologically justified: OAv. *aiiāt* from **ai̯iāt*, cf. Vedic *iyāt*, Av. *sraiiiah-* “more excellent,” cf. Vedic *śréyas-* (from Proto-Indo-Ir. **śrai̯H̱ias-*); *gauuāstriia-*



“belonging to the cattle pasture” from **gau-ṽāstriia-*. In the manuscripts the sequences *-iiuu* (from **-iṽu-*) and *-uuii-* (from **-uṽi-*) are usually simplified to *-iiu-* and *-uii-* or else expanded to *-iiauu-* and *-uuaii-*, but the original spellings are sometimes still attested: *mañiiuuā*, that is, **mañiiuuā*, from **mañiṽuāh* “of the two (evil) spirits;” *paouruuiia-*, that is, **paouruuiia-*, from **pauruuiia-* “first,” cf. OPers. *paruviya-*.

Internal *i* was lost in YAv. before *e*: YAv. *vaheḥi-* (fem.) “the better,” from **uahiḥi-*, cf. Vedic *váśyasī-*; *-ahe*, gen. sing. masc. ending, cf. Vedic *-asya*; *kaine* “girl,” cf. Vedic *kan'yā*; *bāzuḥe* “with both arms,” from **bāzuḥiā*, cf. Vedic *bāhúbhyām*; YAv. *-āe*, dat. sing. ending, cf. Vedic *-aye*.

A late but consistent change is that of *-uṽe* (from earlier **-uṽai* and **-uṽi*) to *-uii-*: OAv. *mruiiē*, YAv. *mruiie* “I say,” cf. Vedic *bruve*; OAv. *vīduiē* “to know” from **uiduṽi*.

In some cases Proto-Ir. *i* and *u* combine with a preceding consonant. Proto-Indo-Ir. **čī* became **š'ī* in original OAv. and then *š'ii* in the Sasanian archetype. In original YAv. it became *š'* but is mostly written *š* or *š̄* in the manuscripts. Thus we have: OAv. *š'iiāta-* beside YAv. *š'āto* (mostly written *šāto* or *šātō*).

Proto-Ir. *hi-* from Proto-Indo-Ir. *-si-* remained unchanged in original OAv. but became *-hii-* in the Sasanian archetype. After the change of *h* to *ḥh*, Proto-Ir. *-hi-* developed in original YAv. to *-ḥh-* from **-ḥhi-*. Thus we have: OAv. *vahiiō* beside YAv. *vaḥhō* (wrongly written *vaḥhō*), cf. Vedic *váśyah* “better.” In the same way Proto-Ir. *-hu-* (from Proto-Indo-Ir. *-su-*) developed into OAv. *-huu-* (from *-hu-*) and original YAv. *-ḥh-* (often written *-ḥuh-* or *-ḥh-* in the MSS): OAv. *gūšahuuā*; YAv. *pərəsaḥha* (often written *pərəsaḥha*, *pərəsaḥha*). Initially **hu-* became in Av. *x^v*: *x^vafna-* “sleep,” cf. Vedic *svāpna-*. On *x^v* see also under (f) below.

After certain consonants Proto-Ir. *u* underwent further changes. Proto-Ir. *śu* became *sp* in Avestan and Median: *aspa-* “horse,” cf. Vedic *ásva-*. Proto-Ir. *žu* became *zb* in Av. and Median: *zbaiia-* “to call,” cf. Vedic *hvaya-*, from Proto-Indo-Ir. **j^huāia-*. Proto-Ir. *θu* became *θβ* in Av.: *caθβārō* “four,” cf. Vedic *catvārah*, Sogd. and Parth. *ctfr*. Proto-Ir. *δu* became in YAv. *δβ* (*əṛəδβa-* “upright” beside *əṛəduua-* from **əṛdua-*) but initial **dui-* became OAv. *dbi-* (*daibišiant-* but *duuaēšah-*, cf. Vedic *dvéśas-* “hatred”) and YAv. *tbi-* (*tbišiant-* and by analogy *tbaēšah-*). From initial **dui-* YAv. has also *bi-* perhaps by dissimilation; *bitiia-* “second” beside OAv. *daibitiia-*, cf. Vedic *dvitīya-*.



Initial **ur-* was metathesized to **rū-* and written *uruu-* in Av.: *uruuata-* “commandment,” cf. Vedic *vratá-*.

(b) *Liquids* (only *r*).

Consonantal *r* and original syllabic **r* fell together in Avestan, syllabic **r* becoming *ər*. After *t* the *ə* was usually dropped: *ātrēm* (acc. sing.) “fire” from **ātərəm*; *strəš* (acc. plur.) “stars” from **stərəš*; *striia-* “to sin” from **stəriā-*, where the *ə* must have been lost before *i*-epenthesis could take place. Immediately following the Proto-Indo-Ir. accent *rk* became *hrk* and *rp* became *hrp*: *mahrka-* “destruction,” cf. Vedic *márka-*; *vəhrka-* “wolf,” cf. Vedic *vṛ'ka-*; *kəhrpəm* “body” from **kṛ'pam*. Instead of the expected **hrt* from **rt* we find *š*: *mašiiā-* “man,” cf. Vedic *márt'ya-*; *aməša-* “immortal,” cf. Vedic *amṛ'ta-*. From the third century A.D. Mid. Pers. loanwords from Av. are attested which have *hr/hl* for Av. *š*: Mid. Pers. *'hlw* [*ahlaw*] from Av. *ašauua*. *š* will accordingly have been pronounced originally as a voiceless *l*-like lateral fricative, which, at any rate in the post-Sasanian period, merged with *š*.

(c) *Nasals*.

On the whole the nasals *n* and *m* remained unchanged in Av., but they are regularly written *ṇ* before *t, d, k, g, c, j, b*. The letter *ṇ* probably represents a uvular nasal that was articulated just by lowering the soft palate. It is indicated in this article by *N* in reconstructions. The same sound no doubt occurred in OPers. but it was not written: Av. *aṇtarə* “inside” but OPers. *a-ta-ra* [*aⁿrār*]. The dorsal nasal was, however, retained in YAv. *paṇtaṇhum* “a fifth” from **paṇ^ktahum*. An unusual metathesis is attested by YAv. *mərəṇte* “he destroys” for **mərəṇte* from **mṛṇ^ktai*. Proto-Indo-Ir. *ns* before *ā/ā* resulted in Av. *ṇ(g)h*: YAv. *saṇha-*, OAv. *səṇgha-*, cf. Vedic *śámśa-*.

For discussion of Av. *-aṇha-*, *-aṇha-*, *aṇ^vha*, and *-aṇhi-* see above under (a) and below under (f).

Before *i*, *n* was palatalized to *ñ* but in the manuscripts *ñ* is usually replaced by *n*: *añiia-*, cf. Vedic *anyá-*. The manuscripts often have *ṇ* instead of *hm*, which makes it probable that *ṇ* was a voiceless *m*. Final *-m* is found for *-n* when the syllable in question had a labial initial: OAv. *dāmam*, *nāmam*: YAv. *uruθβam*, *θrizafəm*, *ašāum* (from **ašāum*).

Phonetically Av. *q* was probably nasalized *ə̃*. Not only did it develop from



Proto-Indo-Ir. $\bar{a}/\bar{ā}n$ ($\bar{a}/\bar{ā}N$) before s and \check{s} as seen above on the vowels but it occurs also in OAv. $\bar{a}r\check{q}\check{s}$ from $*-\bar{a}r\bar{a}N\check{s}$ from older $*-rN\check{s}$: $n\bar{a}r\check{q}\check{s}$, $m\bar{a}t\bar{a}r\check{q}\check{s}$, $m\bar{a}r\check{q}\check{z}dii\bar{a}i$. Note also $m\bar{a}r\check{q}\check{s}'ii\bar{a}t$ from $*m\bar{a}r\bar{a}N\check{s}'i\bar{a}t$ from older $*m\bar{r}\check{n}\check{c}i\bar{a}t$. As in the case of the OAv. and YAv. acc. plur. endings $-\bar{i}\check{s}$ and $-\bar{u}\check{s}$ from $*-iN\check{s}$ and $*-uN\check{s}$, the nasalization is not attested in the acc. plur. of consonant stems in YAv.: $n\bar{a}r\bar{a}\check{s}$, $str\bar{a}\check{s}$, and $pairiia\bar{e}tr\bar{a}\check{s}-ca$. In the manuscripts these forms are often miswritten, e.g., $n\bar{a}r\bar{a}u\check{s}$ for $n\bar{a}r\bar{a}\check{s}$.

(d) *Occlusives.*

The Proto-Indo-Ir. occlusives p , t , k , became f , θ , x in Proto-Ir. before a consonant. Proto-Indo-Ir. p^h , t^h , k^h also became f , θ , x before a vowel. However, Av. shows certain peculiarities. After s and \check{s} it has only p , t , k . Moreover, Av. has pt instead of the expected $*ft$; $f\delta$ and $x\delta$ for expected $*f\theta$ and $*x\theta$; $\check{s}'i$ and $\check{s}'e$ for expected $*xi$ and $*xi\bar{a}i$ in $ha\check{s}'i$ and $ha\check{s}'e$ corresponding to Vedic $s\acute{a}khi$ and $s\acute{a}khye$.

It is characteristic of OAv. that it has preserved b , d , g from Proto-Indo-Ir. b , d , g and b^h , d^h , g^h . In YAv., b , d , g are retained only in initial position while in medial position they were replaced by the voiced fricatives β , δ , γ except after a nasal or a sibilant. Thus, OAv. $dug\bar{a}dar-$ “daughter” contrasts with YAv. $du\gamma\delta ar-$. There are, however, a number of exceptions. Note OAv. $-\beta\check{z}$ - and $\gamma\check{z}$ -, YAv. $\gamma\check{z}$ -, $\gamma\bar{a}m-$, and $\gamma\bar{a}n-$. Proto-Ir. $-dn-$ became $-n-$: OAv. and YAv. $b\bar{u}/\bar{u}na-$ “bottom,” cf. Vedic $budhn\bar{a}$ -. Proto-Ir. $dm-$ was retained in OAv. but became $nm-$ in YAv.: OAv. $d\bar{a}m\bar{a}na-$ “house” beside YAv. $nm\bar{a}na-$. In YAv., γ was lost before u and \bar{u} : *Mourum*, cf. OPers. *Margum*; *raom*, cf. Vedic $ragh\bar{u}m$; $druu\bar{a}nt-$ from $*dru\gamma\bar{u}ant-$, cf. OAv. $dr\bar{a}guu\bar{a}nt-$. In YAv. $driy\bar{u}m$ “pauper,” the γ was restored by analogy with other forms of the paradigm such as gen. sing. $driyao\check{s}$.

The YAv. change of β to \bar{u} is dialectal, perhaps Arachosian; it may also have belonged to the colloquial language. Examples are: $g\bar{a}uruu\bar{a}iia-$ “to seize” from $*g\bar{a}r\beta\bar{a}i\bar{a}$ -, cf. Vedic $g\bar{r}bh\bar{a}y\bar{a}$ -.; the prep. $auui$ “to,” which is also written $auui$, aoi , from $*a\beta i$ contrasting with $ai\beta i$ in nominal compounds, cf. OAv. $aib\bar{i}$ and Vedic $abh\bar{i}$; the adj. $uu\bar{a}iia$, $uua\bar{e}m$ “on both sides,” cf. Vedic $ubh\bar{a}y\bar{a}$ -.; uua “both,” cf. Vedic $ubh\bar{a}$ (mase. dual); $uiie$ from $*u\bar{u}e$, cf. Vedic $ubh\bar{e}$ (neuter dual); $n\bar{a}ruii\bar{o}$ “to the men” beside $n\bar{a}r\bar{a}bii\bar{o}$, cf. Vedic $n\bar{r}'bhya\check{h}$; $a\check{s}auu\bar{a}oi\bar{i}\bar{o}$ “to the righteous” from $*a\check{s}au\bar{a}\beta i\bar{o}$. In some cases the spellings seem to be arbitrary: YAv. $m\bar{a}uu\bar{o}iia$ “to me” from $*ma\bar{u}i\bar{a}$ from older $*ma\beta i\bar{a}$, cf. OAv. $maib\bar{i}\bar{a}$; $huu\bar{a}uu\bar{o}iia$ “to (your)self” from $*hu\bar{u}au\bar{u}i\bar{a}$ from older $*hu\bar{u}\beta i\bar{a}$,



cf. original *-u̯i- in *hāuuōiia* (inst. sing.) “with the left (hand)” from **hau̯iā*, cf. Vedic *savyā́*.

The occasional replacement of δ by θ appears also to be dialectal, perhaps West Iranian. In the athematic *daδāiti* “he puts; he gives,” cf. Vedic *dad(h)āti*, δ is retained but in the thematic new formation *daθaiti* earlier δ has been replaced by θ . The gen. sing. of *daδuuā* “creator” is *daθušō*, which is confirmed by *dathousa* (in Greek script) in the Cappadocian calendar. Note also *h* from θ in Parth. *dh-*, NPers. *dah-* “to give.” θ is attested also in East Iranian in Khot. *parāth-* “to sell” from **parā-daθa-*, cf. Av. *para.daθa-*.

Proto-Indo-Ir. *t* was lost before *s*: Av. *masiia-* “fish,” cf. Vedic *mátsya-*. Similarly, Av. has *st* from **-t^st-* from *t/d + t* as in *vista-* “found” from **uid^stá-*, cf. Vedic *vittá* and *zd* from **-d^zd^h-* from *d^h + t* as in *vərəzda-* “grown” from **ur^dd^há-*, cf. Vedic *vṛddhá-*.

Final *-t* was lost after *n*, probably already in Proto-Indo-Ir., and also after *s*. Examples are: YAv. *ās* “he was” from **āst*; OAv. *cinas* “she assigns” with *-s* from **-st*; *vqs* “it prevailed” from **vān-s-t*; OAv. *sqs* “it seemed” from **ssānd-s-t*. However, both *-st* and *-št* are also found: OAv. *urūraost* “he wailed (?)” from **ruraud^st*; YAv. *nāist* “he cursed” from **nāid-s-t*; OAv. *vaxšt* “he made grow,” *cōišť* “he assigned,” *tāšť* “he shaped.” In all other cases *-t* became *-t̥* (probably an implosive): YAv. *barať*, OAv. *cōrať* from **čart*; OAv. *yaogəť* “he harnessed” from **jaugd* (?) from older **jaukt*. The graph *-gəť* may represent an implosive *-k / -g* in YAv. *paragəť* “apart from,” cf. Vedic *pārāk*; YAv. *ašiš.hāgəť* “following Aši;” OAv. *paitiaogəť* “responding.”

(e) Affricates.

The palatal affricates of Proto-Indo-Ir. *č, j, j^h*, which in Vedic became *c, j, h*, survived in Av. as *c, j, j*. On the development of Proto-Indo-Ir. **čj* to OAv. *š’i* and YAv. *š’* see above on the vowels. The YAv. change of *j* to the palatal **ž’*, always written *ž*, is dialectal, perhaps Arachosian: *družā-* “to deceive” from **drujja-*, cf. OAv. *a-drujiiant-*; *snaēžā-* “to snow;” *dražā-* “to hold;” *dažā-* “to burn;” *bažā-* “to distribute;” *naēnižaiti* “he washes.” It occurs very rarely in nouns: *aži-* “snake;” *tiži-^o* “sharp;” *snaēžāna-* “slavering;” *a-družqm* (gen. plur.) “of the deceitless” (otherwise only *druj-*).

The primary palatal affricates of Proto-Indo-Ir., namely *č, j’* and *j^h* from Proto-



IE. k^{\wedge} , g^{\wedge} , g^h , developed via Proto-Ir. s , z , z to Av. s , z , z corresponding to Vedic s , j , and h respectively: Av. *satəm* “hundred,” cf. Vedic *śatám*; *zaoša-* “pleasure,” cf. Vedic *jóša-*; *zaohtar* “priest;” cf. Vedic *hotár-*. Before t , d^h , and b^h , $ć$ and j' developed already in Proto-Indo-Ir. to $š$ and $ž$ respectively: OAv. *vaštī* “he wishes” beside *vasəmī* “I wish,” cf. Vedic *váṣṭi* beside *vásmi*; OAv. *važdra-* “pulling” from *vaz-* “to pull,” cf. Vedic *voḍhár-* “draught (i.e., pulling) animal” from *vah-*; OAv. and YAv. *vīžibiūō*, abl. plur. from *vīs-* “tribe,” cf. Vedic *viḍbhyaḥ* from *vís-*. In initial position $žn-$ became $žn-$ in YAv. (= OPers. *xšn-*): *žnātar-* “knower,” cf. Vedic *jñatár-* “knower,” OPers. *xšnā-* “to know;” *žnu-* “knee,” cf. Vedic *jñu-*. Internally both $śn$ and $žn$ became $šn$: YAv. *frašna-* “question,” cf. Vedic *praśná-*; YAv. *baršna* “in height, depth” (= OPers. *baršnā*) from **baržnā* from older **b^harj^hnā*. But *sn* is found instead of *šn* in some cases due to the influence of other forms: OAv. *vasnā* “according to wish” (= OPers. *vašnā*) from *vas-*; OAv. and YAv. *yasna-* “veneration” (cf. Vedic *yajñá-*), from *yaz-*.

The Proto-Indo-Ir. clusters sc and $šc$ from Proto-IE. sk developed via Proto-Ir. $sś$ and $šš$ to Av. s (= Vedic ch): Av. *pərəsa-* “to ask,” cf. Vedic *pṛchá-*. Similarly, $ćš$ and $jž^h$, from Proto-IE. $k^{\wedge}s$, $k^{\wedge}p$ and $g^h s$, $g^h p$ respectively, developed via Proto-Ir. $śš$ and $žž$ to Av. $š$ and $ž$: Av. *šōiθra-* “dwelling-place,” cf. Vedic *kṣétra-*; *uz-uuažat* “he drew out,” cf. Vedic *vákṣat* (subj.) from Proto-IE. u_{eg}^h-se- (see next paragraph).

(f) Sibilants.

Proto-Indo-Ir. s and z were maintained in Av. before n and occlusives, and after t and d , which were lost in that position as noted above. Thus we find: YAv. *snāuuarə* “sinew,” cf. Vedic *snāvan-*; *asti* “he is,” cf. Vedic *asti*; *masiia-* “fish,” cf. Vedic *mátsya-*; YAv. *mazga-* “marrow” from Proto-IE. *mozg^ho-*; YAv. *aspas-ca* “and the horse,” cf. Vedic *ásvas-ca*; OAv. *zdī* (2 sing. inv.) “be,” cf. Vedic *edhi*, from Indo-Ir. *azd^hí*; *vərəzda-* “grown” from **uṛd^hd^há-*, cf. Vedic *vṛddhá-*.

After Proto-Indo-Ir. $ī$ (i), $ū$ / $ü$ (u), r (r), $k^{\wedge}/g^{\wedge}/g^h$, and $ć/j/j^h$ (from Proto-IE. $k/g/g^h$), Proto-Indo-Ir. s and z became $š$ and $ž$: Av. *vīša-* “poison,” cf. Vedic *viśá-*; *mīžda-* “reward,” cf. Vedic *mīdhá-*; *žušta-* “loved,” cf. Vedic *juṣṭa-*; *aršti-* “spear,” cf. Vedic *ṛṣṭi-*; *uxšan-* “bull,” cf. Vedic *ukśán-*; OAv. *aoyžā* “you say” from **auḡ^hsa-*; *vaštī* “you wish,” cf. Vedic *vakṣi*, from Proto-IE. u_{ek}^h-si ; *tašan-* “fashioner,” cf. Vedic *tákšan-*, from Proto-IE. *tékpon-*. In Proto-Ir. this development took place also in clusters with labials. Thus Av. has $fš$ from **ps* and **pś*: Av. *drafsa-*



“banner,” cf. Vedic *drapsá-*; *fšu-* from **pśu-* to *pasu-* “cattle.” Similarly Av. has *βž* from **bz^h*: *diβžā-* “to deceive,” cf. Vedic *dipsa-*, from Proto-Indo-Ir. *d^hibz^ha-*; *vaβžaka-* “wasp” from **uabz^ha-* from Proto-IE. *uob^hso-*.

In all other positions Proto-Indo-Ir. *s* became Proto-Ir. *h*. This *h* was kept initially before a vowel: *hafta* “seven,” cf. Vedic *saptá*. But **hi* became *ś ii-* in OAv.: *ś iiāt* “he should be,” cf. YAv. *hiiāt*, Vedic *syāt*; and **h_u* became *x^v* in both OAv. and YAv.: *x^vafna-* “sleep,” cf. Vedic *svápna-*. Medial *h* was unchanged only before *i* and *u*: *ahī/i* “you are;” *uhura-* “lord.” In OAv. medial *h* remained unchanged also before *i* and *u*: OAv. *ahiiā*, cf. Vedic *ásya*: *gūśahuuā* with the ending *-ahuuā* corresponding to Vedic *-asva*. In the sequence *ā/āha*, *h* probably became voiced and resulted in *ḥ*: *aḥaṭ*, cf. Vedic *ásat*; *āḥarə*, cf. Vedic *ā’sur*. That this *ḥ* was phonemically significant is shown by the fact that it was extended from the gen. sing. *vanḥəuš* from **uaha_uš* (= Vedic *vásoḥ*) to the nom. sing. masc. *vanḥuš* although it is not found in the neuter *vohū/ū* or when *m* or *n* follow as in *vohūm* and *vuhunqm*. In medial position *hi* and *hu* developed in YAv. to *ḥh* and *ḥ^vh*; see (a) above. (See also Hoffmann, *Aufsätze* II, pp. 595-96).

In OAv. the gen. sing. ending *-ahiiā* is always written with *ś* before enclitic *-cā* “and:” *-aś iiā-cā*. This pronunciation may reflect the secondary accentuation **ahíá-ca*. *-ś ii-* is also found elsewhere for *-hi-*: OAv. *daś iiəuš* “of the land” but YAv. *daḥəuš*; both OAv. and YAv. *daś iiūm* (acc. sing.) and *daś iiunqm* (gen. plur.).

The use of *-x^v-* for internal *-h_u-* in YAv. *Harax^vaitī-* “Arachosia” and OAv. *nəmax^vaitī* “respectful” may be dialectal, perhaps Arachosian. The same applies to the use of *x^v* for unaccented syllabic *hu-* in the following: *X^vāstrā-*, name of an Arachosian river, from **hu-_uāstrā-*; OAv. *x^vāθra-* “welfare” from **hu-āθra-*, cf. *duž-āθra* “discomfort;” *x^vəḥg* (gen. sing.) from **hu_uəḥg* to *huuarə* “sun,” cf. Vedic *suvár*; *x^vaēta-* “easy to walk along” from **hu-ā-ita-*; *x^viti-* “easy walking.” (See also Hoffmann, “Das Avesta in der Persis,” pp. 92-93.)

Proto-Ir. *hm* is retained internally as in *ahmi* “I am” but the *h* is lost in initial position: *mahi* “we are,” cf. Vedic *smasi*. Proto-Indo-Ir. *sr* appears to have become *θr* in YAv. in initial position: *θraotō.stāc-* “flowing in rivers,” from **srautas-tāč-*, cf. Vedic *srótas-* but OPers. *rautah-*. Medially *hr* became *ḥr* in YAv.: *aḥra-* “evil,” cf. Vedic *asrá-* “painful;” *daḥra-* “knowing,” cf. Vedic *dasrá-*. These forms were introduced from YAv. into OAv., where one also finds the



spellings *angra-* and *dangra-*.

For the loss of final *-h* see above on the vowels.

BIBLIOGRAPHY

Chr. Bartholomae, in Geiger and Kuhn, *Grundr. Ir. Phil* I/I, pp. 1-48, 152-88.

W. B. Henning, "The Disintegration of the Avestic Studies," *TPS*, 1942, pp. 40-56.

London, 1944 (*Selected Papers* II, *Acta Iranica* 15, Leiden, 1977, pp. 151-67).

K. Hoffmann, "Altiranisch," in *HO* IV, 1, Leiden and Cologne, 1958, pp. 1-19 (*Aufsätze* I, pp. 58-76).

Idem, "Das Avesta in der Persis," in J. Harmatta, ed., *Prolegomena to the Sources on the History of Pre-Islamic Central Asia*, Budapest, 1979, pp. 89-93.

Idem, *Aufsätze zur Indoiranistik* I-II, Wiesbaden, 1975-76.

G. Morgenstierne, "Orthography and Sound-system of the Avesta," *NTS* 12, 1942, pp. 30-78 (*Irano-Dardica*, Wiesbaden, 1973, pp. 31-79).

(This was the only comprehensive phonetic and phonemic analysis of Avestan until 1979.) H. Reichelt, *Awestisches Elementarbuch*, Heidelberg, 1909, pp. 28-89.

S. N. Sokolov, "Yazyk Avesty," in V. J. Abaev, ed., *Osnovy iranskogo yazykoznanija I: Drevneiranskije yazyki*, Moscow, 1979, pp. 136-60.

G. Windfuhr, "Diacritic and Distinctive Features in Avestan," *JAOS* 91, 1971, pp. 104-24.

Idem, "Some Avestan Rules and Their Signs," *ibid.*, 92, 1972, pp. 52-59.

See also J. Duchesne-Guillemin, *Kratylos* 7, 1962, pp. 4-11.

J. Kellens, *ibid.*, 16, 1971, pp. 4-6; 18, 1973, p. 1.