Organizational Aspects of Bronze Production in Urartu[*]

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Introduction

Ancient metal objects are treated by archaeometallurgists and archaeologists in quite different ways. Traditionally, archaeometallurgical research focuses on the reconstruction of production stages of metal items. This goal is achieved by analyzing tools, residues of production and the products themselves. There are several problems with such work. For example, many of the stages from the extraction of ore to the finishing of a decorated metal object remain elusive because we do not (yet) have the analytical techniques to recognize them, and by far not all metal objects or residues can be subjected to such analyses for financial reasons. Furthermore, analyses are centered on the objects themselves, resulting in contributions to an evolution of technology, whereas the human beings responsible for that development remain secondary. Only in recent times has archaeometallurgy taken up new and promising approaches which put an emphasis on the reconstruction of the social, ideological and political factors of metal production (Knapp and Pigott 1997).

Archaeological (as opposed to archaeometallurgical) research on metal objects is mostly concerned with stylistic analyses. Many works try to
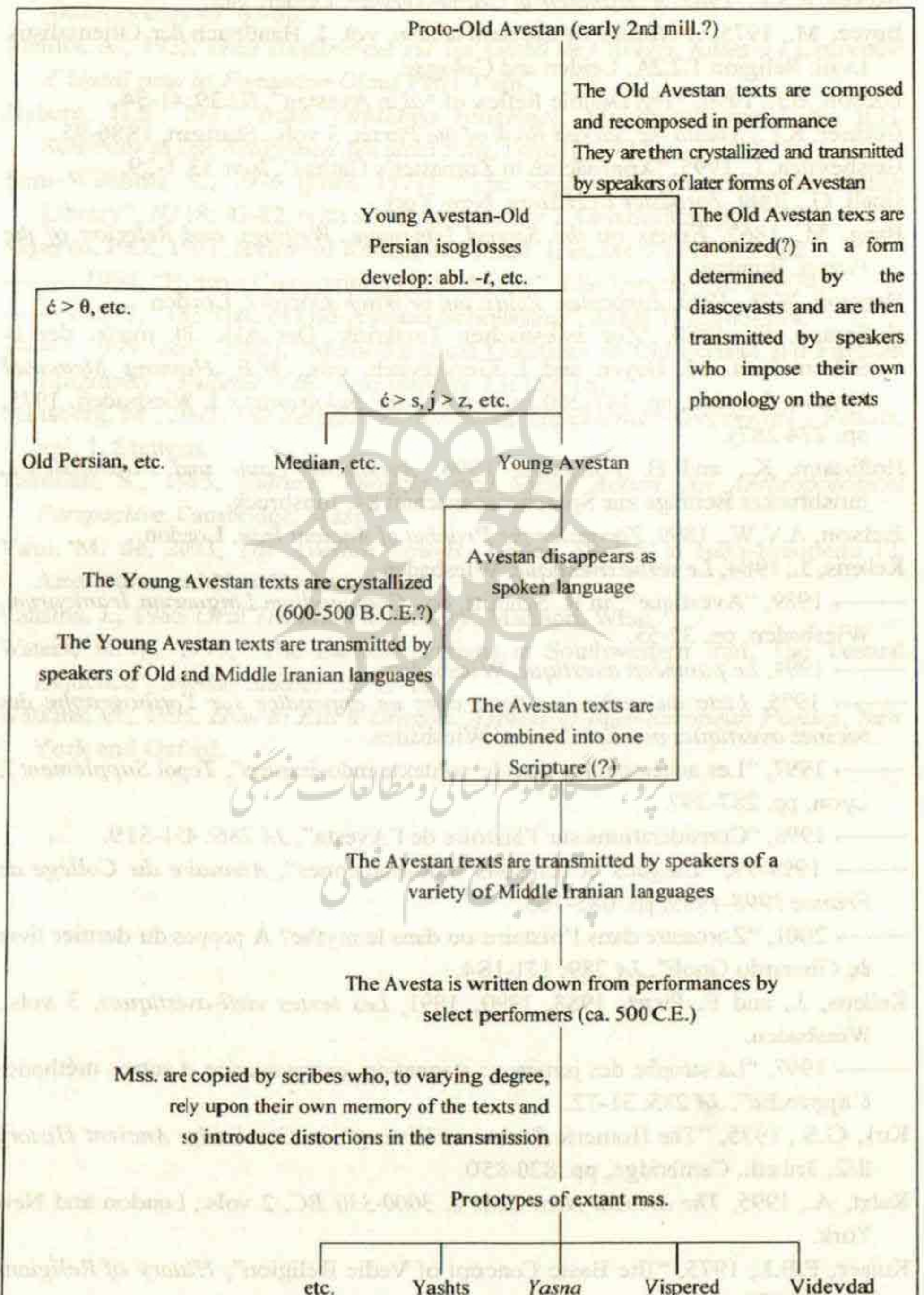
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Table 1. The transmission of the Avestan texts and languages

Proto-Old Avestan (early 2nd mill.?)

The Old Avestan texts are composed and reconposed in performance
They are then crystallized and transmitted by speakers of later forms of Avestan

Young Avestan-Old Persian isoglosses develop: abl. -*t*, etc.

The Old Avestan texs are canonized(?) in a form determined by the diascevasts and are then transmitted by speakers who impose their own phonology on the texts

ĉ > θ, etc.

ĉ > s, j > z, etc.

Old Persian, etc.   Median, etc.   Young Avestan

Avestan disappears as spoken language

The Young Avestan texts are crystallized (600-500 B.C.E.?)
The Young Avestan texts are transmitted by speakers of Old and Middle Iranian languages

The Avestan texts are combined into one Scripture (?)

The Avestan texts are transmitted by speakers of a variety of Middle Iranian languages

The Avesta is written down from performances by select performers (ca. 500 C.E.)

Mss. are copied by scribes who, to varying degree, rely upon their own memory of the texts and so introduce distortions in the transmission

Prototypes of extant mss.

etc.   Yashts   *Yasna*   Vispered   Videvdad

necessary to look for a place for Zarathustra in the company of the Buddha, Mahavira, Confucius, and the pre-Socratics for this literature to impress us. Placing the Gathas some 700 years earlier than the "late" date, still puts them in a good enough company, and their close to flawless transmission through millennia of adversity is one of the great achievements of the human mind of all times.

We may therefore dispense with the *Achsenzeit* and concentrate on the texts – their language and their transmission. Obviously, Meillet and Henning wrote before the concepts of oral literature and oral history became the topics of intense scrutiny in the second half of the twentieth century and may be excused for not taking them into consideration. There is less excuse today, when our knowledge about oral transmission of sacred texts stands on a much securer basis and Avestan philology has advanced far beyond Bartholomae, especially through the work of Karl Hoffmann and Helmut Humbach and their successors.

It may bear repeating, however, and stressing here at the end of this survey that there is equally much or little concrete evidence for an historical Zarathustra, regardless of how we date him: 2nd millennium B.C.E., 1000 B.C.E., or 700-600 B.C.E. The sum total of concrete evidence amounts to nil, and – to paraphrase Henning's argument (cited above) – until it has been shown conclusively that Zarathustra was an historical person, we shall be wise to assume that he was not.

- Composition of the Young Avestan texts, constantly linguistically updated, etc. (Young Avestan period; ca. 1000-600 B.C.E.).
- Canonization of the Old Avestan text with introduction of editorial changes (Young Avestan period).
- Crystallization of the Young Avestan text as unchangeable (600-500 B.C.E.?).
- Canonization of select Avestan ritual texts (under the Achaemenids; 500-400?).
- Zoroastrian calendar in western Iran (500-450 B.C.E.).
- Canonization of the Avesta(?) and transmission of the entire immutable text with introduction of linguistic novelties and changes made by the (oral) transmitters (up to ca. 500 C.E.). According to the Pahlavi books, repeated attempts were made to reassemble the "scattered" scriptures.
- Creation of a phonetic alphabet in which the entire known corpus, to the extent it was deemed worthy, was written down from performances by select performers (500-600 C.E.).
- Written transmission of the text (influenced by the by now not so reliable oral tradition?); copying of manuscripts contributes to the deterioration of the text.
- The Arab conquest causes deterioration of the religion and its texts; ca. 1000 C.E. there is only one single manuscript in existence of each part of the extant *Avesta*, from which all our extant manuscripts are descended.

An absolute time line for all these developments is of course impossible to establish. Table 1 contains a tentative chronology. We do see, however, that, in this scenario, the Old Avestan texts would not belong to the period in the history of the world that saw the birth of the great religions of the Buddha, and so on, but to the no less impressive time of the Mycenean civilization and the height of the Hittite civilization (Hattusilis ca. 1300); and the transition period between the Old and Young Avestan periods would coincide with the time of the crystallization and, probably, the canonization of the *Rigveda* and the beginning of the formation of the Greek epics, the *Iliad* and the *Odyssey* (13th cent. onward).[69] It is thus not

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69. On the Homeric epics see Kirk 1975. "Shorter" chronologies, such as the one proposed in Hoffmann and Forssman (1996: §8), which place proto-Indo-European about 3000 and proto-Avestan around 1000, are, in my opinion, highly unlikely, since they give the languages hardly any time to evolve and presuppose that the individual branches came up over night, as it were.

In the end, however, nothing can be proved rigorously; the only thing we can do is evaluate possibilities and probabilities,[64] and I regard it as the *more unlikely* scenario that the Old Avestan stage of Avestan survived virtually unchanged for such a long time, while its sister language changed. It should also be noted that Old Persian as seen in the 6th- and 5th-century Achaemenid inscriptions, was already at the end of its career. Under the 5th-century Achaemenids the language was already turning into a proto-Middle Persian.[65] It is particularly difficult to believe that the most archaic form of Iranian survived as a spoken language down to the Middle Iranian period. Recall that all the languages descended from Latin share most of their innovations, and no Latin-like language survived alongside them. Nor did any Proto-Scandinavian language survive next to the Old Scandinavian languages. In India, Rigvedic (or any other Vedic language) did not survive alongside the Middle Indic languages. Indeed, the possibility that Rigvedic might have continued to be spoken (and written) correctly at the time of the Buddha, when the spoken language was already Middle Indic, seems highly unlikely. In fact, the grammars produced at about this time[66] would hardly suffice to keep the language alive.

Following is a tentative (simplified) chronology of the history of the Avesta:

- Splitting up of the Indic and Iranian tribes before 2000 B.C.E.(?).[67]
- Composition of texts that were to lead to the Old Avestan texts, constantly linguistically updated (recomposed) in performance (ca. 1700–1200 B.C.E.?).
- Crystallization[68] of the Old Avestan text as unchangeable (early Young Avestan period; before 1000 B.C.E.?).

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64. Similarly, Kellens and Pirart 1997: 45 n. 24.

65. See, e.g., Skjærvø 1999 [publ. 2002]: 158-160.

66. Pāṇini's grammar was probably compiled some time between the 7th and 4th centuries B.C.E. The Buddha is now dated some time in the 5th-4th centuries B.C.E.

67. An Indic-speaking population appears to have been in place among the Mitanni in northern Mesopotamia by ca. 1400 B.C.E. at the latest, when several Old Indic deities are listed in a treaty between the Hittite king Suppiluliuma (1370-1330 B.C.E.) and a Mitanni prince named Shattiwaza (see Kuhrt 1995: vol. 1, 289-300).

68. The phenomenon by which an orally composed text, from being constantly *recomposed in performance*, at some stage, for some reason, is no longer *recomposed* but *fixed in (re)performance*. On the "crystallization" of the Avesta, see Skjærvø 1994: 207-208, 240-241; Kellens 1998-99: 686.

text as recorded in the manuscripts have forms presupposing this change. For instance, the word *huuar-* "sun" (see above) has the Old Avestan genitive *xᵛə̄ng*, but this must be read as **huu̯ə̄ŋ* from earlier **hu'aŋh* (genitive of Old Avestan nominative *huuarᵊ = *huu̯ar* "sun").

Similarly, the initial *zb-* of the root *zbā* "to call, invoke" has to be read as **zuu̯-* or **ju̯u̯-* in *zbaiieṇtē* (from **ju̯Hai̯antai*) "for him who invokes" in *Yasna* 49.12 (*dužᵃzᵊbå* "sb. making bad invocation" in *Yasna* 46.4 is for *duž-ju̯u̯āh* from **jʰu̯aH-s*, by "Siever's law").

Finally, the initial *sp-* of the root **ću̯aH-* (Old Indic *śvā-*) "swell" should probably be read as **ću̯u̯-* in *Yasna* 45.9, where we have the half-line *cōrəṯ spə̄ṇcā aspə̄ṇcā* "(who) has made ... what makes swell (with life) and what does not." This is a heptasyllabic half-line with *cōrəṯ* counting only one syllable (for **cart* or **carᵊt < *cṛt*?),[60] which means that either *spə̄ṇ* or *aspə̄ṇ* must count an extra syllable. It is likely then that *spə̄ṇ* replaced original **ću̯u̯an* (from **ćuHan* or **ćuHani*), while *aspə̄n* is for **aću̯an*.[61]

It seems to me easier to explain these facts by assuming that Old Avestan still had *ć* in these words, hence **ću̯u̯an* and **aću̯an*, rather than positing a morphophonological alternation **su̯u̯an*[62] ~ **aspan* and subsequent analogical replacement of **su̯u̯an* by (disyllabic) **span*.

These examples show clearly that the phonetic shape of the Old Avestan text is fundamentally adapted to Young Avestan phonology and is no safe guide to its original form.[63] This would also imply that Old Persian "is descended from" Old Avestan, a claim that seems preposterous on the surface, but acceptable once we posit that the original Old Avestan was simply a (late) form of proto-Iranian.

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60. Thus Kellens 1984: 353, 1995: 15. Differently Kellens and Pirart, who read *cōiriṯ* with the manuscript J2.

61. Here the laryngeal would have been lost by the so-called "*neognos*" rule: **aću̯Han- > *aću̯an-* (I am grateful to J. Jasanoff for this reference).

62. Cf. the derived adjective Old Indic *śūra-*, Avestan *sūra-* "strong with life-giving strength."

63. Another feature of Old Avestan phonology as opposed to Young Avestan is the difference in the distribution of the diphthongs *aē* and *ōi*. In Young Avestan, *ōi* is preferred before consonant clusters, except *s* or *š* plus one consonant (these clusters seemed not to have closed a preceding syllable), but in Old Avestan we also find *ōi* before original geminate *ss* and *šš* from sibilant clusters (*upōisa- < *upa-isća-*, *dōišī < *daić-šī*), which *may* point to a stage when the sibilant groups had not yet been simplified (Fortson 1996: 7; against, Vaan 2003: 352 n. 436).

also have to assume that the most important isoglosses distinguishing Old Persian from most of the other Iranian languages date to the time after these two separated, namely the developments of the Indo-European palatal velars $\hat{k}$, $\hat{g}$, and $\hat{g}^h$ in Indo-Iranian:

Indo-Eur.	Indo-Iranian	Proto-Iranian	Avestan, etc.	Old Persian	Old Indic
$\hat{k}$	$\acute{c}$	$\acute{c}$	s	θ	$\acute{s}$
$\hat{g}$	j	j	z	d	j
$\hat{g}^h$	j^h	j	=	=	h
$\hat{k}\underline{u}$	$\acute{c}\underline{u}$	$\acute{c}\underline{u}$	sp	s	$\acute{s}v$
$\hat{g}\underline{u}$	$j\underline{u}$	$j\underline{u}$	zb	z	jv
$\hat{g}^h\underline{u}$	$j^h\underline{u}$	$j\underline{u}$	=	=	hv

Examples:

Proto-Iranian	Old Avestan	Young Avestan	Old Persian	Old Indic	Latin
*$\acute{c}aŋha$- "announce"	$sāŋgha$-	$saŋha$-	$\theta a^n ha$-	$śaṃsa$-	censeo
*aj^ham "I"	$azəm$	$azəm$	$adam$	$aham$	ego
*$a\acute{c}\underline{u}a$ "horse"	$aspa$-	$aspa$-	asa-[59]	$aśva$-	equus
*$-j^h\underline{u}ai\underline{a}$- "invoke"	$zbaiia$-	$zbaiia$-	($zbaya$-)	$hvaya$-	
*$-j^h\underline{u}ā$- "tongue"	($hi\text{-}zuu$-	$hizuuā$-)	$ha\text{-}zā\text{-}n$- cf. Persian $zabān$	$ji\text{-}hvā$-	$lin\text{-}guā$

Old Avestan exhibits the same sound change as Young Avestan, but there are some indications that the presence of s/z and sp/zb, rather than their preforms, may be due to the transmitters. We know that words of the structure Cu'a- (C = any consonant) had not yet become *Cu̯a- in Old Avestan, even if the

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southwestern Iran, where they are found in the historical period. Tiglath-Pileser III (744-727 B.C.) refers to the "mighty Medes" and the "distant Medes." See Waters 1999.

59. The normal word for "horse" in Old Persian is *aspa*-, presumably borrowed from Median, while *asa*- is found in the compound *asa-bāra*- "mounted on horse, rider."

Linguistic Similarities between Young Avestan and Old Persian

Yet another fact needs to be considered that scholars have rarely focused on in this connection, namely a small, but important, set of similarities between Young Avestan and Old Persian:

1. In both Young Avestan and Old Persian the ablative marker -*t* of the *a*-stems was generalized,[55] while the Old Avestan ablative singular = genitive, except in the *a*-declension.

2. Young Avestan and Old Persian both had a pronominal stem *di*-replacing some forms of the Old Avestan pronominal stem *i*-.[56]

3. In both Young Avestan and Old Persian the optative came to be used to denote habitual or repeated action in the past. All the Old Persian forms have the augment, while only some of the Young Avestan ones do.

4. In both Young Avestan and Old Persian the relative pronoun came to be used with "specifying" or "delimiting" function or, simply, as an alternative means of adding adjectives and genitives to nouns[57] (e.g., Old Persian OP. *kāra haya manā* "my army" versus *manā kāra* "my army"; Young Avestan *gāθå ... yå paṇca ... zaraθuštrahe* "the five *Gāθā*s, those of Zarathustra" [*Yasna* 57.8] versus *paṇca gāθå* [*Yasna* 71.6]). This use of the relative resulted in the later *ezafe* construction, common in Iranian languages.

The simplest way to account for this situation is to assume that these four features developed in a form of Old Iranian antedating the differentiation of Young Avestan and Old Persian. Since the Persians, presumably speaking (proto-)Old Persian, are found in western Iran already in the 9th century B.C.E., the split between Young Avestan and Old Persian probably took place some time before 1000 B.C.E.[58] By such an assumption, however, we

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55. In Old Persian, the instrumental and ablative had merged and final -*h* and -*t* had been lost (or were not written). Thus final -*ā* (instrumental) and -*āt* (ablative) both became -*ā*. Therefore, we can only "see" the final -*t*, when it contrasts with -*š*, as in *hacā Hidauv* "from India" and *hacā bābirauv* "from Babylon," both with -*auv* from -*aut* (Young Avestan -*aoṯ*), beside *hacā bābirauš*, with the older ablative = genitive ending (Young Avestan -*aoš*). In *hacā amāxam taumāyā* "from our family," however, *taumāyā* can be from *taumāyāt* (ablative) or *taumāyāh* (genitive-ablative).

56. It is commonly assumed that the forms in *d*- developed from sandhi forms such as *āt-im* "then ... him" > *ād-im* > *ā dim* and, by analogy, *āṯ dim*; similarly, *yat-īš* "when ... them" > *yad-īš* > *yaṯ dīš* (cf. Old Avestan *hiiaṯ īš*, Young Avestan *yaṯ dīṯ* "when ... it").

57. There are similar constructions already in Old Avestan.

58. We do not know when or how the Old Persian-speaking tribes came from Central Asia to

2) In manuscripts copied in Iran from the eighteenth century on, long *ū* was replaced by long *ī*, e.g., *Yašt* 13.57, reading of the Khorda Avesta manuscripts: *afrašīmaṇtō* for *afrašūmaṇtō* "without forward movement."[53] Similar changes are bound to have taken place many times during the transmission.

It is therefore in principle not impossible that Young Avestan in its original form is descended from Old Avestan in a *more original* form, as these two were before they were modified throughout their transmission. We need simply assume that the original Old Avestan was closer to proto-Avestan than our text indicates. In the case of the examples cited above (p. 41), we can therefore posit the following kind of developments:

Proto-Avestan	*amauant-			
Old Avestan	*amauant-	> *ə̄mauuaṇt-		
Young Avestan	*amauuaṇt-[54]			
Proto-Avestan	*huuaŋh			
Old Avestan	*huuaŋ	> *xᵛəng		
Young Avestan	*huuəŋ	> *huuā̆	> *huuū	> hū
Proto-Avestan	*ahuai			
Old Avestan	*ahuai	> *ahuuai	> ahuiiē	
Young Avestan	*aŋhuai	> aŋᵛhe		
Proto-Avestan	*duaišah			
Old Avestan	*duaēšah	> duuaēšah		
Young Avestan	*dbaēšah	> ṭbaēšah		
Proto-Avestan	*duitīia			
Old Avestan	*duitīia	> dᵃⁱbitiia (presumably influenced by Young Avestan)		
(Old Persian	*duitīia	> duvitīya)		
Young Avestan	*dbitīia	> bitiia-		

Thus, Kellens and Pirart's remark (1997: 45 n. 24) that Meillet's argument is a two-edged sword, as it were, is very much to the point, because it also leaves the possibility open that Old Avestan is still older than we assume and Young Avestan may be older or younger.

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53. Hoffmann 1970: 193 = *Aufsätze zur Indoiranistik* I: 280.
54. Alternately, Young Avestan, too, had *əmauuaṇt-, which later reverted to *amauuaṇt-.

Turkestan and written some time before 1000 C.E., which shows clear signs of having been recited according to local phonetic practices. This text was identified by Ilya Gershevitch and published as an appendix to Sims-Williams (1976: 75-82). It is worthwhile comparing this text with a reconstructed form of proto-Avestan and the actual Avestan form:[50]

Proto-Avestan	Sogdian (as written)	Sogdian (as spoken)	Avestan
r̥tam uahu	[...]mwxšt myšt'y	*urtam (ux)	ašəm vohū
uahištam asti		uxištam išti	vahištəm astī
uštā asti uštā	wšt'y wšt''y	uštāy uštāy ašt	uštā asī uštā
ahmāi	'štwxm'y	uxmāi	ahmāi
(h)i̯at r̥tāi	twrt'y 'xwšt'yrtm	(i̯a)t urtāy axuštāy	hii̯at ašāi
vahištāi r̥tam		(u)rtam	vahištāi ašəm

Without going into details (for which see Gershevitch), it is clear that the Sogdian who recited this text no longer knew it very well, but it also shows an archaic phonetic form of the text, notably the group *rt*, which had become *ṣ̌* in the Sasanian pronunciation.

In fact, the recent tradition as reflected in our manuscripts (the earliest from the 13th century) is not a reliable guide to the more ancient pronunciation, as we can see from instances like the following two: (1) Already ca. 1000 the distinct pronunciation of the three letters that we transcribe as *š*, *ṣ̌*, and *ś* had been lost[51] and, in the manuscripts, the letters were used indiscriminately (or according to new principles of distribution).[52]

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50. I interpret this prayer as follows: "The (divine cosmic) Order is the best good (thing, reward) there is. (There are) wished-for things in the wish for one, when (one's social, ritual) Order is (conducive) to (the regeneration and upholding of the divine cosmic) Order."

51. The three were probably assigned as follows when the Avestan alphabet was invented:

š the original *š*, e.g., *gaoša-* "ear" (Old Persian *gauša-*, modern Persian *guš*);

ṣ̌ a sound resulting from the group *rt*, e.g., *maṣ̌ii̯a-* "mortal man" (Old Persian *martiya-*, modern Persian *mard*);

ś a sound resulting from the group *či̯*, e.g., *śauu-* "move" (Old Persian *śiyav-* "go," modern Persian *šav-* "become," Old Indic *cyav-* "move").

It should be noted that Karl Friedrich Geldner, in his edition of the Avesta (1886-95) used the *ṣ̌* sign as default letter for the *š*-sound. The actual manuscript readings are found in his critical apparatus.

52. For instance, in some manuscripts, *ś* is used regularly before *ii*, thus even *maśii̯a-*.

1. Young Avestan has *amauuaṇt-* "powerful," but Old Avestan has *ə̄mauuaṇt-* (from *amauaṇt-*).

2. The genitive of *huuar-* "sun" is Old Avestan $x^v ə̄ṇg$ (disyllabic!), but Young Avestan *hū*.

3. Proto-Avestan **hu̯* between vowels became Old Avestan **huu̯*, but Young Avestan *ŋ^v h*, cf. the dative singular of *ahu-*: Proto-Avestan **ahu̯ai* > Old Avestan *ahuiiē*, Young Avestan *aŋh^v e*.

4. Proto-Avestan **du̯* became *duu* in Old Avestan, but in Young Avestan **du̯* became *ṱb-* or *b-* in initial position, but (usually) *δβ* between vowels, cf. Old Avestan *duuaēšah-* "enmity," Young Avestan *ṱbaēšah-*, but also *diduuaēša* "I have harmed"; Old Avestan *d^ai bitiia-* "second," Young Avestan *bitiia-* (but *ā-ṱbitīm* "a second time"); Old Avestan *aduuan-*, Young Avestan *aδβan-* "road."

What these and other similar facts show, however, is only that, phonetically, Young Avestan *as we know it from our extant manuscripts* cannot be descended directly from Old Avestan *as we know it from the manuscripts*. We shall return to this point.

The phonetic form of the language must also have been modified by scribes who spoke dialects or languages with phonological systems differing fundamentally from that of the original Avestan language.[49] Thus, on the one hand, the Old Avestan texts contain many elements that are clearly borrowed from or influenced by Young Avestan and, on the other, the Young Avestan texts contain both elements that are imitations of Old Avestan ("pseudo-Old Avestan") and elements belonging to later stages of Iranian that were probably introduced by the scribes. This makes it almost impossible to determine which of the sound changes we observe in our extant manuscripts already belonged to the original language(s) and which ones were introduced at various stages of at least a thousand years' oral and written transmission of the texts.

If proof is needed that local pronunciation affected the form of the Avestan text, we may compare the version of the Avestan *Ašəm vohū* prayer preserved in a Sogdian manuscript found at Dunhuang in eastern Chinese

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49. For the difficulty experienced by speakers of ancient languages, compare the English, German, and Italian ways of pronouncing Latin. Not much importance is attached to pronouncing the holy texts of the Bible, for instance, as they were originally spoken in Hebrew, Greek, or Latin.

note that the substitution of the thematic ending -*əmna*- for athematic -*āna*- does not affect the meter and could easily have been introduced by an "editor" (or a performer) during the oral transmission of the text. Alternately, -*əmna*- may have been the original ending, which was later replaced by -*āna*-.

In fact, various important aspects of the transmission must be kept in mind when weighing the significance of these forms, most importantly the fact that we are not dealing with written texts whose forms remained unchanged in manuscripts. Rather, what we have are texts from different times and places that were transmitted orally by singers-reciters who spoke other forms of the languages or different dialects altogether.

Second, we must keep in mind that the extant text of the Avesta is an *edited* text and does not necessarily reflect in every detail a genuine linguistic system (although, as far as we can tell, it is amazingly correct). For centuries, during the oral transmission of the text, editors (diascevasts) worked to "standardize" it and even changed the text. Examples include the following two:

1. The so-called "repetition of preverbs in *tmesis*," that is, when a preverb is separated from the verb and placed toward the beginning of the sentence, it is sometimes repeated directly before the verb (as if it were not separated at all), e.g., in the original line *paitī uruuąnō yeiṇtī* "the souls are coming toward (them)," the preverb *paitī* belongs with the verb *yeiṇtī*: *paiti-i-* "to come toward"; to make this relationship explicit, the "editors" reintroduced the preverb before the verb, so that the extant text has *paitī uruuą nō paitiieiṇtī*.

2. The graphic splitting-up of consonants (*gaṯ.tōi* for **gatōi* "to come" < *gam-*; *aēšəm.mahiiā* for **aēšmahiiā* "of Wrath") and the detachment of endings (*gōuš.āiš* for **gōušāiš* "with ears"; *gūsō.dūm* for **gūsōdūm* < **gūsadūm* "listen!"; Young Avestan *uziiō.rəṇtəm* for **uziiarᵒ* "coming up").

Of these two, the first probably took place early on (in the Young Avestan period?), while the second could have happened at any stage of the transmission, but before ca. 1000 C.E., the approximate date of the prototype of the extant manuscripts.

Divergent Phonetic Developments in Old and Young Avestan
Let us now look at some of the phonetic features of these two that make it impossible to derive the Young Avestan of our manuscripts directly from the Old Avestan. Among them the following are typical:

genders (cf. masculine *vīspanąṃca aētaēšąm vacąm* "and of all these words" [*Yasna* 71.8]; feminine *vīsparąm daxiiunąm* "of all the lands")[43], an *vīspanąm nmānanąm* "of all the houses" (*Yasna* 17.11).[44] The regular Ol Avestan pronominal genitive masculine and neuter plural ending is seen i the demonstrative and relative pronouns (*aēšąm, auuaēšąm, yaēšąm*).[45]

One explanation of this state of affairs may simply be the fact that th declension of this word in Indo-Iranian was not yet completel pronominal. Thus, neither in Old Indic nor in Avestan does it have th neuter nominative-accusative singular ending -*at*, but the nominal endin -*am* (OInd. *viśvam*, YAv. *vīspəm*, OPers. *visam*[46]). Old Indic also ha dative nominal *viśvāya* beside pronominal *viśvasmāi*, ablative *viśvā* beside *viśvasmāt*, and locative *viśve* beside *viśvasmin*. Old and Young Avestan have dative *vīspāi*, beside YAv. *vīspəmāi*, which may be distortion of **vīspəhmāi*.[47]

The actually attested nominative and genitive plural forms of Av. *vīspa* are therefore only the following:

	Old Avestan	Young Avestan	Old Persian
Nominative	*vīspåŋhō*	*vīspe* (cf. *aniie*)	*visaiy* (cf. *aniyaiy, aniyāha*)
Genitive	*vīspanąm* (neut.)	*vīspanąm* (masc., fem., neut.)	—

As for the second point, the examples are again few: present *frīnəmnā ... ā* (< *ā-frinā-*, *Yasna* 29.5)[48] and *xšnaošəmnō* (*Yasna* 46.18). Again, we should

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43. Thus, *vīspa-* also does not take the typical pronominal genitive plural feminine ending -*åŋhąm* (OInd. *viśvāsām*).

44. This can be interpreted as feminine or neuter, as neuter *a*-stems frequently take feminine forms in the plural.

45. Note also that *vīspanąm* and *vīspaēšąm* would both count four syllables in Old Avestan (-*ąm* = -*aǎm*), so that one could have been substituted for the other without changing the meter.

46. E.g., *Yašt* 10.95 *vīspəm imat* "all this," Darius at Naqš-e Rostam inscr. a 49 *ava visam* "all that."

47. Vaan 2003: 9-10, also suggests the nominal endings are the older ones in Indo-Iranian and that the pronominal endings spread later.

48. Beekes (1988: 191) suggests the form is thematic, which is, perhaps, less likely. Apparently, no middle participles of *nā*-stem verbs are attested in Young Avestan.

established/given" *versus* present injunctive *dadāt* "he (always) establishes/gives."

2. The ablative singular = genitive singular except in the *a*-stems and in the pronouns, e.g., *akāt mananhō* "from evil thought," with *akāt* (ablative *versus* *akahiiā* genitive) and *mananhō* (ablative = genitive).

Grammatical Innovations in Old Avestan?

Among morphological *innovations* in Old Avestan as compared to Young Avestan, the following two are commonly cited, which would prove that the two represent not only different stages of one language, but different dialects, as well:[41]

1. Young Avestan has preserved the old pronominal endings in certain pronominal adjectives, while Old Avestan has no trace of the pronominal inflection of these adjectives.

2. Young Avestan has the ending -*āna*- in athematic middle present participles (e.g., *aojāna*- "calling oneself"), while Old Avestan uses the ending -*əmna*- for both thematic and athematic present stems.

Regarding the first point, it should be noted that the only Old Avestan examples are forms of *vīspa*- "all." Thus, the nominative plural masculine is *vīspånhō* "all" (*Yasna* 32.3, 51.20, 53.8) *versus* common Young Avestan *vīspe*.[42] The masculine nominative plural forms in *-āhah* may have been stylistic alternatives for any other masculine nominative plural form, however; thus, Old Persian has *aniyāha* "other," beside *aniyaiy*, corresponding to Young Avestan *aniie*, and Old Avestan may well have had forms such as *vīspōi/vīspē* and *aniiōi/aniiē*. The pronominal neuter nominative-accusative singular (Young Avestan *aniiat*, Old Persian *aniya*) is also not attested in Old Avestan, which does not necessarily mean it did not exist.

The genitive plural form *vīspanąm* found three times in Old Avestan is probably neuter: *vīspanąm vahištəm* "the best of all (things?)" (*Yasna* 43.2), *vīspanąm dātārəm* "the establisher of all (things?)" (*Yasna* 44.7), *vīspanąm mazištəm* "the greatest of all (things, words?)" (*Yasna* 45.6). In Young Avestan, *vīspaēšąm* is only masculine, while *vīspanąm* is used for all three

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41. See, e.g., Kellens 1989: 36, and, most recently, Vaan 2003: 8-9.

42. There seem to be no examples of pronominal adjectives with the ending -*ånhō* in Young Avestan, though, for instance, the phrases *vīspe yazatånhō* "all the gods" and *aniie yazatånhō* (= Old Persian *aniyāha bagāha*) "the other gods" are common.

For this reason, in my opinion, the linguistic analysis of the Old Avesta remains the most promising means of dating the texts, both relatively (comparing Old and Young Avestan) and absolutely (comparing Rigvedic and Old Persian).[37] It is therefore important to evaluate the significance of the differences between Old and Young Avestan that qualify them as separate dialects and are cited as evidence that the "short" chronology is also linguistically possible.[38]

Let us now look at some of the grammatical features of these two languages that can be used to establish a relative chronology.

Archaisms in Old Avestan

Among the *archaic features* of Old Avestan that were lost in Young Avestan there are two significant phonetic features and two morphological ones.

Phonetic Features

1. Sequences of vowels that were originally separated by a laryngeal, including compounds with second term beginning with a vowel, had not yet been contracted, e.g.: *då* "gift" is disyllabic, being from **daHah; frašaoštra-* (proper name) counts four syllables *fraša-uštra-*.

2. "Siever's Law" still holds absolutely,[39] e.g.: *ufiia-* (< **up-ia-*) "weave," but *vaēpiia-* (< **uaip-iia-*) "*trembler," *marᵊθiiu-* (< *mr̥t-iu-*) "death," but *mašiia-* (< **mart-iia-*) "mortal man."[40]

Morphological Features

1. Differently from Young Avestan, Old Avestan uses aorist forms regularly, presumably to express concluded events, in contrast to present stem forms, which express events that are not specified with regard to their beginning or end, e.g., aorist injunctive *dāt̰* "he has (now)

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37. References to material culture are also problematic, since, on the one hand, much of the terminology and many of the expressions belong to the Indo-Iranian literary tradition and, on the other hand, no archaeological site in Central Asia can be correlated with certainty with the culture(s) that produced the Avestan texts. On this controversial issue, see now the detailed discussion with comments by various scholars in Lambert-Karlovsky 2002.

38. For the same reason, the religion of the Gathas needs to be studied without assuming these poems were composed by a reforming prophet.

39. According to this rule, *i* and *u* after a "heavy" syllable becomes *ii* and *uu*.

40. In Old Iranian, an unvoiced stop became a spirant before *i* and *u*, but not before *i* and *u*.

at least, deduced from the assumption that key words such as *thought*, *speech*, and *action* have Christian-type references.

Since the middle of the 20th century, however, it has become increasingly clear that the Gathas are composed using traditional Indo-Iranian ritual vocabulary, while the widely acknowledged obscurity of the text is difficult to reconcile with their being texts for teaching new ideas. From this perspective, other interpretations of the Gathic terminology than the "ethical" one are possible. For instance, it is well known today that the triad thought, speech, and action typically forms the basis for ritual performances. In fact, the only way that "text," as well as specialized knowledge, can *exist* in an oral, non-literate, society (no reference books!), such as that of the early Iranians, is in thought and memory and in *spoken* words *heard* by a human and/or divine audience. A ritual such as a sacrifice, which had to be performed precisely according to set rules, could only be performed successfully with the help of knowledge present in the performer's mind or thought, which therefore served as a "store of information" or "memory bank" for everything the professional poet-sacrificer needed.[34] Moreover, words and actions themselves presuppose thought, which organizes, and so underlies, the other two.[35] Thus, in the context of the ritual, "good thought," etc., is quite likely to refer to the poet-sacrificer's correct knowledge of the secrets of the universe and his flawless utterances and actions, without which the sacrifice would not succeed. In any case, the interpretation of such key terms in the Gathas to the effect that they contain evidence that Zarathustra was a reformer and preacher of an advanced (read: Christian) type of ethics therefore has to be postulated itself and so cannot be used as an argument for a late date of composition.

In fact, the entire Western construct of an historical Zarathustra rests on a few slender assumptions, the principal being – in the absence of any historical evidence for the existence of Zarathustra or for the date of the texts – that the Zarathustra image in the Gathas is so lifelike that he has to have been an historical person.[36]

34. Expressions taken from Tambiah 1985: 40.

35. There is no reason for rendering Avestan *manah* as "intent" or "purpose," as is sometimes done. The triad "(think) thought, (speak) speech, (perform) action" by itself shows clearly that the meaning is "thought."

36. See Skjærvø 1997: 103-107.

hide in the ground, O Zarathustra,
who before that went about in the shape of men
on this earth...

Yašt 19.80-81

vaēnəmnəm ahmaṭ para daēuua pataiiən
vaēnəmnəm maiiå frāuuōiṭ
vaēnəmnəm apa.karšaiiən
 jainiš   haca mašiiākaēibiiō
āaṭ tå snaoδəṇtiš gərəzānå
hazō niuuarəzaiiən daēuua
āaṭ tē aēuuō ahunō vairiiō
yim ašauuanəm zaraθuštrəm frasrāuuaiiaṭ...
 *zəmarəgūzō auuazaṭ vīspe daēuua
aiiesniia auuahmiia

Before that the *daēuua*s would run about in full view.
(Their) pleasures would *take place[33] in full view.
In full view they would drag off
the women from the humans.
Then the *daēuua*s would by force debase
them, as they plaintively wept.
Then a single *Ahuna vairiia* of yours (= Ahura Mazdā's),
which Orderly Zarathustra chanted...
drove all the *daēuua*s under ground
depriving them of sacrifices and hymns.

Clearly, Zarathustra's action is presented here as a myth of the origins, explaining how the *daēuua*s were banished from the world of men. That the myth also reflects an historical event cannot be inferred from the Avesta.

As for the exalted "ethical" contents of the texts, this was to some extent,

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33. Is *frāuua-* for *frauua-* Old Indic *plava-* "float, flow"? Cf. Rigveda I, 125, 4ab *úpa kṣaranti síndhavo mayobhúva ījānáṃ ca yakṣyámāṇaṃ ca* "producing pleasure (*mayo-bhū-*) the rivers flow toward the one who has ever sacrificed and will (always) sacrifice"; Rigveda VIII, 3, 1 *ápo hí ṣṭhā́ mayobhúvas tā́ na ūrjé dadhātana* "for you, the waters, produce pleasure; so place us in the invigorating (heavenly water)."

realization that the Avestan language must have originated in northeastern, rather than in western, Iran.[31]

It is true that the inherited concept of the heavenly gods, Indo-European *deiwos*, Latin *deus*, Old Norse *tívar*, Old Indic *deva*, and Old Iranian *daēuua*, appears to have been "inverted" in Iran, making the *daēuua* the followers of the Evil Spirit. The demonization of the *daēuua*s, is, in fact, one of the most striking features of the Old Iranian religion and has occasioned a large amount of discussion. It certainly *looks* like it might be the result of a conscious change, but we do not know in what context it happened and whether it was proposed by a person, by a group of religious leaders, a ruler, or, perhaps, was the result of conflicts between the Iranians and Indians before or at the time the Indo-Iranian unity split up. This fact by itself, therefore, cannot prove that an individual in the remote past decided, for instance as a result of a revelation, that they were evil and that this individual was Zarathustra as reconstructed in Western scholarship. The nature of the Indo-Iranian *daiwas* may also not have been as simple as one is often given the impression.[32] Zarathustra's "demonization" of the *daēuua*s is described in the Avesta as follows:

Yasna 9.14-15

srūtō airiiene vaējahi
tūm paoiriiō zaraθuštra
ahunəm vairīm frasrāuuaiiō..
tūm zəmargūzō ākərənuuō
vīspe daēuua zaraθuštra
yōi para ahmāṭ vīrō.raoδa apataiiən
paiti āiia zəmā

Renowned in the Aryan Expanse
you were the first, O Zarathustra,
to make heard the Ahuna Vairiia (prayer)...
You made all the *daēuua*s

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31. M. Stausberg (2002: 47) points out that Jackson's book was written at the height of the "quest of the historical Jesus" (*Leben-Jesu-Forschung*) and that his interpretation was inspired by Jewish, Christian, and Islamic models.

32. On the question related to the *daēuua*s, see, e.g., Boyce 1975: 85-87; Kellens 1994: passim, 1997; on the Old Indic *devas* and *asuras*, see, e.g., Kuiper 1975.

refer to as the ethical contents of his teaching and the superiority of his thinking compared to that of his contemporaries. We see it also in Henning's statements cited above and in the following passage:

> to appreciate Zoroaster, we should see him against the background of his time. If we do that, we cannot help paying tribute to him as an original thinker; for he was the first to put forward this protest, based on reasoning, against monotheism; and he was the first, in drawing the consequence from his dualism to give his lofty conception of the position of Man. This is a great achievement. It seems all the greater when we consider that in material culture he was not far advanced: far less advanced than the peoples of the Near East, whom he nevertheless surpassed in thought.[28]

This statement was partly in response to Henrik S. Nyberg's (1937) attempt to see the Zarathustra figure in the light of recent research into shamanism; thus, Henning described Nyberg's concept of Zarathustra as a "medicine-man and shaman-in-chief" and that of the Gathas as the "crazy mutterings shouted by a senseless man in a hemp-induced stupor."[29] To Henning a shaman was apparently nothing but a "witch-doctor" and so, presumably, too primitive for the enlightened Zarathustra:

> How different Zoroaster's Man is from the cringeing primitive who runs to his witch-doctor to beg for protection against the dark threats of imaginary spirits; or from the trembling believer of the contemporaneous religions of the Near East, who approaches his god with fear and servility! He is a proud man, who faithfully serves the side he has, freely and deliberately, chosen, but who remains conscious of the value of his support and his own value.[30]

The idea that the Gathas are texts expounding new, reformed, ideas about the gods and the world goes back to the end of the 19th century and was enshrined in Christian Bartholomae's view of them as "sermons in verse" (*Verspredigten*), a notion that seems clearly to be based on a comparison with such texts as the New Testament and the Buddha's sermons. An exhaustive "life of Zarathustra" had been published by A.V.W. Jackson in 1892, whose description was later adjusted only minimally in the light of the

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28. Henning 1951: 46-47.

29. *Ibid.*, 8.

30. *Ibid.*, 46.

Religious and philosophical thought in the 6th century and, more generally, in the period of the Persian empire of the Achaemenians (6th-4th century B.C.), were marked by the progressive spreading of new tendencies with a highly ethical content, which gave the individual a centrality he had never had in the old religious systems: in Israel the persistence of prophetism and post-exilic Judaism; in Greece the pre-Socratics; in India, Buddha and Mahavira; in China Confucius and the Taoist school. We know very little about the beginning of Zoroastrianism, but we can glean something of its spreading at that particular time, since it is reflected in a way both in the spirit and in the letter of the inscriptions of Darius or Xerxes...

Cyrus's empire, which embraced several nations, as did Alexander's two centuries later, favoured the separation between religion and state and encouraged a tendency towards a universalistic religiosity ... [and, citing Wilhelm Bousset][24] it was a general process towards an inner, personal religiosity, which separated the religious from the political sphere[25] and widened the gap between the individual and the official state and city. A more secular, ethical mentality came to the fore, which was less restricted than formerly by the influence of the traditional clergy.

Placing Zoroaster just before or at the beginning of this process could mean restoring him to the 'axial age' which in a way was evoked, in the context of this same problem, by Louis Charles Casartelli, more than forty years before Karl Jaspers' *vom Ursprung und Ziel der Geschichte* appeared in 1949 ... Indeed the *Achsenzeit* would be seriously lacking without Zoroaster.[26]

In view of the final statement, it is hard to avoid the thought that his arguments are to some extent tailored so as to reach this conclusion.[27]

Most important, it seems to me, is the fact that of the three, only Gershevitch was an Old Avestan scholar, but even his argumentation for Zarathustra's late date was not based on a linguistic and philological study of the *Gāθās*, only on presumptions about both Zarathustra and his date.

Gnoli's wish to place Zarathustra in an axial period of history, is further linked to the belief in what many scholars (including Gnoli, as cited above)

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24. Wilhelm Bousset, *Die Religion des Judentums im späthellenistischen Zeitalter*, Handbuch zum Neuen Testament, vol. 21, 3rd ed., Tübingen, 1926.

25. The Achaemenid kings did *not* separate "the religious from the political sphere," as their inscriptions show clearly.

26. Gnoli 2000: 3-4.

27. The notion of *Achsenzeit* is also a dubious concept that is currently being challenged by historiographers.

have gone on doing so until Alexander destroyed the Persian Empire and, with it, the power of the Magi;[19] that with the confusion brought on by the Macedonian conquest the counting of years should have been interrupted, but, that, nevertheless, that one date, so-and-so many years before Alexander, should have been remembered for all time, although otherwise the memory of all that went before Alexander and of much that happened after Alexander[20] was extinguished.[21]

From this Henning then concluded without further arguments that "[w]e are thus entitled to hold to the view that the year 588 B.C. is the true date of Zoroaster."[22] To Henning, therefore, Zarathustra lived just prior to Cyrus's overthrow of the Median state in 550 B.C.E.

Thus, Henning argued that the date established by the third century C.E. had been preserved by the Zoroastrian tradition from the time of Zarathustra himself. This would perhaps be possible if Zarathustra lived in the sixth century, though modern studies in oral memory and history[23] might cause us to doubt the possibility of precise memories of a single date being preserved for centuries by people who otherwise, apparently, remembered no dates correctly.

Similarly, it *may* be "natural" for Zoroastrians to have counted the years, although there is no other evidence that they ever did, and they may not have done it in this case either – what seems "natural" to us may not have been so to them.

In any case, the scenario presupposes that the traditional date is the correct date, because, if Zarathustra lived in the second millennium, then surely the traditional date can only have been a "traditional," not a "real" one.

It should be noted that Henning's "historical situation," "cultural environment," and "religious development" are also all rather vague concepts, but they are connected with an argument that Gherardo Gnoli proposed in the Introduction to his book (2000), namely that Zoroaster belonged to an *Achsenzeit* in history, characterized as follows:

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19. We do not actually know that there was a "the power of the Magi" that was "destroyed" by Alexander's conquest.

20. The Zoroastrians retained no memory of the Medes, and their representation of the chronology of the Arsacids and Sasanians is as unreliable as that of the Achaemenids.

21. Henning 1951: 40. See the criticism of this argument in Kellens 2001: 176-177.

22. Henning 1951: 41.

23. See, e.g., Vansina 1985.

Gershevitch proposed a thought experiment to make his point, arguing that somebody finding copies of Humbach's 1959 Gatha translation in German and the 1991 translation in English in 4000 C.E., might argue that "by the strict rules of linguistics the German Humbach cannot possibly have lived a mere thirty-two years before the English Humbach."[16] But the scenario is too different from that of the Avesta; for one thing, the Young and Old Avestas are not two versions of the same text. It would be more relevant to compare, for instance, a book of Italian interspersed with Latin poetry or a Middle-English book with Old-English texts from different dialects of English. If such books were found by the linguists of the 3rd millennium C.E., what is the likelihood that they would not recognize Latin as an old, but close, relative of Italian, itself descended from Vulgar Latin, a form of Latin close to, but not identical with, Classical Latin, or Old English as an old relative of Middle English?

If one wants to assess Henning's argumentation, it is important to realize that he in fact *presupposed* that the traditional date was correct:

> I will say straightway that I count myself among those who accept the date and all that flows from it. There is nothing in the historical situation, in the cultural environment, in the religious development, in fact in anything, that can be said to conflict with it. As it can be shown to be in perfect agreement with the required conditions, we should accept it as a fact and suppress the natural urge to doubt all and everything, and in particular any kind of date.[17]

Henning's final argument was that "until that has been shown conclusively" – namely "that the date was found by calculation"[18] – "we shall be wise to assume that it is a genuine date," continuing:

> There is no difficulty in such an assumption. It is but natural that the members of the early Zoroastrian community should have counted the years from a significant moment in the life of their prophet, and that they should

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composition techniques witnessed in the Gathas, implicitly arguing that the literary sophistication of the poems can only have been found in Zarathustra himself. I discuss this and other arguments in a forthcoming work. For the sophistication of poets in the Indo-European traditions, see also Calvert Watkins book on Indo-European poetics (1995). Obviously, literary accomplishment is not necessarily the prerogative of (named) "prophets."

16. Gershevitch 1995: 2-3.

17. Henning 1951: 36.

18. On this issue, see Gnoli 2000: lecture four with notes.

of development of closely related languages, modern Icelandic has been cited, which is rather close to Old Icelandic as known from the early 11th-13th centuries C.E., but very different from modern Danish, Norwegian, and Swedish, with their greatly simplified morphologies.[12]

Neither is directly comparable, however. On the one hand, Latin remained because it was a *written* language supported by a grammatical science and could be taught on the basis of extant texts and grammar books; the spoken language was, in fact, changing into "Vulgar Latin" and post-Latin in the first century C.E. Icelandic, on the other hand, was spoken by a very small population living in isolation, but with a great pride in its oral and written literature. It is also true that modern Icelandic is very different from the current standard Scandinavian languages, but that was not so until just a couple of centuries ago. The west-Norwegian dialects were still very archaic in their morphology in the late 19th century, and so the difference with Icelandic was not so great.

Henning also cited the case of the Middle Iranian languages as examples of languages developing at different pace, arguing that

> ... in Iranian the Eastern and Western dialects developed not merely in different but in opposite directions; thus while the word endings disappeared in the West, they were well maintained in the East.[13]

This is true of the Middle Iranian languages, which developed in the post-Old Iranian period,[14] probably from the last couple of centuries B.C.E., but the closer we get to proto-Iranian, the less time there was for great differences to develop.

Gershevitch's (1995) purpose seems to have been twofold: on the one hand, he wanted to defend and rehabilitate Henning's view of the date of Zarathustra; on the other hand, he rejected Kellens and Pirart's hypothesis that Zarathustra is not the author of the Gathas. He rejected the linguistic arguments by positing that the Gathic texts "can be dated only by the date of their author" and that, when that date has been found, the date of the text will be, as well.[15]

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12. Thus Skjærvø 1991: 659 n. 4.

13. Henning 1951: 36.

14. The only Old Iranian language that can be dated precisely is Old Persian, which ceased being spoken probably in the 5th century B.C.E. Other Middle Iranian languages are attested from the 1st century B.C.E. onward (Parthian, Middle Persian, Sogdian, Bactrian, etc.).

15. *Ibid.*, 2. He rejects the second point by reference to Martin Schwartz's studies of the

First of all, the "short" chronology runs into the problem of how to explain that Old Avestan, which is generally agreed to be as archaic as Rigvedic and so ought to be more or less contemporaneous with it, was still spoken in the 7th-6th centuries B.C.E. To explain (away) this anomaly, the champions of the "short" chronology have recourse to an observation first made, I believe, by Antoine Meillet[8] to the effect that Old Avestan and Young Avestan are not simply two stages of one and the same language, but two dialects, which differ on a number of phonological and morphological points; this being so, we can then refer to two well-known aspects of language evolution: (1) a language may survive in use long after it ceased being spoken and (2) two dialects rarely develop at the same pace, that is, phonological and morphological features may survive longer in one than in the other.[9]

This argument was first exploited by Walter Bruno Henning (1951) in a series of lectures, in which he polemicized against (actually, ridiculed) those who did not accept the "short" chronology on the grounds, according to Henning, that "the _Gāθās_ are old, old, ever so old." Against this, Henning argued as follows:

> ... as if 600 B.C. were not old enough for almost anything! ... In the case of Zoroaster, we have to deal chiefly with two pleas: one is a linguistic argument of such extraordinary feebleness that one is amazed at finding it seriously discussed at all; the other is the hitherto unsuccessful attempt to set the traditional date aside by showing that it is not a genuinely transmitted date, but one found by calculation in later times.[10]

In recent time, this argument was developed by Ilya Gershevitch (1995) and Gherardo Gnoli (2000).

As examples of languages used long after they ceased to be spoken as a living language, scholars have adduced Latin, which was spoken and written for centuries after it was actually spoken;[11] as examples of the uneven rate

8. Meillet 1925: 27.

9. Italian is much more conservative in its phonology than French (cf. Italian _amato_ versus French _aimé_), and German more conservative in its morphology than English (German has preserved four cases and the subjunctive, both lost in English).

10. Henning 1951: 36. Several attempts have been made since Henning at establishing how, precisely, the date was "calculated" (see references in Gnoli 2000, especially lecture four with notes).

11. Cf. Meillet (1925: 27): "une langue littéraire une fois fixée se maintient sans grand changement visible: le latin ..." (cited by Gnoli 2000: 26).

Avesta.[3] Thus, dating Zarathustra means dating the Gathas and the Old Avesta, hence also Old Avestan, and dating Old Avestan means dating Zarathustra. Current scholarship is divided into three camps on the issue of the date of Zarathustra: (1) those advocating the "long" chronology: ca. mid-2nd millennium B.C.E. or earlier; (2) those advocating the "short" chronology: 7th-5th centuries B.C.E. (Median and early Achaemenid periods); and (3) those who take an in-between position: ca. 1000 B.C.E. The "short" chronology coincides with the chronology of Zarathustra given by Pahlavi texts such as the *Bundahišn*,[4] according to which (1) Zarathustra was 30 years old in year 6000 after God established the "world of the living" and received his revelation in that year and (2) Alexander put an end to the Achaemenid empire in the year 6258 of the "world of the living."[5] This chronology is cited by Arabic authors to the effect that Zarathustra lived 258 years before Alexander.[6] On the other hand, the chronology reflected in the *Bundahišn* was cited in a different sense by early Greek authors, who placed Zarathustra 5000 years before the war of Troy, 6000 years before Xerxes' crossing of the Hellespont, or 6000 years before Plato.[7] This we may call the "mythical" chronology. The immediate paradox is, of course, that the "short" chronology, which is claimed to be historically exact, appears to rest on the "mythical" chronology, which is obviously not historical.

Here, I shall review the arguments presented for the "short" chronology and explain why I think the "long" chronology is the correct one.

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3. The Old Avesta contains the five Gathas (*Yasna* 28-34, 43-46, 47-50, 51, and 53) and the *Yasna Haptaŋhāiti* (*Yasna* 35-41).

4. The *Bundahišn* as we have it was probably not written down till the 9th-10th centuries, but is a repository of traditional knowledge.

5. In the *Bundahišn* this is computed as follows:

Rule of Kay Wištāsp after the coming of the Dēn (in year 6000) = 90 years;
Rules of Wahman (son of Spandyād) and Queen Humāy = 112+30 = 142 years;
Rules of Dārā son of Čihrāzād and Dārā son of Dārā; 12+14 = 26 years;
Total = 90+142+26 = 258 years.

This computation of the length of the rule of the Achaemenid dynasty has nothing to do with history, as is widely recognized (cf. Henning's remarks below). Note also, for instance, that Cyrus the Great is not mentioned in the Zoroastrian tradition.

6. Mas'ūdī, Bīrūnī, and others; see Gnoli 2000: 134-135.

7. Gnoli 2000: passim; Kellens 2001: 173-175. This is also, more or less, the position of some orthodox Zoroastrians today.