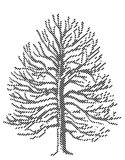
Grammatica et verba
Glamor and verve

Studies in South Asian, historical, and Indo-European linguistics in honor of

Hans Henrich Hock

on the occasion
of his seventy-fifth birthday

edited by
Shu-Fen Chen and Benjamin Slade



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GRAMMATICA ET VERBA
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Aspirates, Fricatives, and Laryngeals in Avestan and Indo-Iranian

BRIAN JOSEPH

It is a great pleasure to be able to contribute even a small piece to this Festschrift honoring a great scholar and a great friend who has done so much, among other things, to further our understanding of the historical development of Indo-Iranian, especially on the Indic side. I can truthfully say that reading Hans Henrich's 1976 review article on Raimo Anttila's *An Introduction to Historical and Comparative Linguistics* published in *Language* (52:202–20) made a dramatic difference to my thinking about sound change; with its ardent defense of the Neogrammarian ban on grammatical conditioning of sound change, that article did more to shape my ideas about the relative roles of phonetics and morphology in language change than just about anything else I have ever read. On a personal level, I have enjoyed all of my interactions with Hans Henrich over the years, from our first meeting in 1980 when he visited Ohio State and on through subsequent opportunities to get to know him better at conferences and via visits I made to Illinois and ones he made to Ohio. That these interactions led ultimately to my being brought into a professional collaboration, at his invitation, on an undergraduate historical linguistics textbook (Hock and Joseph 1996 and 2009) has been a bonus, to be sure. I wish him all the best, and salute him with this small contribution to Indo-Iranian historical phonology.

It is well known that there are regular correspondences between voiceless aspirated stops (cover symbol *Th*) in Sanskrit and voiceless fricatives (cover symbol Θ) in Avestan. Examples include the following:

'chariot': Skt. *ratha-* = Av. *raθa-*
'path, way': Skt. *path-* = Av. *paθ-*
'hoof of a horse': Skt. *śapha-* = Av. *safa-*
'fountain, well': Skt. *khā-* = Av. *xå̊*

These correspondences have traditionally been explained (so Jackson 1892:28–9, for instance) by positing a Proto-Indo-Iranian (PIIr.) set of voiceless aspirated stops,

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**Th*, which remained unchanged, in the usual case, in Indic, and turned into voiceless fricatives in Iranian. It is also widely believed that these PIIr. voiceless aspirates derive for the most part from sequences of Proto-Indo-European (PIE) voiceless unaspirated stops followed by a laryngeal, generally taken to be the second (*a*-coloring) laryngeal, **H*$_2$. Direct evidence of the quality of the laryngeal involved in the development of an Indic voiceless aspirate comes from the equation of Sanskrit *vettha* 'you know' with Greek *οἶσθα* 'idem', where the *-α* in the Greek form points to **H*$_2$, justifying a reconstruction **woid-tH*$_2$*e* from which these two forms derive.[1]

Countering this *communis opinio*, Beekes (1988:88) offers a different view of the origin of the correspondence of Indic **Th* to Iranian *Θ. In particular, he suggests that "it seems better to explain the fricatives as due to the general development of voiceless stops to fricatives before a consonant in Iranian . . . [so that] *tH* became *θH* > *θ*, just like *tr* > *θr*." That is, in this account, the fricatives associated with laryngeal clusters are derived via the same sound change as that which gave rise to the fricatives in words like Av. *frā* 'forth' from **pro* (cf. Skt. *pra*) or *xraθuuā* 'with power' (INST.SG.) from **kratvā* (cf. Skt. *kratvā*).

As Beekes notes, this view of the development of Iranian *Θ out of clusters with laryngeals has several important consequences. First, it implies that not only the fricativization on the Iranian side but also the emergence of voiceless aspirates on the Indic side "are post-PII[r]." Second, "the [Iranian] merger of the voiced stops and the (voiced) aspirates of PIE can be much earlier, so that it is possible to assume an isogloss comprising Iranian, Slavic . . . where this merger occurred."[2]

Beekes' reinterpretation of the correspondence of Indic *Th* to Iranian Θ thus has potential importance for Indo-Iranian and Indo-European dialectology. As a result, it is worthwhile considering with a critical eye the arguments and evidence that can be offered in support of his analysis.

First, it should be noted that Beekes' primary reason for advancing this view is that in Iranian "the voiced aspirates, e.g. *dh*, both from PIE *dh* and from **dH*, did not become spirants" (p. 88), whereas the traditionally posited voiceless aspirates did, putatively yielding Θ. Moreover, given that he invokes the independently needed change of voiceless stops to fricatives before another consonant, a second reason for Beekes' reinterpretation—an implicit one—is an Occam's Razor argument, namely that all things being equal, positing both voiceless aspirates for PIIr. that yielded fricatives and the fricativization of preconsonantal voiceless stops also is a multiplication of entities beyond necessity. That is, one could do in this approach without needing to posit a distinct set of voiceless aspirates and a separate sound change by which clusters of a stop with a laryngeal developed into a fricative.

[1] Avestan here has *vōistā*, where the *-s-* (in this case from a resolution of PIE dental + dental stop clusters) prevents the fricativization otherwise expected here (other 2SG perfects show *-θa*, e.g. *dadāθa* 'you gave').

[2] Beekes includes Armenian in this isogloss, for reasons that are unclear. I assume that this is simply a typo and that Beekes intended Baltic here, rather than Armenian, since forms such as *ta-m* 'I give' from **deH*$_3$*-mi* and *d-nem* 'I place' < **dhH*$_1$*-ne-mi* show that Armenian did indeed distinguish between PIE **D* and **Dh*.

A closer examination, however, reveals that there are some problems with each of these reasons. These problems cast some doubt on the viability of Beekes' account and thus provide a basis for upholding the traditional account.

First, as to whether a *Dh* and a *Th* should be expected to behave alike, the evidence is actually somewhat mixed, based on their behavior in Indic, the only (sub-)branch of Indo-European that has both of these sets of stops. Beekes argues that voiced aspirates ought to fricativize if voiceless aspirates do, and it is true that in Indic there are ways in which the two types of stops behave in parallel fashion. In particular, Schindler (1976) demonstrated that voiced and voiceless aspirates both trigger Grassmann's Law and are affected by it, as shown by *vidatha-* 'distribution', from an earlier **vi-dh(H$_1$)-atha-* (voiceless aspirate triggering deaspiration of a voiced aspirate), and *kumbha-* 'pot', from an earlier **khumbha-* (voiced aspirate triggering deaspiration of a voiceless aspirate), and both types of aspirates show deaspiration in final position (see Joseph and Janda 1988, Janda and Joseph 2002), as shown by *kapṛt* 'penis' (NomSg), from the stem *kapṛth-*, and *triṣṭup* 'a Vedic meter', from the stem *triṣṭubh-*. Crucially, however, these behavioral parallels are synchronic phonological parallels that do not necessarily depend on phonetic identity nor on their having originated in sound changes that affected both the voiced and the voiceless aspirate at precisely the same time. And, from a phonetic standpoint, there is as much separating Indic *Dh* and *Th* as there is linking them; despite the traditional designation of *Dh* as "aspirated", these sounds could well have been murmured, with so-called breathy voice, rather than aspirated (followed by a puff of air in the release). Moreover, the characterization of both as "aspirated" depends in large part on how "aspiration" is defined, and phoneticians are not necessarily in agreement on that point, as pointed out in Janda and Joseph 2002 and Joseph and Janda 1988.

Further, if sound change in general is best taken as being a phonetically, and not phonologically, motivated phenomenon (cf. Janda and Joseph 2003), the expectation of parallel fricativization for the two types of stops is only as strong as their phonetic similarity. Thus, if *Dh* and *Th* are phonetically different as to "aspiration", then Beekes' argument loses a good bit of its appeal, and the key reason Beekes gives for his reinterpretation would not have the support he believed it has.

As for the argument based on Occam's Razor, accepting one account over another based on parsimony in the number of entities posited in the different accounts is compelling only if all things are equal as far as coverage of the relevant data is concerned. However, there are some forms for which Beekes' account may not provide a suitable treatment, thus leaving no basis for invoking Occam's Razor.

The issue here is that PIIr. seems to require the reconstruction of some voiceless aspirates that do not have laryngeal origins and yet develop into voiceless fricatives in Iranian. Such reconstructions require therefore the positing of a sound change by which Iranian **θ* arose from PIIr. **Th*, independently of what happened with clusters with a laryngeal.

First, though, it needs to be made clear that a laryngeal is indeed independently justified by positive evidence in at least some words that traditionally have been treated as containing voiceless aspirates. For instance, with 'path, way', the accusative plural forms Skt. *path-as* ~ Av. *paθ-ō* show the voiceless-aspirate-to-voiceless-fricative correspondence, yet a reconstruction **pn̥tH₂-*, where **-t-H₂-* is the basis for the *th* ~ *θ* correspondence, is justified by strong-case forms with a long vowel suffix, such as the nominative singular **pont-eH₂*, based on Skt. *panth-ās* ~ Av. *pant-å̊*. Similarly, 'chariot', Skt. *ratha-* ~ Av. *raθa-*, can be reconstructed as **rot-H₂-o-*, a derivative of 'wheel', which, as shown by Latin *rota*, has a long vowel suffix, thus **rot-eH₂*.

But laryngeal reconstructions are not always justified, at least not always independently justified. For the sake of argument, let it be stipulated that all instances of Indic *Th* corresponding to Iranian Θ where there are non-IIr. cognates within Indo-European can be taken to involve laryngeal clusters; thus, forms like Skt. *śapha-* 'hoof' ~ Av. *safa-* 'hoof' can automatically be reconstructed as **ḱopH₂-o-* since there is a Slavic cognate in Russian *kopyto* 'hoof'.[3] Even so, it turns out that there are a few forms for which an assumption of a laryngeal is tricky, yet the *Th*-to-Θ correspondence is found. In such cases, therefore, there is reason to suppose that the PIIr. form may simply have had a voiceless aspirate stop, especially since very little is certain about the phonetics of the PIE laryngeals.

For instance, Skt. *khara-* 'donkey' has cognates in Iranian, e.g. Av. *xara-* 'idem', and while its etymology is not at all certain, it has been suggested to be onomatopoetic in origin (see Mayrhofer 1956–80:s.v. for discussion). With so little known phonetically about **H₂*, it would be rash to posit it here, so that a safer reconstruction, consistent with the likely onomatopoetic origin of the word, would have initial **kh-*, for PIIr., with the aspiration of the stop contributing to the mimicking of the braying of a donkey.[4]

Similarly, the other Skt. form *khara-*, meaning 'hard, rough',[5] while not showing a corresponding form in Avestan, nonetheless does have an Iranian cognate in Modern Persian *xār* 'rock, spike' (Mayrhofer 1956–80:302, not discussed in Mayrhofer 1986–2001), pointing to a PIIr. **khara-*, or, alternatively, **kH₂ara-*; while it has been suggested that this *khara-* may be cognate with the middle syllable of the Greek reduplicative formation *κάρχαρος* 'biting, sharp, raw', Beekes (2009:2.652) denies the connection since, in his view, "Skt. *kh-* does not correspond to Gr. *-χ-*". In that case, *khara-* could well be a Dravidian loanword, a possibility Mayrhofer considers but is

[3] Curiously, Beekes (1988:88) says that "there is no instance of *f* < *pH*," despite this word; perhaps he actually judges it to have a PIIr. voiceless aspirate.

[4] For the occurrence of *kh* in onomatopoeia involving animal noises, cf. Skt. *khargalā* 'owl', judged by Mayrhofer (1956–80:302) as "letztlich lautmalend."

[5] Mayrhofer (1956–80:302) speculates that the 'donkey' word may be based on this adjective, with reference to the fact that the voice of the animal is harsh. This is not an unreasonable idea, but without a positive indication that the two are connected, it seems safest to keep them separate. Even if they are to be connected, though, there would still be this one example of onomatopoetic **kh* to reckon with.

hesitant about accepting, presumably because it would have to have been a very early loan for it to have entered PIIr., that is borrowed at a point when Dravidian speakers were more numerous in northern parts of the subcontinent. But this is not all that difficult an assumption, since one interpretation of the presence of the Northern Dravidian language Brahui in the area of present-day Pakistan, Afghanistan, and Iran is that it suggests an early Dravidian presence in that northwestern region where PIIr. was likely to have been spoken.[6] And, if a loanword, it is again safer to posit **kh* than **kH*$_2$-, given uncertainties about the phonetic reality of **H*$_2$. It is useful to note here that other possible Dravidian loans into Indic yielded voiceless aspirates; for instance, *kulpha-* 'ankle' may be based in some way on a Dravidian word (cf. Tamil *kuḷampu-* 'hoof'). Most of these words, however, are etymologically quite uncertain (cf. Mayrhofer 1956–80:s.vv., 1986–2001:s.vv.).

There may well be other words with similar phonology for which laryngeals are not called for. The pair of Skt. *kapha-* 'phlegm' ~ Av. *kafa-* 'foam', for instance, does not have any suitable cognates outside of Indo-Iranian nor any obvious non-Indo-European sources either, and the same can be said about the admittedly odd-looking pair of Skt. *kharkhoda-/khārkhoṭa-* 'a kind of magic' ~ Av. *kaxᵛarəδa-* 'daevic being'. Such forms can be reconstructed with a laryngeal, of course, but only if one works mechanically, treating any *Th*-to-Θ correspondence as involving a laryngeal; from the standpoint of sound methodology, since this is precisely the point of contention here, such reconstructions need to be justified, not assumed.[7]

Thus it should be clear that there are at least a few words, and maybe more, for which a reconstruction with a PIIr. voiceless aspirate cannot be dismissed out of hand. The import of such examples, if they really do point to PIIr. voiceless aspirates, even if in onomatopoetic or borrowed or simply obscure vocabulary, is that they mean that not all cases of Av. Θ, even when part of a correspondence with Skt. *Th*, can be definitively resolved into sequences with laryngeals. Consequently, it has to be admitted that Avestan voiceless fricatives can indeed derive from PIIr. voiceless aspirates, separate from what might have happened in clusters of stops plus a laryngeal. The Occam's Razor argument implicit in Beekes' invoking of the independently needed fricativization process thus cannot be considered compelling. Therefore, even if some instances of the *Th*-to-Θ correspondence can be attributed positively to laryngeals and even if in those clusters with laryngeals the independently needed fricativization could have been operative, voiceless aspirates should not be banished from PIIr. as a source of Avestan voiceless fricatives, the sound change of **Th* to **Θ* must be recognized,

[6] Still, as an anonymous reviewer has pointed out, the situation with Brahui is far from clear historically; it could well have been the case that Brahui speakers migrated northwards from southern or central India.

[7] Another possible case might be Skt. *kumbha-* 'jar', cognate with Av. *xumba-* 'idem', widely thought to be a Wanderwort (so Beekes 2009:1.802), since it is traditionally reconstructed with initial **kh* (affected by Grassmann's Law, as noted above); for this word, though, a reconstruction **kH*$_2$*umbha-* would work, since the Indic form could show the loss of a laryngeal before a vowel.

and the dialectological consequences of eliminating PIIr. voiceless aspirates must be set aside.

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