

CHRONOLOGICAL STRATIFICATION
AND THE ORIGIN OF THE LENGTHENED GRADE
IN THE SANSKRIT g-AORIST

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Historical linguists use many tools to investigate the past. Among the most important are comparative reconstruction, the analysis of clues from dialect distribution, naive spelling, and orthoepic censure. But one of the most valuable tools is often overlooked, that is, the stratification of data into chronological layers. Such layering can allow a linguist to detect trends which would not have otherwise been discernible. The work of the historical linguist can, in fact, be compared with that of the archeologist: artifacts, whether tangible or intangible, have been laid down in layers. The researcher must not only unearth them, but must also recognize their stratified character. Just as an archeologist can read the clues of pottery sherds and figurines to judge their age, so must a linguistic archeologist sort out the data, interpreting one form as old, another as belonging to a more recent layer. Stratificational evidence can be drawn from any part of the grammar or lexicon, but some clues are more useful than others. Probably most valuable of all is the evidence to be gleaned from the morphology, for it is here that remnants of older systems persist.

In this paper, I demonstrate the extent to which morphological stratification can be utilized by examining one such category, the g-aorist of Sanskrit.¹ The g-aorist is usually reconstructed as a category of Proto-Indo-European, since a number of Indo-European languages have preterital g-constructions:

1. Skt. avākṣam 'conveyed' ajaiṣam 'conquered'
OCS věsū 'led' nesū 'carried' grěsū 'buried'
Lat. uēxi 'conveyed' -rēxi 'directed' dixi 'said'
Gk. órexa 'stretched out' édeixa 'showed'
élexa 'collected'
OIr. -léicius 'left' -mórus 'magnified'
Toch. A (mid.) prāksāt 'asked'
Hitt. tarnaš 'released' paiš 'gave'

The IE g-aorist was presumably characterized by the lengthened grade in the active, as illustrated in the Sanskrit, Old Church Slavonic, and Latin examples above.

In Sanskrit, the lengthened grade (vrddhi) appears as lengthening or diphthongization of the root vowel:

2. root vowel	a	ā	i	ī	u	ū	r
vrddhi		ā		āi		āu	ār

(Whitney 1889: 82)

This lengthened grade is used throughout the active s-aorist, whereas middle and subjunctive s-aorists generally have full-grade vocalism. The Sanskrit s-aorist is moderately well-attested and somewhat productive, especially in the Ṛgveda, the collection of the oldest hymns of Sanskrit. At first glance, then, it seems reasonable and uncontroversial to assume, with traditional scholars, that the lengthened-grade s-aorist reflects an ancient category.

A closer examination of the data demonstrates the incorrectness of this conclusion, however, and shows how essential the use of chronological stratification is, for if all attested RV s-aorists are sorted according to root type, a marked imbalance can be detected: some types of roots simply did not take the s-aorist in earliest times.

For example, roots in CRC (i.e., obstruent - Ø-grade vowel - obstruent) apparently formed very few s-aorists in the earliest Ṛgveda. Actives of this root type are rare and isolated; middles are all built on more recent, productive forms, or on root aorists.

3. CRC actives: sri 'release' act. 3sg. asrāk 1x
vs. mid. 3pl. asrksata 21x
middles: late, productive types
vrt 'turn' mid. 3pl. avrtsata
or built on the root aorists
prc 'fill' RV 3sg. mid. root aor.
aprakta
later 1sg. mid. s-aor. aprksi

Especially productive are middle endings in -si (1sg.) and -sata (3pl.) Their connection with the root aorist is signaled not only by their form (-s- + -i-; -s- + -ata-) but also by their Ø-grade vocalism (Narten 1964: 24ff.)

A further indication of secondariness is the fact that only one s-aorist subjunctive is attested among CRC roots in the Ṛgveda:

4. CRC subjunctives: drs 'see' mid. 2sg. subj. drksase

Compare this to the typologically similar CaC category, where every root has a subjunctive.

Likewise, g-aorists of liquid-final roots are limited almost exclusively to later texts (e.g., Books I and X of the RV):

5. CR actives and middles:
hr̥ 'take' act.1sg ahārṣam (Book X) 3x
 mid.3sg ahr̥ṣata (Book X)

Only the subjunctive forms of dr̥ 'split' and pr̥ 'pass over, take over' show any productivity, and at least some of this productivity is decidedly late:

6. CR subjunctives: pr̥ 'pass over' act.3sg parṣat 1lx
 2du parṣathas etc.

Most nasal-final roots are also to be excluded from the category of greatest antiquity because their medial forms are apparently rebuilt for purposes of root-recognition. These new g-aorists were created to replace or supplement root aorist forms in which the nasal was no longer apparent:

7. CaN middles: man 'think'
g-aorist mid. 1sg. maṁsi
 3pl. amāṁsata etc.
 vs. root aorist mid.3sg. amata (<*amṅta)

This imbalance in distribution clearly indicates that all of these forms constitute a later layer of the g-aorist category.

On the other hand, the two remaining root types, the obstruent-final roots with a vowel in a (e.g. bhaja 'divide') and the vowel-final roots (e.g. dhā 'set') do show signs of greater antiquity. We can assume that these two categories represent a more archaic layer for three reasons:

- they are attested even in the earliest texts
- they form more complete paradigms while showing decidedly archaic forms
- they are not limited to secondary productive forms like the middles in -si and -sata

Now that we have recognized the distinct signs of chronological stratification in the g-aorist system, and have identified the CaC and CV roots as more archaic, a rather startling observation emerges: we can identify

the original locus of lengthening as having occurred in the 2nd and 3rd sg. active forms of old CaC roots.

8. Archaic root types: CaC & CV

bhaj 'divide' act. 3sg. bhāk (<-bhaj-s-t)
mid. 3sg. abhakta
subj. 3sg. bhakṣat

Basic to this explanation is an important rule of sandhi in Sanskrit which states that word-final consonant clusters are not tolerated, and that only the first consonant of the cluster will appear on the surface. Thus, a Sanskrit speaker who wished to form a second or third person singular g-aorist for a CaC root would delete both the personal marker and the g-marker, and would be left only with the final consonant of the root:

9. g-aor. 3sg. -bhaj - s - t --> -bhāk

I claim that it is precisely this deletion which is responsible for the lengthening of the g-aorist, that is, compensatory lengthening as a result of the loss of two final consonants through sandhi.

It must be stressed that it is the loss of two (or more) obstruents which produces compensatory lengthening. The root aorist, which deletes only a single obstruent, does not show similar lengthening:³

10. root aor. 3sg. -ghas - t --> -ghas

Lengthening would then have spread to other parts of the paradigm, becoming eventually, but only secondarily, the regular vocalism of the g-aorist.

Several arguments could be raised against this proposal. Traditional Indo-Europeanists might point out that the lengthened grade is reflected in the long vowels of Old Church Slavonic and Latin, so that it must be reconstructed for the proto-language anyway; they would thus prefer to derive a lengthened vowel in Sanskrit from an original one in the proto-language. However, as I explain in my dissertation (Drinka 1990), there is actually little evidence for ancient length in either of these languages; both produced length in different environments, under different conditions and for different reasons than Sanskrit did. Lengthening, then, is better seen as an independent process which developed in several of the languages having g-constructions, but which does not pertain to the proto-language.

Another argument might be made by linguists like de Chene and Anderson (1979), who claim that only adjacent glides can cause vowels to lengthen through compensatory lengthening. They assume (1979: 526) that compensatory lengthening did not take place in Sanskrit when word-final consonants were deleted because the (somewhat irregular) adjectival forms like udañ < *udañc + s 'northern' do not show lengthening. What they are failing to consider is that productive adjectival forms like nom. sg. bhagavān < *bhagavant-s 'fortunate' do show such lengthening. Furthermore, other evidence of compensatory lengthening without glide-loss exists in Sanskrit:

11. ruh 'ascend' /ruʒh/ + /ta/
 assim. of pt. of artic. rudhta
 progressive vce. assim. rudhda
 cons. loss, with CL rūḍha
 (Whitney 1889: 75)

In conclusion, the sorting of morphological artifacts into archaic and innovative layers has allowed us to make several important observations which were not obvious to previous researchers. It has permitted us to pinpoint the original locus of lengthening within Sanskrit to the archaic set of roots in CaC, and to provide a natural but language-internal explanation for the change, that is, compensatory lengthening due to the loss of two consonants through sandhi. Thus, not only has it provided us with information about the stratification of the g-aorist category within Sanskrit itself, but it has also increased our understanding of the nature of the g-construction in Proto-Indo-European, as well.

NOTES

¹An aorist is a preterite which is indefinite (Gk. a-oxistos, lit. 'without limit') as to whether the action was completed, repeated or continuous.

²Sandhi rules dictate the replacement of palatals with stops in word-final (and other) positions. See Whitney 1889: 74 for a detailed discussion.

³Pace Szemerényi (1980: 109ff), who suggests that loss of a single -g is responsible for compensatory lengthening, especially in the nominal system.

REFERENCES

- de Chene, Brent, and Stephen R. Anderson. 1979. Compensatory lengthening. *Language* 55.505-35.
- Drinka, Bridget. 1990. The sigmatic aorist in Indo-European: evidence for the Space-Time Hypothesis. University of Texas dissertation.
- Narten, Johanna. 1964. Die sigmatischen Aoriste im Veda. Wiesbaden: Harrassowitz
- Szemerényi, Oswald. 1980. Einführung in die vergleichende Sprachwissenschaft. Darmstadt: Wissenschaftliche Buchgesellschaft.
- Whitney, William Dwight. 1889. Sanskrit grammar. 2nd edition. Cambridge, Mass.: Harvard University Press.