

Laryngeal sonority and PIE root structure

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1. The PIE root is generally seen as conforming to the sonority sequencing principle: it is a progression from a stop to a stop via elements with increasing, and then, decreasing sonority. A stark violation of this progression, such as a laryngeal followed by a semivowel, usually means that we are dealing with a suffix or an extension.
2. It is well-known that the Indo-European root is much more likely to end in a sonorant, laryngeal or -s than in a stop, which would speak for its preference to a higher-sonority coda (Iverson, Salmons 1992 and many others); but a brisk analysis of LIV roots shows that roots that start with a voiced stop tend to end also with a voiced stop, and, vice versa, unvoiced stop in the onset tends to lead to an unvoiced stop in the coda. This can partly be explained by the TeDH/DHeT restriction, as well as by the DeT restriction posited by Jucquois (1966, along with the DeD restriction that makes roots that start with D generally end in a voiced aspirate), although there are at least 4 such roots in LIV. Still, it does not explain why roots that start with T- have a clearly noticeable preference for an unvoiced stop in the coda.
3. The laryngeal in the root seems to behave rather like a sonorant with several important reservations. The first such reservation is its ability to appear in the onset before sonorants, and sometimes before stops. The second reservation is that it is regularly seen at the very end of a root after a sonorant – and also after a stop. While such a laryngeal may well be a root extension with a yet unknown function, interestingly, it appears much more often after an unvoiced stop than after a voiced or aspirated one, especially after *t (Kocharov 2015).
4. The most prominent laryngeal after stops is h_2 , which may be because it is the easiest to 'see': half of such reconstructions depends on the presence of the aspiration in Indic. Still, this does not explain why roots with unvoiced stops in the coda are more likely to be followed by a laryngeal. Another interesting issue is how laryngeals combine with *s: all three can be seen both in front and after it, with h_2 again being more frequent.
5. Experiments regarding the sonority of some laryngeals show that not only does the general place of articulation matter in where a laryngeal is supposed to be on the sonority scale, but also its phonological history (see, for example, Parker 2002: 213). However, we know nothing about the earlier history of PIE laryngeals (as well as that of the other sounds), and we can't even be sure about their specific place of articulation.
6. Of course, roots do not equal syllables, and this fact complicates the analysis of root codas; however, a close examination of the distribution of laryngeals in PIE roots and its comparison with the distribution of other sounds – as well as with the distribution of laryngeal sounds in languages such as Arabic, Chamikuro, Choapan Zapotec and others, allows to tentatively suppose whether each of the three laryngeals was perceived more as a sonorant or as an obstruent – and that brings about a better understanding of the PIE root structure in terms of what we should and should not view as extensions, infixes or separate morphemes.

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