Cyclicity as a Proto-Indo-European phenomenon

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This paper is concerned with vowel deletion in the ancient Indo-European languages and in their common ancestor, Proto-Indo-European (PIE). The reconstruction of vowel deletion is vexed by seemingly contradictory evidence. On the one hand, there is ample support in the IE languages (most clearly, in Vedic Sanskrit) for regular deletion of non-high vowels (*/e, o, a/) in immediately pretonic syllables, e.g., in (1a–b) and with apparent iterative application in (1c–d). On the other, there is evidence for retention in the same phonological context, e.g., in (1e), where pretonic deletion applies just once, not iteratively to the root vowel.

(1)   a. */gʷʰen-énti/   → *[gʷʰn-énti]   > Ved. *ghnánti*, Hitt. *kunanzi* 'they kill'
       b. */dyew-é/ós/   → *[diw-é/ós]   > Ved. *divás* 'of the sky', AGk. *diós* 'of Zeus'
       c. */pent-oh₂-é/ós/   → *[pn̥t-h₂-é/ós] > Ved. *pathás*, OAv. *paθō* 'of the path'
       d. */bʰeudʰ-mén-ó-m/ → *[bʰudʰ-n-ó-s] > Ved. *budhnám*, Lat. *fundum* 'ground'
       e. */wet-´es-ó-m/   → *[wet-s-ó-m]   > Ved. *vatsám* 'calf'

Mixed evidence of this kind has fueled the traditional assumption (e.g., in the "Erlangen Model" of IE nominal inflection; Schindler 1967 et seq., Rix 1976/1992) that deletion was morphologized already in PIE ("long since extinct as a living phonological process" per Jasanoff 2017:4 n. 13). I propose instead that PIE vowel deletion was CYCLIC (Bermúdez-Otero 2011, Kiparsky 2015, i.a.): a root vowel of a derived base was transferred to its derivative, resulting in underapplication of regular pretonic deletion. On this analysis, deletion is predicted to apply within the inflectional paradigms of "primary" (viz., deradical) derivatives like (1a–c) when stress is attracted to inflectional endings. It also accounts for the contrast between the non-primary derivatives in (1d) and (1e), formed as in (2a) and (2b) with adjectival (*/-ó-/): the former appears to show iterative deletion because it is derived from a base with deletion, while the latter cyclically preserves the root vowel stressed in its base. The proposed analysis thus retains the broad explanatory gained by reconstructing pretonic vowel deletion (cf. Kiparsky 2010; Yates 2022), while preventing it from overapplying in cases like (1e).

(2)   a. */bʰeudʰ-mén-/ → *|bʰudʰ-mén-| 'bottom' ⇒ *[bʰudʰ-n-ó-m] 'having a bottom'
                            > Gk. *putʰmén-a* 'bottom'   Ved. *budhnám*, Lat. *fundus* 'ground'
       b. */wet-´es-/   → *|wét-es-| 'year'   ⇒ [wet-s-ó-m]   'having a year'
                            > Gk. *étea*   'years'   Ved. *vatsám*   'calf'

The remainder of the paper aims to put this proposal on firmer theoretical and empirical footing. Theoretically, I suggest it aligns PIE deletion with cyclic prosodic effects in other languages — e.g., in Present-Day (American) English, where derived nominalizations cyclically preserve the primary stress of their base as secondary stress, e.g., in (3a) (cf. Hayes 1982, Pater 2000, Bermúdez-Otero 2012, i.a.); this transfer blocks the "*abracadabra*-rule," which normally assigns stress to the first of three pretonic light syllables, e.g., in (3b). I also adduce further evidence for PIE cyclicity, which offers a principled explanation, e.g., for the prosodic difference between the primary-looking animate *–oi*-stems in (4a) vs. (4b) (cf. Yates 2019): the former is properly deradical and shows expected pretonic deletion, while the latter preserves the root vowel stressed in its base because it is deverbal, though its non-primary status is obscured by truncation of thematic *e/o* (before *i*-ful suffixes; cf. Schindler 1980).

(3)   a. *imágine* ⇒ *imàginátion*   (ˣ*ìmaginátion*)   b. *àbracadábra*

(4)   a. */h₂wert-ói-m/ → *[h₂urt-ój-m̥] 'curse'   > Hitt. *ḫurdāin* ([χʷortː-áːi-n]) 'curse'
       b. */bʰeid-´e/o-/ → *|bʰéidʰ-e/o-| 'persuade' ⇒ *[bʰéidʰ-ój-m̥] 'persuasion"
                     >(>) AGk. *peítʰō* 'persuade'   AGk. *peithǫ́* 'persuasion'
                     >   Lat. *fīdō*   'trust'