The word-prosody of Proto-Indo-European
*–mon*-stems and their implications for internal
derivation

Anthony D. Yates
University of California, Los Angeles
adyates@ucla.edu

November 9, 2019
31st Annual UCLA Indo-European Conference
Los Angeles, CA

Slides available at: www.adyates.com/research/

This derivational process is thought to account for nominal pairs like:

$\begin{align*}
\text{(1)} & \\
*–\text{men-}\text{-stem (N.NOM/ACC.SG)} & \Rightarrow & *–\text{mon-}\text{-stem (ANIM.NOM.SG)} \\
a. \text{Ved. bráhma} & \text{‘formulation’} & : & \text{Ved. brahmá} & \text{‘formulator; priest’} \\
b. \text{Ved. dhárma} & \text{‘foundation’} & : & \text{Ved. dharmá} & \text{‘support(er)’} \\
c. \text{Gk. νῆμα} & \text{‘tomb’} & : & \text{Gk. νημών} & \text{‘heap’} \\
d. \text{Gk. μνῆμα} & \text{‘remembrance’} & : & \text{Gk. μνήμων} & \text{‘mindful’} \\
e. \text{Lat. augmen} & \text{‘addition’} & : & \text{Lith. augmuō} & \text{‘sprout’} & \text{Ved. ojmánam} & \text{‘strength’ (ACC.SG)}
\end{align*}$
ID is standardly analyzed as involving change in templatic inflectional class — in this case: “proterokinetic” (PK) ⇒ “amphikinetic” (AK).
ID is standardly analyzed as involving change in templatic inflectional class — in this case: “proterokinetic” (PK) ⇒ “amphikinetic” (AK).

The PIE ancestor of (e.g.) Vedic dharmán– ‘support(er)’ would thus have been derived as in (2):

<table>
<thead>
<tr>
<th>(2)</th>
<th></th>
<th>PK</th>
<th></th>
<th>AK</th>
<th></th>
<th>Vedic</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOM.SG</td>
<td>*</td>
<td>[dʰér-mn̥]</td>
<td></td>
<td>*[dʰér-mōn]</td>
<td></td>
<td>dhar-mā</td>
</tr>
<tr>
<td>GEN.SG</td>
<td>*</td>
<td>[dʰr̥-mén-s]</td>
<td></td>
<td>*[dʰr̥-mn-ós]</td>
<td></td>
<td>dhar-mān-as*</td>
</tr>
</tbody>
</table>
ID is standardly analyzed as involving change in templatic inflectional class — in this case: “proterokinetic” (PK) ⇒ “amphikinetic” (AK).

The PIE ancestor of (e.g.) Vedic dharmán– ‘support(er)’ would thus have been derived as in (2):

(2)

<table>
<thead>
<tr>
<th></th>
<th>PK</th>
<th>AK</th>
<th>Vedic</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOM.SG</td>
<td><em>[dʰér-mn]</em></td>
<td><em>[dʰér-mōn]</em></td>
<td>dharmá</td>
</tr>
<tr>
<td>GEN.SG</td>
<td><em>[dʰr-mén-s]</em></td>
<td><em>[dʰr-mn-ós]</em></td>
<td>dhar-mán-as*</td>
</tr>
</tbody>
</table>

But this reconstruction mismatches Vedic data in two non-trivial ways:

(i) Vedic reflects consistent full-grade of the root in this class (i.e., no zero-grade in weak stem).

(ii) More problematic — Vedic reflects consistent suffixal stress in this class, the position that is “skipped” in the regular AK stress alternation between root and inflectional endings.
Proposal I: Prosodic properties of ID *–mon*-stems in PIE are closely reflected in Vedic — in particular, full-grade of the root and stressed *ó*-vocalism of the suffix in strong cases (cf. Kiparsky 2010:167).

⇒ ID *mon*-stems in PIE had strong case forms like in (3).

<table>
<thead>
<tr>
<th>(3)</th>
<th>PIE</th>
<th>VEDIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOM.SG</td>
<td>*[dh]er-môn]</td>
<td>dharmā</td>
</tr>
<tr>
<td>ACC.SG</td>
<td>*[dh]er-món-ṃ</td>
<td>dharmāṇam</td>
</tr>
<tr>
<td>NOM.PL</td>
<td>*[dh]er-món-es</td>
<td>dharmāṇas</td>
</tr>
</tbody>
</table>
Proposal I: Prosodic properties of ID *–mon*-stems in PIE are closely reflected in Vedic — in particular, full-grade of the root and stressed *ó*-vocalism of the suffix in strong cases (cf. Kiparsky 2010:167).

⇒ ID *mon*-stems in PIE had strong case forms like in (3).

(3)

<table>
<thead>
<tr>
<th></th>
<th>PIE</th>
<th>Vedic</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOM.SG</td>
<td><em>[dʰer-môn]</em></td>
<td>dharmā́ ‘support(er)’</td>
</tr>
<tr>
<td>ACC.SG</td>
<td><em>[dʰer-môn-m]</em></td>
<td>dharmā́ṇam</td>
</tr>
<tr>
<td>NOM.PL</td>
<td><em>[dʰer-môn-es]</em></td>
<td>dharmā́ṇas ‘support(er)s’</td>
</tr>
</tbody>
</table>

Weak cases also had full-grade root (as in all IE languages), and likely:

⇒ Stressed inflectional endings and zero-grade suffix if phonotactically licit (i.e., *[–mn-´] or *[–n-´] with */m/-deletion; cf. Nussbaum 2010).

⇒ Otherwise stressed suffix (i.e., *[–môn-]; cf. Kiparsky 2010; Yates 2019a).
Proposal I: Prosodic properties of ID *-mon*-stems in PIE are closely reflected in Vedic — in particular, full-grade of the root and stressed *ó*-vocalism of the suffix in strong cases (cf. Kiparsky 2010:167).

⇒ ID *mon*-stems in PIE had strong case forms like in (3).

(3)

<table>
<thead>
<tr>
<th></th>
<th>PIE</th>
<th>VEDIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOM.SG</td>
<td><em>[dʰer-mōn]</em></td>
<td>dharmā́</td>
</tr>
<tr>
<td>ACC.SG</td>
<td><em>[dʰer-mōn-m]</em></td>
<td>dharmā́ṇam</td>
</tr>
<tr>
<td>NOM.PL</td>
<td><em>[dʰer-mōn-es]</em></td>
<td>dharmā́ṇas</td>
</tr>
</tbody>
</table>

★ Prosodic reconstruction in (3) will require revision of traditional morphological analysis (i.e., not “PK ⇒ AK”).
§1 Introduction

§2 ID *–mon*-stems in the IE languages — survey & reconstruction

§3 Deriving *–mon*-stems — a new analysis

§4 Discussion — implications for internal derivation in PIE
Two types of evidence for word stress in ID *–mon*-stems:

(i) **DIRECT**: Reflexes of *–mon*-stems attested beside neuter *–men*-stems which are their historical/synchronic bases or whose bases are plausibly reconstructed by comparison.

(ii) **INDIRECT**: Agentive deverbal and denominal *–mon*-stems, which are generally held to have arisen by reanalysis of ID *–mon*-stems (cf. Melchert 1983:23, Weiss 2017:386–7).

Prosodic properties of (ii) testify indirectly to those of (i) regardless of whether reanalysis occurred in PIE or independently in many IE languages (at least Anatolian, Tocharian, Italic, Celtic).
Two types of evidence for word stress in ID *–mon*-stems:

(i) **DIRECT**: Reflexes of *–mon*-stems attested beside neuter *–men*-stems which are their historical/synchronic bases or whose bases are plausibly reconstructed by comparison.

(ii) **INDIRECT**: Agentive deverbal and denominal *–mon*-stems, which are generally held to have arisen by reanalysis of ID *–mon*-stems (cf. Melchert 1983:23, Weiss 2017:386–7).

Prosodic properties of (ii) testify indirectly to those of (i) regardless of whether reanalysis occurred in PIE or independently in many IE languages (at least Anatolian, Tocharian, Italic, Celtic).

★ *n.b.*: reflexes PIE *h₂ékmon*—‘heavenly stone’ — which is not (internally) derived — do not bear on the reconstruction of this type (cf. Appendix I).
A survey of ID *–mon*-stems — Vedic

- ID pattern (primary N *–men– ⇒ *–mon–) is most robust in Vedic.
- Vedic reflexes of such ID pairs consistently show root stress in the base and suffixal stress in the derivative.

  - Transparent semantic relationship in (4a–d) — N concrete (result/instrument) noun ⇒ M agent/event noun.

(4) NOM/ACC.SG *[-mn̂] ⇒ ACC.SG *[-món-m̂]

a. dāma ‘gift’ ⇒ dāmānam ‘giver; giving’
b. dhárma ‘foundation’ ⇒ dharma ‘supporter; supporting’
c. bráhma ‘sacred’ ⇒ brahmāṇam ‘formulator; priest’
   formulation’
d. sádma ‘seat’ ⇒ sadmānam ‘sitter’
A survey of ID *–mon*-stems — Vedic

- ID pattern (primary N *–men– ⇒ *–mon–) is most robust in Vedic.
- Vedic reflexes of such ID pairs consistently show root stress in the base and suffixal stress in the derivative.

- In (5a–c) base and derivative are synonymous.
- In (5d) relationship is obscured by lexicalization of N.

(5) NOM/ACC.SG *[-m注册资本] ⇒ ACC.SG *[-mon-注册资本]

<table>
<thead>
<tr>
<th></th>
<th>NOM/ACC.SG *[-m注册资本]</th>
<th>⇒</th>
<th>ACC.SG *[-mon-注册资本]</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>óma*</td>
<td>‘aid’</td>
<td>⇒</td>
</tr>
<tr>
<td>b.</td>
<td>várṣma</td>
<td>‘height’</td>
<td>⇒</td>
</tr>
<tr>
<td>c.</td>
<td>svádma</td>
<td>‘sweetness’</td>
<td>⇒</td>
</tr>
<tr>
<td>d.</td>
<td>bhúma</td>
<td>‘earth’</td>
<td>⇒</td>
</tr>
</tbody>
</table>
Vedic reflexes of *-\textit{mon}-stems that lack a corresponding neuter also have consistent suffixal stress.

Synchronically, (6a–b) appear to be primary (i.e., deradical).

\begin{itemize}
  \item \textbf{a.} \textit{ojmánam} ‘strength’ : \textit{vaj–} ‘strong’
  \item \textbf{b.} \textit{darmánam} ‘splitter’ : \textit{dr–} ‘split’
\end{itemize}

But historically these may be formed by ID.

\begin{itemize}
  \item For (a) cf. N Lat. \textit{augmen} ‘increase’ (cf. \textit{NIL}: 328).
\end{itemize}
Lithuanian nouns in –muõ continue PIE *–mon-stems, neuter *–men-stems, and at least one animate *–men-stem.

(7) **Lithuanian** | **PIE**
--- | ---
| a. augmuõ ‘sprout’ | cf. Ved. ojmånam ‘strength’ < *–mon– |
| b. sraumuõ ‘stream’ | cf. Gk. ῥεῦμα ‘stream’ < *–men– (N) |
| c. piemuõ ‘shepherd’ | cf. Gk. ποιμήν ‘shepherd’ < *–men– (ANIM) |

Inherited stem class of individual items in –muõ class can be determined only on comparative grounds.

- For N *–men– and animate ANIM *–mon-stems, determining original status is further problematized by their well-established ID relationship.
- But inheritance of both types is necessary to explain synchronic segmental and prosodic properties of –muõ class.
A survey of ID *–mon*-stems — Lithuanian

- Segmentally, Lithuanian nouns in –muō exhibit NOM.SG in –muō and –men– in other case forms — e.g., raumuō ‘muscle’:

<table>
<thead>
<tr>
<th></th>
<th>SINGULAR</th>
<th>PLURAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOM</td>
<td>raumuō</td>
<td>raūmenys</td>
</tr>
</tbody>
</table>
| GEN | raumeņs | raumenū |}

- NOM.SG must reflect PIE *[-mōn] from *–mon*-stems.

- Weak cases may reflect PIE *[-men-] from N *–men*-stems (cf. Ved. DAT.SG brāhmaṇe, GEN.SG brāhmaṇas, etc.).
Prosodically, Lithuanian nouns in –muo are regularly mobile. Specifically, they belong to accent paradigm (AP) 3, which points to inherited stem-final (= suffixal) stress (Derksen 2008:6, Jasanoff 2017:109, i.a.) — e.g.:

(9)  | Lithuanian       | AP | Lithuanian       | AP |
-----|------------------|----|------------------|----|
     | augmuō ‘sprout’ | 3a | raumuō ‘muscle’  | 3b |
     | armuō ‘soil’    | 3a | sekmuō ‘consequence’ | 3b |
     | juosmuō ‘girdle’| 3a | sraumuō ‘stream’ | 3b |
     | piemuō ‘shepherd’| 3a | tesmuō ‘udder’  | 3b |

Two exceptions in Old Lithuanian:

Stems to *C(R)eH-roots (e.g., sėmuō ‘linseed’ < *seh₁–) are typically immobile (AP 1) due to HIRT’S LAW (Hirt 1929; cf. Olander 2009:149–50, Jasanoff 2017:106–8).

akmuō ‘stone’ — not an inherited *–mon-stem (per above; cf. Appendix I) — is typically immobile (AP 1).
Three possible explanations for prehistoric stem-final stress:


(ii) Due to influence of HK animate *–men*-stems (NOM.SG *[-mén], ACC.SG *[-mé-n-m], etc.)

(iii) Due to influence of *–mon*-stems with stem-final stress (NOM.SG *[-món], ACC.SG *[-món-m], etc.).
Three possible explanations for prehistoric stem-final stress:


- No independent evidence for HK “collectives” in N *–men-stems (Nussbaum 1986:128) or elsewhere (only *[-mōn]; see below).


(ii) Due to influence of HK animate *–men-stems (NOM.SG *[-mén], ACC.SG *[-mén-m̥], etc.)

(iii) Due to influence of *–mon-stems with stem-final stress (NOM.SG *[-món], ACC.SG *[-món-m̥], etc.).
A survey of ID *–mon*-stems — Lithuanian

- Three possible explanations for prehistoric stem-final stress:


  (ii) Due to influence of HK animate *–men*-stems (NOM.SG *[-mén], ACC.SG *[-mén-:o], etc.)

    - *–mon– or N *–men*-stems are far more common!
    - If both other historical sources of –muō class had initial/root stress, rarer animate *–men*-stems would hardly constitute a plausible basis for analogical extension of final stress to entire class against this pattern.

  (iii) Due to influence of *–mon*-stems with stem-final stress (NOM.SG *[-món], ACC.SG *[-món-o], etc.).
Three possible explanations for prehistoric stem-final stress:


(ii) Due to influence of HK animate *–men-stems (NOM.SG *[-mén], ACC.SG *[-mén-m], etc.).

(iii) Due to influence of *–mon-stems with stem-final stress (NOM.SG *[-món], ACC.SG *[-món-m], etc.).

- Common *–mon-stems and rarer animate *–men-stems with stem-final stress would provide a robust basis for generalization of this pattern.
- Segmentism (i.e., NOM.SG –muõ) provides independent support that *–mon-stems had a crucial role in determining phonological properties of the class.
A survey of ID *–mon*-stems — Greek

- Reflexes of *–mon*-stems in Greek show a prosodic split:
  - Nouns — mixture of suffixal stress and root stress.
  - Adjectives — consistent “recessive accentuation” (i.e., stress on leftmost syllable within stress window at word’s right edge).
A survey of ID *–mon-stems — Greek

A handful of attested noun pairs may continue ID *–mon-stem nouns beside their primary neuter *–men-stem bases.

These paired *–mon-stem nouns exhibit an even mixture of root and suffixal stress — i.e., (10a–c) vs. (10d–f).

Synchronically, root stress = recessive accentuation in this type.

<table>
<thead>
<tr>
<th></th>
<th>NOM.SG *[-mη]</th>
<th>⇒</th>
<th>NOM.SG *[-mōn]</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>Gk. τέρμα ‘end, boundary’ : τέρμων ‘boundary’</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b.</td>
<td>Gk. στη῀μα ‘stamen’ : στήμων ‘warp’</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c.</td>
<td>Gk. γνῶμα ‘judgment’ : γνώμων ‘judge’</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d.</td>
<td>Gk. θῆμα ‘tomb’ : θημόν ‘heap’</td>
<td></td>
<td></td>
</tr>
<tr>
<td>e.</td>
<td>Gk. χεῖμα ‘cold, frost’ : χειμών ‘winter (storm)’</td>
<td></td>
<td></td>
</tr>
<tr>
<td>f.</td>
<td>Gk. κεύθμα ‘hiding place’ : κευθύμων ‘hiding place’</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
A survey of ID *–mon*-stems — Greek

- Greek has a set of non-compound adjectives that may directly continue ID *–mon*-stems — these are also consistently recessive.

  - Some are attested beside primary(-looking) neuter *–men*-stem bases — e.g., (12a–c), where recessive accentuation always yields root stress.

  - Others are attested beside non-primary neuter *–men*-stem — e.g., (12d–f), where recessive accentuation yields pre-suffixal (≠ root) stress.

(12)  

<table>
<thead>
<tr>
<th></th>
<th>NOM.SG *[−mn]</th>
<th>⇒</th>
<th>NOM.SG *[−mōn]</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>Gk. μνημα</td>
<td>‘remembrance’</td>
<td>: μνημων</td>
</tr>
<tr>
<td>b.</td>
<td>Gk. αιμα</td>
<td>‘blood’</td>
<td>: αιμων</td>
</tr>
<tr>
<td>c.</td>
<td>Gk. πημα</td>
<td>‘misery’</td>
<td>: πημων</td>
</tr>
<tr>
<td>d.</td>
<td>Gk. νοημα</td>
<td>‘thought’</td>
<td>: νοημων</td>
</tr>
<tr>
<td>e.</td>
<td>Gk. δηλημα</td>
<td>‘bane’</td>
<td>: δηλημων</td>
</tr>
<tr>
<td>f.</td>
<td>Gk. πενθημα</td>
<td>‘mourning’</td>
<td>: πενθημων</td>
</tr>
</tbody>
</table>
Greek has a set of non-compound adjectives that may directly continue ID *–mon- stems — these are also consistently recessive.

Another group lacks corresponding neuter *–men- stems and thus may be synchronically deverbal or denominal — e.g., (13).

Recessive accentuation yields root stress if base is monosyllabic, otherwise pre-suffixal (≠ root) stress.

(13)  

<table>
<thead>
<tr>
<th>BASE</th>
<th>NOM.SG *[-mōn]</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Gk. τλῆναι ‘endure’</td>
<td>τλήμων ‘enduring’</td>
</tr>
<tr>
<td>b. Gk. ἰδεῖν ‘know’</td>
<td>ἱδυμων ‘knowing’</td>
</tr>
<tr>
<td>c. Gk. δαῆναι ‘learn’</td>
<td>δαήμων ‘experienced’</td>
</tr>
<tr>
<td>d. Gk. ἀλᾶσθαι ‘wander’</td>
<td>ἀλήμων ‘wandering’</td>
</tr>
<tr>
<td>e. Gk. μάχη ‘battle’</td>
<td>μαχήμων ‘warlike’</td>
</tr>
</tbody>
</table>
Non-primary *–mon*-stem nouns in Greek regularly show suffixal stress as in (15).

- Deverbal — e.g., (15a–c).
- Denominal — e.g., (15d–e).

(15)  BASE  ⇒  NOM.SG *[-mōn]

<table>
<thead>
<tr>
<th></th>
<th>BASE</th>
<th>⇒</th>
<th>NOM.SG *[-mōn]</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>Gk. ἡγέεσθαι ‘lead’ : ἡγεμόνι</td>
<td>‘leader’</td>
<td></td>
</tr>
<tr>
<td>b.</td>
<td>Gk. κήδεσθαι ‘care for’ : κηδεμόνι</td>
<td>‘attendant’</td>
<td></td>
</tr>
<tr>
<td>c.</td>
<td>Gk. ἀγρεῖν ‘seize’ : ἀγρεμόνι</td>
<td>‘hunter’</td>
<td></td>
</tr>
<tr>
<td>d.</td>
<td>Gk. δαιτύς ‘meal’ : δαιτυμόνι</td>
<td>‘diner’</td>
<td></td>
</tr>
<tr>
<td>e.</td>
<td>Gk. ἀκρός ‘extreme’ : ἀκρεμόνι</td>
<td>‘branch’</td>
<td></td>
</tr>
</tbody>
</table>

It is attested in Old Script texts with clear suffixal stress (marked by plene spelling) in its strong case forms:

\[
\begin{align*}
(16) \quad ištımāš & \quad ‘bond’ \quad (\text{ANIM.NOM.SG}) \quad << \quad *[-mūn] \\
ištımāneš & \quad ‘bonds’ \quad (\text{ANIM.NOM.PL}) \quad < \quad *[-mūn-es]
\end{align*}
\]

On hapax NS *ištımēnan (KBo 52.159 RC 7) see Melchert (2003:131 n. 3); the form is more likely analogical to “ethnica” in –ūmen– (on which type see Oettinger 2003:146–7, Yates 2016:166–9, 174–5) than indicative of an erstwhile *–men-stem paradigm (pace Oettinger 2003:146).
A survey of ID *–mon*-stems — summary

- IE evidence for word stress in ID *–mon*-stems is summarized in (17).

- Three IE branches clearly support only suffixal stress in this class:

<table>
<thead>
<tr>
<th>(17)</th>
<th>ROOT</th>
<th>SUFFIXAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>VEDIC</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>LITHUANIAN</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>GREEK</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>HITTITE</td>
<td>✓</td>
<td></td>
</tr>
</tbody>
</table>

⇒ ID *–mon*-stems had suffixal stress in strong cases in PIE.

On the diachrony of *–mon*-stems in Greek see Appendix II.
A survey of ID *–mon*-stems — summary

- IE evidence for word stress in ID *–mon*-stems is summarized in (17).
- Three IE branches clearly support only suffixal stress in this class:

<table>
<thead>
<tr>
<th>(17)</th>
<th>ROOT</th>
<th>SUFFIXAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>VEDIC</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>LITHUANIAN</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>GREEK</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>HITTITE</td>
<td></td>
<td>✓</td>
</tr>
</tbody>
</table>

(i) **Vedic**: Reflexes of ID *–mon*-stems uniformly show suffixal stress.
A survey of ID *–mon*-stems — summary

- IE evidence for word stress in ID *–mon*-stems is summarized in (17).

- Three IE branches clearly support only suffixal stress in this class:

<table>
<thead>
<tr>
<th></th>
<th>ROOT</th>
<th>SUFFIXAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vedic</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Lithuanian</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Greek</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Hittite</td>
<td>✓</td>
<td></td>
</tr>
</tbody>
</table>

(i) **Vedic**: Reflexes of ID *–mon*-stems uniformly show suffixal stress.

(ii) **Lithuanian** — mobility (< stem-final stress) in –muõ-class is plausibly explained only if ID *–mon*-stems had suffixal stress.
A survey of ID *–mon*-stems — summary

- IE evidence for word stress in ID *–mon*-stems is summarized in (17).

- Three IE branches clearly support only suffixal stress in this class:

<table>
<thead>
<tr>
<th></th>
<th>ROOT</th>
<th>SUFFIXAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vedic</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Lithuanian</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Greek</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Hittite</td>
<td>✓</td>
<td></td>
</tr>
</tbody>
</table>

(i) **Vedic**: Reflexes of ID *–mon*-stems uniformly show suffixal stress.

(ii) **Lithuanian** — mobility (< stem-final stress) in –muõ-class is plausibly explained only if ID *–mon*-stems had suffixal stress.

(iii) **Hittite** — deverbal *–mon*-stems exhibit suffixal stress.
A survey of ID *–mon*-stems — summary

- IE evidence for word stress in ID *–mon*-stems is summarized in (17).

<table>
<thead>
<tr>
<th></th>
<th>ROOT</th>
<th>SUFFIXAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>VEDIC</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>LITHUANIAN</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>GREEK</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>HITTITE</td>
<td>✓</td>
<td></td>
</tr>
</tbody>
</table>

- Three IE branches clearly support only suffixal stress in this class:

  (i) **Vedic**: Reflexes of ID *–mon*-stems uniformly show suffixal stress.
  
  (ii) **Lithuanian** — mobility (< stem-final stress) in –muõ-class is plausibly explained only if ID *–mon*-stems had suffixal stress.
  
  (iii) **Hittite** — deverbal *–mon*-stems exhibit suffixal stress.

⇒ ID *–mon*-stems had suffixal stress in strong cases in PIE.

- On the diachrony of *–mon*-stems in Greek see Appendix II.
Thus likeliest that ID *–mon-stems had **suffixal stress** in strong cases in PIE — i.e., (3) (repeated from above):

<table>
<thead>
<tr>
<th></th>
<th>PIE</th>
<th>Vedic</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOM.SG</td>
<td><em>[dʰer-món]</em></td>
<td>dharmá</td>
</tr>
<tr>
<td>ACC.SG</td>
<td>*[dʰer-món-m]</td>
<td>dharmáṇam</td>
</tr>
<tr>
<td>NOM.PL</td>
<td><em>[dʰer-món-es]</em></td>
<td>dharmáṇas</td>
</tr>
</tbody>
</table>
Reconstructing ID *–mon-stems — a challenge?

Thus likeliest that ID *–mon-stems had **suffixal stress** in strong cases in PIE — i.e., (3) (repeated from above):

(3)

<table>
<thead>
<tr>
<th>NOM.SG</th>
<th>PIE</th>
<th>VEDIC</th>
<th>NOM.PL</th>
<th>PIE</th>
<th>VEDIC</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>*[ðer-món]</td>
<td>&gt;</td>
<td></td>
<td>*[ðer-món-es]</td>
<td>&gt;</td>
</tr>
<tr>
<td>ACC.SG</td>
<td>*[ðer-món-m]</td>
<td>&gt;&gt;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>dharmā́nas</td>
<td>'support(er)s'</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>dharmā́na</td>
<td>''</td>
</tr>
</tbody>
</table>

**Objection:** Consistent **full-grade root** is phonologically unexpected in pretonic position.

- Whereas root full-grade in strong cases is expected under traditional AK reconstruction (whence leveling to weak, by assumption).
Pretonic mid vowel deletion in (P)IE

- Abundant IE evidence that PIE mid vowels (*/e, o/) were regularly subject to deletion in pretonic syllables.

  - Root */e/ in (e.g.) (18–20) — stressed in (a) vs. deleted in (b).

(18) a. */gwhen-ti/ → *[gwhén-ti] > Ved. hánti, Hitt. kuēnzi ‘kills’
    b. */gwhen-énti/ → *[gwhn-énti] > Ved. ghnánti, Hitt. kunanzi ‘kill’

(19) a. */h₁es-ti/ → *[h₁és-ti] > Ved. ásti, Hitt. ĕšzi ‘is’
    b. */h₁es-énti/ → *[h₁s-énti] > Ved. sánti, Osc. sent ‘are’

(20) a. */dyew-m/ → *[dyēm] > Ved. dyám ‘sky’, Gk. Ζῆν ‘Zeus’
    b. */dyew-ós/ → *[diw-ós] > Ved. divás, Gk. ἰός ‘of ’
Abundant IE evidence that PIE mid vowels (*/e, o*) were regularly subject to deletion in pretonic syllables.

Stem-final */e/ in (e.g.) (21–23) — stressed in (a) vs. deleted in (b).

(21) a. */ph₂tér-m/ → *[pəh₂tɛrm] > Ved. *pitáram, Gk. πατέρα ‘father’

(22) a. */h₂uksén-es/ → *[h₂uksén-es] > Ved. *uksáṇas ‘oxen’
   b. */h₂uksén-ós/ → *[h₂uksn-ós] > Ved. *uksnás ‘of the ox’

   b. */yu-né-g-énti/ → *[yu-n-g-énti] > Ved. *yuñjánti ‘yoke’
Pretonic mid vowel deletion in (P)IE

- Abundant IE evidence that PIE mid vowels (*/e, o/) were regularly subject to deletion in pretonic syllables.

- Stem-final */o/ in (e.g.) (24–25) — surfaces in (a) vs. deleted in (b).

(24) a. */pentoh₂-es/ → *[pέntoh₂-as] >> Ved. pánthās ‘paths’
   b. */pentoh₂-ós/ → *[pόnth₂-ós] > Ved. pathās ‘of the path’
      OAv. paθō ‘id.’

(25) a. */dʰegʰom-s/ → *[dʰégʰōm] > Hitt. tēkan ‘earth’
   b. */dʰegʰom-ós/ → *[dʰeɡʰom-ós] > Hitt. taknāš ‘of the earth’
Pretonic mid vowel deletion in (P)IE

- Abundant IE evidence that PIE mid vowels (*/e, o/) were regularly subject to deletion in pretonic syllables.

- Stem-final */o/ in (e.g.) (24–25) — surfaces in (a) vs. deleted in (b).

(24) a. */pentoh₂-es/ → *[pén̆toh₂-as] >> Ved. pánthās ‘paths’
   b. */pentoh₂-ós/ → *[p̆n̆th₂-ós] > Ved. pathās ‘of the path’

   OAv. paθō ‘id.’

(25) a. */dʰegʰom-s/ → *[dʰéɡʰom] > Hitt. tēkan ‘earth’
   b. */dʰegʰom-ós/ → *[dʰeɡʰm-ós] > Hitt. taknāš ‘of the earth’

⇒ Phonological objection is well-supported — proposed root full-grade in ID *–mon*-stems requires an explanation.
Claim: *–mon*-stems were derived from N *–men*-stems by the same process as type Gk. τόμος ⇒ τομός (cf. Kiparsky 2010:167, Keydana 2013:126) — schematically (NOM.SG), e.g., (26a) = (26b):

(26) a. PIE *[dʰer-mn] > Ved. dhárma ‘foundation’ (N.NOM/ACC.SG)
   ⇒ *[dʰer-món] > Ved. dharmá ‘support(er)’ (M.NOM.SG)

b. PIE *[tómh₁-o-s] > Gk. tómos ‘slice’ (M.NOM.SG)
   ⇒ *[tomh₁-ó-s] > Gk. tomós ‘cutting’ (ADJ.M.NOM.SG)

Descriptively, three similarities between these derivations:

(i) Derivative shows rightward stress shift (1σ) vis-à-vis base.
(ii) Derivative shows same root vocalism as base rather than phonologically expected zero-grade.
(iii) Semantically, base is action/result noun and derivative is agent noun/agentival adjective.
Proposal II: PIE had an ID process whereby:

(i) Accent of the stem was shifted to the stem-final syllable.
(ii) Base root vocalism was inherited by (i.e., transferred to) the derivative.
A new morphological reconstruction

- **Proposal II:** PIE had an ID process whereby:
  
  (i) Accent of the stem was shifted to the stem-final syllable.
  
  (ii) Base root vocalism was inherited by (i.e., transferred to) the derivative.

- **Formal implementation:**
  

  - Base-derivative transfer effects are well-established cross-linguistically — e.g., “synchronic analogy” (Kiparsky 2015:3), “output-output correspondence” (Benua 1997, *et seq.*) — and admit a range of possible analyses (see, e.g., Rolle 2018:158–61 for discussion).
Proposal II: PIE had an ID process whereby:

(i) Accent of the stem was shifted to the stem-final syllable.
(ii) Base root vocalism was inherited by (i.e., transferred to) the derivative.

These two properties can be observed in thematic ID pairs like (27):

(27) a. PIE *[tómh₁-o-s] > Gk. τόμος ‘slice’ (M.NOM.SG)
    ⇒ *[tómh₁-ó-s] > Gk. τομός ‘cutting’ (ADJ.M.NOM.SG)

   b. PIE *[gwhón-o-s] > Gk. φόνος ‘slaughter’ (M.NOM.SG)
      ⇒ *[gwhón-ó-s] > Ved. ghanás ‘slayer’ (M.NOM.SG)

In base, root vocalism is phonologically regular because it is stressed.
In derivative, root vowel resists pretonic mid vowel deletion (i.e., zero-grade) because it is transferred from base.
Analyzing ID: thematic pairs

Thematic nominal pairs (synchronously) derived by this ID process are found across IE, esp. in Greek and Indo-Iranian — e.g., (28):

(28) a. Gk. τόμος ‘slice’ : Gk. τομός ‘cutting_{ADJ}’
b. Gk. φόρος ‘tribute’ : Gk. φορός ‘bearing_{ADJ}’
c. Gk. τρόχος ‘course’ : Gk. τροχός ‘running_{ADJ}; wheel’
g. Sp. cueva ‘cave’ : Lat. cavus ‘hollow_{ADJ}’
h. Hitt. āra ‘proper’ : Hitt. arā– ‘companion’
Thematic nominal pairs (synchronously) derived by this ID process are found across IE, esp. in Greek and Indo-Iranian — e.g., (28):

(28) a. Gk. τόμος ‘slice’ : Gk. τομός ‘cutting_{ADJ}’
b. Gk. φόρος ‘tribute’ : Gk. φορός ‘bearing_{ADJ}’
c. Gk. τρόχος ‘course’ : Gk. τροχός ‘running_{ADJ}; wheel’
g. Sp. cueva ‘cave’ : Lat. cavus ‘hollow_{ADJ}’
h. Hitt. āra ‘proper’ : Hitt. arā– ‘companion’

⇒ This ID process is securely reconstructible for PIE (e.g., Fortson 2010:122; cf. Nussbaum 2017) —
Thematic nominal pairs (synchronously) derived by this ID process are found across IE, esp. in Greek and Indo-Iranian — e.g., (28):

(28)  

a. Gk. τόμος ‘slice’ : Gk. τομός ‘cutting\textsubscript{ADJ}’  
b. Gk. φόρος ‘tribute’ : Gk. φορός ‘bearing\textsubscript{ADJ}’  
c. Gk. τρόχος ‘course’ : Gk. τροχός ‘running\textsubscript{ADJ}; wheel’  
d. Ved. c\textipa{oda}– ‘whip’ : Ved. cod\textipa{a}– ‘impelling\textsubscript{ADJ}; driver’  
e. Ved. v\textipa{ara}– ‘choice’ : Ved. var\textipa{a}– ‘suitor’  
f. Ved. s\textipa{oka}– ‘flame’ : Ved. sok\textipa{a}– ‘burning\textsubscript{ADJ}’  
g. Sp. cueva ‘cave’ : Lat. cavus ‘hollow\textsubscript{ADJ}’  
h. Hitt. āra ‘proper’ : Hitt. arā– ‘companion’

⇒ This ID process is securely reconstructible for PIE (e.g., Fortson 2010:122; cf. Nussbaum 2017) — and can also account for PIE ID *–\textit{mon}-stems.
Accounting for PIE *–mon*-stems by same ID process is complicated by apparent mismatch in suffixal vocalism between base and derivative.

N *–men*-stems have three suffixal allomorphs, but no *[-mon-]*:

(29)  

*[-mŋ] > NOM/ACC.SG Ved. dhāma ‘domain’, Gk. θῆμα ‘tomb’  
Gk. τέρμα, Lat. termen ‘border’

*[-men-] > LOC.SG Ved. ájman ‘to/for the race’
DAT.SG Lat. agminī ‘to battle-line’

*[-mōn] > NOM/ACC.PL OHG sāmo ‘seed’ (SG)  
Hitt. šarāma [srá:ma] ‘ration-breads’
OAve. haxēmām ‘retinues’
Ved. dhāmāni ‘domain(s)’
Accounting for PIE *–mon*-stems by same ID process is complicated by apparent mismatch in suffixal vocalism between base and derivative.

N *–men*-stems have three suffixal allomorphs, but no *-[mon-]*:

(29) *[-m₃n] > NOM/ACC.SG Ved. dháma ‘domain’, Gk. ḭῆμα ‘tomb’
Gk. τέρμα, Lat. termen ‘border’

*[-men-] > LOC.SG Ved. ájman ‘to/for the race’
DAT.SG Lat. agminī ‘to battle-line’

*[-mōn] > NOM/ACC.PL OHG sāmo ‘seed’ (SG)
Hitt. šarāma [srāːma] ‘ration-breads’
OAv. haxʰmām ‘retinues’

Ved. dhámāni ‘domain(s)’

Where then does (e.g.) ACC.SG *[-mōn-₃] in *–mon*-stems come from?
A solution — post-tonic /o/-deletion in PIE

N *–men*-stems had underlying */-mon-*/ in strong stem (Yates 2019b).

PIE had the phonological process in (30):

\[
\text{(30) POST-TONIC */o/-DELETION (PoD):} \\
\quad /\ddot{o}/ \rightarrow \emptyset / \hat{V}C_0\underline{\text{RC}_0}]_\sigma
\]

“Short non-thematic */o/ was deleted in a post-tonic syllable before a tautosyllabic sonorant consonant.”
A solution — post-tonic /o/-deletion in PIE

- N *–men*-stems had underlying */-mon-/* in strong stem (Yates 2019b).

- PIE had the phonological process in (30):

  \[
  \text{(30) POST-TONIC */o/-DELETION (PoD):} \\
  /\ddot{o}/ \rightarrow \emptyset / \tilde{V}C_0\tilde{RC}_0]_\sigma
  \]

- In inflectionally zero-marked NOM/ACC.SG */-∅/* in (31a), */o/* was deleted by PoD.

- */o/* surfaced (modulo lengthening) in NOM/ACC.PL in (31b), where PoD was bled by SZEMERÉNYI’S LAW (Szemerényi 1962; Nussbaum 1986:129–30).

(31) PIE                      VEDIC
  a. */[d^h\dot{e}h_1-mon]-%∅/* → *[d^h\dot{e}h_1.mn] > dháma
  b. */[d^h\dot{e}h_1-mon]-`h_2/* → *[d^h\dot{e}h_1.mën] >> dhámáni
Analyzing ID: N PIE *–men– ⇒ *–mon–

Proposal III: PIE ID *–mon*-stems were derived from the strong stem of N *–men*-stems by same process as thematic ID pairs.
Analyzing ID: \texttt{N PIE *–men–} \Rightarrow *–mon–

- **Proposal III:** PIE ID *–mon*-stems were derived from the strong stem of \texttt{N *–men–}-stems by same process as thematic ID pairs.

- Consider the schematic derivations from (26):

\begin{align*}
(26) & \quad \text{a. PIE} \quad *[d^h \text{er-}m\text{n}] & \Rightarrow & \quad *[d^h \text{er-}m\text{n}] \quad \Rightarrow \quad \text{Ved. dhārma} \quad \text{‘foundation’ (N.NOM/ACC.SG)} \\
& \quad \Rightarrow & \quad *[d^h \text{er-}m\text{n}] \quad \Rightarrow \quad \text{Ved. dharmā} \quad \text{‘support(er)’ (M.NOM.SG)}
\end{align*}

\begin{align*}
& \quad \text{b. PIE} \quad *[t\text{omh}_1-o-s] & \Rightarrow & \quad *[t\text{omh}_1-o-s] \quad \Rightarrow \quad \text{Gk. tómos} \quad \text{‘slice’ (M.NOM.SG)}
\end{align*}

\begin{align*}
& \quad \Rightarrow & \quad *[t\text{omh}_1-o-s] \quad \Rightarrow \quad \text{Gk. tomós} \quad \text{‘cutting’ (ADJ.M.NOM.SG)}
\end{align*}
Analyzing ID: N PIE *–men– ⇒ *–mon–

- **Proposal III:** PIE ID *–mon*-stems were derived from the strong stem of N *–men*-stems by same process as thematic ID pairs.

- Consider the schematic derivations from (26):

\[(26)\]

\begin{align*}
\text{a. } \text{PIE} & \quad *[d^h\text{e}r-m\text{o}] \quad \Rightarrow \quad *[d^h\text{e}r-mö\text{n}] & \text{Ved. } \text{dhārma} \quad \text{‘foundation’ (N.NOM/ACC.SG)} \\
& \Rightarrow \quad *[d^h\text{e}r-mö\text{n}] & \text{Ved. } \text{dharmā} \quad \text{‘support(er)’ (M.NOM.SG)}
\end{align*}

\begin{align*}
\text{b. } \text{PIE} & \quad *[t\text{ōm}h_1-o-s] \quad \Rightarrow \quad *[t\text{ōm}h_1-ö-s] & \text{Gk. } \text{tómοs} \quad \text{‘slice’ (M.NOM.SG)} \\
& \Rightarrow \quad *[t\text{ōm}h_1-ö-s] & \text{Gk. } \text{tomós} \quad \text{‘cutting’ (ADJ.M.NOM.SG)}
\end{align*}

- Full derivations given in (32) — (i) accent shifts to stem-final syllable and (ii) derivative inherits root vocalism of the base.

\[(32)\]

\begin{align*}
\text{a. } & \quad */[d^h\text{e}r-mon-]/_N \quad \Rightarrow \quad */[d^h\text{e}r-mö\text{n}]_{N/\text{ADJ-S}/\text{ANIM}} \quad \Rightarrow \quad *[d^h\text{e}r-mö\text{n}] \\
\text{b. } & \quad */[t\text{ōm}h_1-o-]/_{\text{ANIM}} \quad \Rightarrow \quad */[t\text{ōm}h_1-öÒ]\_{N/\text{ADJ-S}/\text{ANIM}} \quad \Rightarrow \quad *[t\text{ōm}h_1-ö-s]
\end{align*}
Analyzing ID: N PIE *–men– ⇒ *–mon–

- **Objection:** (Internal) derivation is usually thought to proceed from the weak stem (i.e., */-men-/*; Widmer 2004:62, Nussbaum 2017:252, *i.a.*).

(33)

a. PIE */h₂*øy-u-ƒ/N ⇒ PIE */h₂*oy-́u-ADJ-s/ANIM > Ved. á-yú ‘life’ Ved. á-yús ‘living’
b. PIE */h₂*em”g₇-h-os-ƒ/N ⇒ PIE */h₂*em”g₇-h-os-to ADJ-s/ANIM > Ved. á-mhas ‘distress’ Lat. angustus ‘narrow’ (cf. OCS –ost˘ı–, Hitt. –ašti–) ⇒ (Internal) derivation may take weak or strong stem as input.
Objection: (Internal) derivation is usually thought to proceed from the weak stem (i.e., */-men-/; Widmer 2004:62, Nussbaum 2017:252, i.a.). But there are frequently cited examples of ID in which the strong stem is the base — e.g., (33a).

(33) a. PIE */[h₂óy-u-]/ₙ ⇒ PIE */[h₂oy-ú]_{ADJ-SA ÜNIM}
> Ved. āyu ‘life’ Ved. āyús ‘living’
Analyzing ID: N PIE *–men– ⇒ *–mon–

- **Objection:** (Internal) derivation is usually thought to proceed from the weak stem (i.e., */-men-/; Widmer 2004:62, Nussbaum 2017:252, *i.a.*).
- But there are frequently cited examples of ID in which the strong stem is the base — e.g., (33a).
- And similar phenomena are found in “external” non-primary derivation — e.g., the strong stem is the base in (33b).

(33)  

a. PIE */[h₂øy-u-]/ₜ  ⇒  PIE */[h₂oy-ú]_{ADJ-S/ANIM}
   > Ved. āyu ‘life’
   > Ved. āyús ‘living’

b. PIE */[h₂ём]+h-os-]/ₜ  ⇒  PIE */[h₂ём+g–h-os-to]_{ADJ-S/ANIM}
   > Ved. ámhas ‘distress’
   > Lat. angustus ‘narrow’
   (cf. OCS –ostī–, Hitt. –ašti–)
Objection: (Internal) derivation is usually thought to proceed from the weak stem (i.e., */-men-/; Widmer 2004:62, Nussbaum 2017:252, i.a.).

But there are frequently cited examples of ID in which the strong stem is the base — e.g., (33a).

And similar phenomena are found in “external” non-primary derivation — e.g., the strong stem is the base in (33b).

(33)  

a. PIE */[h₂óy-u-]/ₜ → PIE */[h₂oy-ú]_{ADJ-S/ANIM}  
   > Ved. āyu ‘life’  
   > Ved. āyús ‘living’

b. PIE */[h₂ém̥h-os-]/ₜ → PIE */[h₂ém̥h-os-to]_{ADJ-S/ANIM}  
   > Ved. áṃhas ‘distress’
   > Lat. angustus ‘narrow’
   > (cf. OCS –ostī–, Hitt. –ašti–)

⇒ (Internal) derivation may take weak or strong stem as input.
PIE had *–mon*-stems internally derived from the strong stem of N *–men*-stems (*/-mon-/) — e.g., (34):

(34) a. PIE */[dʰer-mon-]/_N ⇒ PIE */[dʰer-món]_{N/ADJ-S/ANIM}

  > Ved. dhá́rma ‘support’
  Ved. dharmá ‘supporter’

  a. PIE */[dʰeh₁-mon-]/_N ⇒ PIE */[dʰeh₁-món]_{N/ADJ-S/ANIM}

  > Gk. ὑγμα ‘tomb’
  Gk. ὑμῶν ‘heap’
Reconstructing ID *–mon*-stems — summary

- PIE had *–mon*-stems internally derived from the strong stem of N *–men*-stems (*–mon–*) — e.g., (34):

  (34) a. PIE */[dʰér-mon–]/ₙ ⇒ PIE */[dʰer-món]ₙ/adj-s/anim

    > Ved. dhárma ‘support’

    Ved. dharmá ‘supporter’

  a. PIE */[dʰeh₁-mon–]/ₙ ⇒ PIE */[dʰeh₁-món]ₙ/adj-s/anim

    > Gk. ὑῆμα ‘tomb’

    Gk. ὑημῶν ‘heap’

- This ID process involved:

  (i) Shift of stem accent to stem-final syllable.

  (ii) Inheritance of base root vocalism by derivative.
Reconstructing ID *–mon*-stems — summary

- PIE had *–mon*-stems internally derived from the strong stem of N *–men*-stems (*–men–/*-mon–/) — e.g., (34):

\[(34) \]
\[\begin{align*}
a. \quad & \text{PIE } */[d^h\text{ér–mon–}]_N \Rightarrow \text{PIE } */[d^h\text{er–món}]_{N/ADJ–S/ANIM} \\
& \text{> Ved. dhárma ‘support’} \\
& \text{> Ved. dharmā ‘supporter’} \\
& a. \quad & \text{PIE } */[d^h\text{eh1–mon–}]_N \Rightarrow \text{PIE } */[d^h\text{eh1–món}]_{N/ADJ–S/ANIM} \\
& \text{> Gk. ἰημὼ ‘tomb’} \\
& \text{> Gk. ἰημών ‘heap’}
\end{align*}\]

- This ID process involved:

  (i) Shift of stem accent to stem-final syllable.

  (ii) Inheritance of base root vocalism by derivative.

⇒ This ID process did not involve a change between inflectional classes (i.e., PK ⇒ AK) as generally assumed.
Advantages of the proposed analysis:

(i) Correctly predicts formal properties of PIE ID *–mon*-stems — i.e., full-grade root vocalism and suffixal stress in strong cases as in (3).

(ii) Derivational mechanism is independently necessary in the grammar.

(3) | PIE | VEDIC |
---|---|---|
NOM.SG | *[dh]er-món | dharmā | ‘support(er)’
ACC.SG | *[dh]er-món-m | << dharmāṇam | ”
NOM.PL | *[dh]er-món-es | dharmāṇas | ‘support(er)s’

Traditional AK reconstruction of *–mon*-stems wrongly predicts root stress (and zero-grade root in weak cases).
Reconstructing ID *–mon*-stems — analytic comparison

Advantages of the proposed analysis:

(i) Correctly predicts formal properties of PIE ID *–mon*-stems — i.e., full-grade root vocalism and suffixal stress in strong cases as in (3).

(ii) Derivational mechanism is independently necessary in the grammar — viz., to account for thematic ID pairs like (35).

(35) a. PIE */[tómh₁-o-]/励 ⇒ PIE */[tómh₁-ó]ₙ/adj-s/励
   > Gk. τόμος ‘slice’
   Gk. τόμος ‘cutting’

a. PIE */[gʷhon-o-]/励 ⇒ PIE */[gʷhon-ó]ₙ/adj-s/励
   > Gk. φόνος ‘slaughter’
   Ved. ghanás ‘slayer’

Reconstruction of PK ⇒ AK class shift is less secure.

- e.g., “collective” NOM/ACC.PL of primary neuters is likely better explained without ID at all (Yates 2019a,b).
A broader question arises from this analysis:

- To what extent can other traditional examples of ID be accounted for by the same process as *–mon*-stems (viz., without appeal to change in inflectional class)?

⇒ Further research on this issue is needed.
Thank you!

- Special thanks to the members of the:
  - Indo-European & Modern Linguistic Theory research group
  - UCLA Phonology Seminar
  - UCLA Indo-European Studies Graduate Seminar
  - UCLA American Indian Linguistics Seminar

- As well as to Craig Melchert, Brent Vine, and Stephanie Jamison.
Synopsis

Three proposals:

- **Proposal I:** PIE ID *–mon*-stems were characterized by full-grade of the root and stressed *ó*-vocalism of the suffix in strong cases.

- **Proposal II:** PIE had an ID process whereby:
  1. Accent of the stem was shifted to the stem-final syllable.
  2. Base root vocalism was inherited by the derivative.

- **Proposal III:** PIE ID *–mon*-stems were derived from strong stem of N *–men*-stems (*/-mon-/*) by ID process above, which also underlies ID thematic pairs of Gk. τόμος : τομός type.

A question for future research:

- To what extent can other traditional examples of ID be accounted for by the same process as *–mon*-stems (viz., without appeal to change in inflectional class)?


On the membership of ID *–mon*-stems

- PIE *\(h_2\acute{e}kmon\)*–‘heavenly stone’ in (33) is standardly taken as evidence for the reconstruction of prosodic properties of ID *–mon*-stems — specifically, that they were AK.

- At least three problems with this claim:
  
  (i) Morphologically, it is not an ID *–mon*-stem.

  - Cannot be formed by ID, since no corresponding N *–men*-stem is attested in any IE language.

  - Lack of a N *–men*-stem likely non-accidental:
    
    - N *–men*-stems are derived primarily from verbal roots.
    
    - But only PIE root that is formally compatible with *\(h_2\acute{e}kmon\)* is *\(h_2\acute{e}k\)*–‘sharp’ (> OLith. *ašras* ‘sharp’, Gk. *\(\acute{\alpha}χρός\)* ‘extreme, point’; cf. *NIL*: 287–300), which lacks securely reconstructible verbal forms (cf. *LIV\(^2\)*: 261).

    - And it is not even clear that this is actually the right root, given the semantic divergence (cf. *NIL*: 290–1).
On the membership of ID *–mon*-stems

- PIE *h₂ékmon*—‘heavenly stone’ in (33) is standardly taken as evidence for the reconstruction of prosodic properties of ID *–mon*-stems — specifically, that they were AK.
- At least three problems with this claim:
  
  (i) Morphologically, it is not an ID *–mon*-stem.
  (ii) Prosodically, it is distinct from ID *–mon*-stems in all IE languages.
    - Vedic: fixed root stress vs. suffixal stress in all ID *–mon*-stems.
    - Greek: fixed root stress vs. suffixal stress in most ID(-based) *–mon*-stem nouns.
    - Old Lithuanian: fixed stress (AP 1) vs. mobility (AP 3) in –muо-class.

  (36) a. Ved. ACC.SG áśmānam, GEN.SG áśnas / áśmanas ‘stone’
  b. Gk. ACC.SG ἄκμονα, GEN.SG ἄκμονος ‘anvil’
  c. OLith. NOM.SG ākmuо ‘stone’
On the membership of ID *–mon*-stems

- PIE *h₂ēkmon*– ‘heavenly stone’ in (33) is standardly taken as evidence for the reconstruction of prosodic properties of ID *–mon*-stems — specifically, that they were AK.

- At least three problems with this claim:
  
  (i) Morphologically, it is not an ID *–mon*-stem.
  
  (ii) Prosodically, it is distinct from ID *–mon*-stems in all IE languages.
  
  (iii) No positive evidence for AK stress mobility.

- All IE daughter languages show fixed root stress (per above).

- Only putative evidence for mobility is suffixal vowel deletion in Ved. áśnas (= YAv. aśnō).

- But suffixal vowel deletion does not require mobility in Indo-Iranian (e.g., ACC.SG Ved. hó-tār-am vs. DAT.SG hó-tr-e) and so too likely in Proto-Nuclear-Indo-European (Yates 2019a).
Greek *–mon-stem adjectives

- Greek *–mon-stem adjectives are overwhelmingly exocentric compounds (Debrunner 1917:72, 77; Buck 1945:217–20, *i.a.*).
  - Most are attested beside cognate Ν *–men-stems.
  - All are recessive — e.g. (11).

(11)  NOM.SG *[-mōn]  cf.  NOM.SG *[-mα]

a. ἀν-αίμων  ‘bloodless’  αἷμα  ‘blood’
b. ἀ-πήμων  ‘unharmed; harmless’  πῆμα  ‘misery’
c. πολυ-κτήμων  ‘very rich’  κτῆμα  ‘possession’
d. κακο-είμων  ‘ill-clad’  εἰμα  ‘garment’
Greek compound *–mon*-stem adjectives

- But compounds like (11) are uninformative with respect to reconstruction of stress in ID *–mon*-stems.
  - Historically, exocentric (= bahuvrīhi) compounds regularly had first member (1M) stress as in Vedic (cf. Wackernagel 1905:291).
  - Recessive accent in (11) — only superficially root stress (e.g., voc.sg εὐδαιμόν ‘(O) fortunate one’) — is the normal Greek reflex of 1M stress (cf. Wheeler 1885:43, Lundquist 2016).

<table>
<thead>
<tr>
<th>(11)</th>
<th>NOM.SG *[-mōn]</th>
<th>cf. NOM.SG *[-mỆ]</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. ἀν-αίμων</td>
<td>‘bloodless’</td>
<td>ἀίμα ‘blood’</td>
</tr>
<tr>
<td>b. ἀ-πῆμων</td>
<td>‘unharmed; harmless’</td>
<td>πῆμα ‘misery’</td>
</tr>
<tr>
<td>c. πολυ-κτήμων</td>
<td>‘very rich’</td>
<td>κτῆμα ‘possession’</td>
</tr>
<tr>
<td>d. κακο-είμων</td>
<td>‘ill-clad’</td>
<td>εῖμα ‘garment’</td>
</tr>
</tbody>
</table>
ID *–mon*-stems from PIE to Greek

- Most Greek nouns that continue this category maintain suffixal stress.
  - Some paired ID *–mon*-stems (e.g., ἰθημών ‘heap’).
  - Deverbal and denominal *–mon*-stems (e.g., ἡγεμών ‘leader’).
ID *–mon*-stems from PIE to Greek

- Most Greek nouns that continue this category maintain suffixal stress.
  - Some paired ID *–mon*-stems (e.g., ὥμων ‘heap’).
  - Deverbal and denominal *–mon*-stems (e.g., ἡγεμόν ‘leader’).

- Two likely causes of recessive accentuation (esp. in adjectives):
  1. General diachronic tendency for default stress (= recessive accent in Greek) to emerge diachronically.
     - Observed in Greek in thematic nouns/adjectives (Probert 2006) and prehistorically in *–ti*-stems (Lundquist 2015).
     - Parallel developments are found in Vedic (Sandell 2015) and Anatolian (Yates 2015).
  2. Generalization of recessive accent from common compound *–mon*-stem adjectives to rarer non-compound adjectives.
ID *–mon*-stems from PIE to Greek

- Most Greek nouns that continue this category maintain suffixal stress.
  - Some paired ID *–mon*-stems (e.g., ὕημων ‘heap’).
  - Deverbal and denominal *–mon*-stems (e.g., ἡγεμών ‘leader’).
- Two likely causes of recessive accentuation (esp. in adjectives):
  1. General diachronic tendency for default stress (= recessive accent in Greek) to emerge diachronically.
  2. Generalization of recessive accent from common compound *–mon*-stem adjectives to rarer non-compound adjectives.
    - Non-compounds frequently attested (much) later than corresponding compound, e.g.: ἀ-πήμων (Hom.+) vs. πήμων (Hymn. Orph.).
    => Non-compounds may be “decompositional,” i.e., back-formed from — and with stress based on — corresponding compounds (cf. Meissner 2005:206–10 on Greek *s*-stem adjectives).

* See also Nussbaum (2014:254) for possibility that some apparent ID *–mon*-stem nouns ultimately reflect *–h2*-marked neuters with root stress (e.g., Gk. τέρμων ‘boundary’ < **tēr–mon–h2), not ID *–mon*-stems.*