We can think of the different grades of stems as having different amounts of ‘strength’. The lengthened grade is ‘stronger’ than the ‘full’/‘normal’ grade, which is ‘stronger’ than the zero grade. Moreover, the o-grade is ‘stronger’ than the e-grade. This entails that you have the following scale:

\[
\text{o, a > e > o, a > e > } \emptyset
\]

Noun stems usually have either one or two forms. When there are two forms, one is stronger than the other according to this scale. So people speak of a strong stem and a weak stem.

<table>
<thead>
<tr>
<th>Strong</th>
<th>Weak</th>
</tr>
</thead>
<tbody>
<tr>
<td>(e) *ureh₂d-</td>
<td>(Ø) *urh₂d-</td>
</tr>
<tr>
<td>(o) *nokʷt-</td>
<td>(e) *nekwᵗ-</td>
</tr>
<tr>
<td>(o) *póntoʰ₂-</td>
<td>(Ø) *pnth₂-</td>
</tr>
<tr>
<td>(ɛ́) *h₁neʰ₃mn-</td>
<td>(e) *h₁neh₃mn-</td>
</tr>
<tr>
<td>(ā) *uāstu-</td>
<td>(a) *uastu-</td>
</tr>
<tr>
<td>(e, ō) *uedör-</td>
<td>(Ø, Ø) *udn-</td>
</tr>
<tr>
<td>(Ø) *iug₃-</td>
<td>(Ø) *iug₃-</td>
</tr>
</tbody>
</table>

The important distinguishing factor much of the time in PIE noun inflection is the case of the noun. The direct cases (nominative, accusative, vocative) have inherently unaccented endings and the stronger stem; the oblique cases (all others) have inherently accented endings, and if there is a grade change in the noun stem, you have the zero-grade of the stem in the oblique cases.

- Note also that some, but not all, of the desinences also vary in grade depending on whether they have the word-accent or not. For example, the instrumental sg. has a full grade *-čʰ₁ and a zero grade *-h₁. The genitive sg. had a zero grade *-s, and two full grades, the normal one being *-és. Sometimes the o-grade of the genitive sg. appears, but it is hard to predict which stems do this. Also note that the actual desinences may differ for thematic stems (ending in theme vowel e/o) vs. athematics stems (all others).

- The neuter endings are different from the non-neuter endings in the direct cases; they are the same in the oblique cases. When feminine stems developed through suffixation of *-eh₂ they also had a different nom. sg. suffix *-Ø (instead of *-s). But feminines that did not have this suffix were declined exactly like masculines. Probably there was no difference between masculine and feminine nouns in archaic PIE, but it does characterize the ‘core’ PIE languages (non-Anatolian).
Accent Patterns

A1 *urèh₂d-s ‘root’ inherently unaccented monosyllabic stem
A2 *nókʷt-s ‘night’ inherently accented monosyllabic stem
B1 *mēh₁n-s ‘moon’ inherently accented polysyllabic stem
B2 *lèimon-s ‘lake’ inherently unaccented polysyllabic stem
B3 *h₂stér ‘star’ hysterokinetic: word-accent on stem-final syllable but stem loses its accent to any following inherently accented ending, which gets the word-accent
B4 *mëntis ‘mind’ proterokinetic: like hysterokinetic except accent is one syllable further to the left
C1 *h₂ég-r-o-s ‘field’ inherent accent on the root of a thematic stem
C2 *nisd-ó-s ‘nest’ no inherent accent on the root of a thematic stem

I. The A2, B1 and C1, C2 types are easy: the accent is always on the same syllable. They are ‘acrostatic’.

• But, even though the accent is fixed, the stem still varies depending on whether the case is direct (nominative, accusative or vocative) vs. oblique (all other cases). If the stem has a stronger and a weaker stem-form, the stronger one appears in the direct cases and the weaker in the oblique cases. If the stem has only one form, then that form is the only form (obviously!).

nominative singular (stronger) dative singular (weaker):

ending = *-s (masc. and fem.) ending = *-éi
*.-m (neuter)

(o) *nókʷt-S ‘NIGHT’ (e) *nēkʷt-éi → *nēkʷtej ‘to, for the NIGHT’
(ō) *mēh₁ŋ-s ‘MOON’ (e) *mēh₁n-éi → *mēh₁n-ej ‘to, for the MOON’
(c) *h₂égr-o-s ‘field’ (AGRI-culture) (e) *h₂égr-ó-éi → *h₂égr-o-ej ‘to, for the field’
(Θ) *iug-ó-m → *iug-ó-m ‘YOKE’ (Θ) *iug-ó-éi → *iug-ó-ej ‘to, for the YOKE’

• Note that in the weak cases the ending does have an inherent accent, but its accent ‘loses’ to the accent on the stem because the leftmost one ‘wins’ (i.e. is actually pronounced). In the thematic stems the theme vowel also has an inherent accent, but it too ‘loses’ when the root has an inherent accent, as *h₂égroej ‘to/for the field’; but it is the winner otherwise, as in *iugóej ‘to/for the yoke’.
II. The A1, B2 types are like Russian górd, goró-á ‘city, cities’: the accent of the word moves from the beginning of the word in the direct cases (where the ending does not have its own accent and so a ‘default’ accent falls on the initial syllable of the word), to the end of the word, in the oblique cases (when the ending does have inherent accent). There is of course a grade change in the stem if there exist more than one stem form.

nominative singular (stronger)   dative singular (weaker)
(e) *urêh₂d-s → *urêh₂d-ś ‘ROOT’   (Ø) *urh₂d-śi → *urh₂d-śi ‘to/for the ROOT’
(e, o) *leí-mon-s → *leí-móñ ‘lake’   (Ø, Ø) *li-mn-śi ‘to/for the lake’

• I wrote [ ` ] on the word-accented vowel where it was supplied ‘by default’.

By logic you can see that the other two types are visible only on polysyllabic stems: if the stem is monosyllabic it has to either have fixed accent on the stem or amphikinet accent moving from the stem to the ending. Usually the hysterokinetic (B3) and proterokinetic (B4) patterns occur on stems that have been formed by adding particular suffixes which seems to be the trigger for the particular type of accent shifting.

For example, the some kinship noun stems formed with the suffix *-h₂tér have the hysterokinetic pattern, e.g. *p-h₂tér- ~ *p-h₂tr- ‘father’, *dʰug-h₂tér- ~ *dʰug-h₂tr- ‘daughter’. (But other kinship terms have inherent accent on the root, which always ‘wins’, so they are acrostatic, e.g. *mé-h₂ter- ~ mé-h₂tr- ‘mother’, *bré-h₂ter- ~ *bré-h₂tr- ‘brother’, *h₁ién-h₂ter- ~ *h₁ién-h₂tr- ‘husband’s sister-in-law’)

III. We can think of the hysterokinetic type as a kind of inherently accented stem, where the last syllable of the stem (a suffix) has an inherent accent, but will ‘yield’ its accent to the following syllable (the ending) if it is accented.

nominative singular (stronger)   dative singular (weaker)
(Ø, e) *ph₂tér-s → *ph₂tér ‘FATHER’   (Ø, Ø) *p-h₂tr-śi ‘to/for the FATHER’
(Ø, e) *dŋʰu-ēh₂-Ø → *dŋʰu-ēh₂ ‘TONGUE’   (Ø, Ø) *dŋʰu-h₂-śi → *dŋʰu-h₂-śi ‘to/for TONGUE’

• What is special about the hysterokinetic pattern is that the inherently accented suffix ‘gives up’ its accent to a following accented ending. This is the opposite of the ‘leftmost’ wins principle, but something additional and special was going on here, the precise nature of which no one is entirely sure about.

• Here *dŋʰu-ēh₂ ‘TONGUE’ has a -Ø ending in the nominative singular because it is a feminine noun ending in *-eh₂ (that’s just a rule). Originally *-eh₂ was not a specifically feminine ending, since the masculine feminine distinction was not present in archaic PIE. But eventually *-eh₂ became a productive (i.e. ‘regular’) ending for producing feminine noun stems. By laryngeal coloring *-eh₂ becomes *-ã which becomes the stereotypically feminine -a ending in Latin or Spanish.
B4. The easiest way to think of the proterokinetic type is that it has the same accent position as the hysterokinetic type, just one syllable further to the left, usually called retraction in phonology. So these stems have an additional ‘move the accent back one syllable’ property. Almost all proterokinetic nouns are formed with particular suffixes (see noun handout).

Practise Exercise
Examine the following nouns. The first form given to you is the nominative singular. Determine the case and number of the second form and state the accent type of the stem.

a. *h₂érh₂-tr-o-m  *h₂érh₂-tr-o-mos ‘plow’ (neuter) (> ἄρατρον)
b. *h₂ēh₁-s-h₂  *h₂h₁-s-ēh₂-bʰi ‘hearth’ (fem.) (> Latin ara)
c. *sór-u-Ø  *sr-ú-su ‘booty’ (neuter) (> Hittite ṣāru)
d. *tórh₁-m-o-s  *térh₁-m-e₁ ‘nail’ (masc.) (> ῥόμιος, H tarmas)
e. *h₁esh₂-ó-s  *h₁esh₂-ė-Hat (> -ad) ‘master’ (masc.) (> Latin erus)
f. *stēh₂-mᵣ-Ø  *sth₂-mén-oHom ‘mouth’ (neuter) (> στόμα)
g. *tuk-éh₁  *tuk-éh₁ ‘skin’ (fem.) (> Sanskrit tvac-)

Although the derivation of proterokinetic stems looks complicated, it is simply the compound result of a bunch of things which happen independently in other circumstances. The ‘retraction’ behavior is not completely understood at this time, but the pattern is fairly well established.