

# PIE Ablaut, Morphology and Indo-Hittite

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## 1 One last loquendum

Trees vs. waves.

## 2 Basics of Ablaut

PIE shows a system of Ablaut variation in vowel quality/quantity.

$$\emptyset \sim e \sim o \sim \bar{e} \sim \bar{o}$$

\*-*e*, also called the ‘full grade’ is thought to be the basic and most common value. The two lengthened grades are more marginal. There is not one single conditioning environment that causes the alternation at the level of Proto-Indo-European, although there seem to be some correlating factors. Pretonic syllables in verbal conjugations often yield zero-grades, while resonants seem to correlate with *o*-grades.

Ablaut is, at least synchronically speaking, grammatically conditioned. The perfect/stative seems to correlate more with \*-*o* grade, as do deverbal nouns (Lat. *tegere* ‘cover’ > *toga*).

### 2.1 Some reflexes of ablaut

	<i>e</i> -grade	<i>o</i> -grade	zero-grade	$\bar{e}$ -grade	$\bar{o}$ -grade
English	<b>sit</b>	<b>sat</b>	<b>nest</b>	<b>seat</b>	<b>soot</b>
Greek	<i>patera</i>	<i>eupatora</i>	<i>patros</i>	<i>patēr</i>	<i>eupatōr</i>
	‘father.A’	‘well-fathered.A’	‘father.G’	‘father.N’	‘well-fathered.N’
	<b>leipo</b>	<b>léloipa</b>	<b>elipon</b>		
	‘I leave’	‘I have left’	‘I left’		

PIE \**senɡ*<sup>wh</sup> - > Eng. *sing* (PIE /e/ raises before nasals in Proto-Germanic)

PIE \**song*<sup>wh</sup> - > Eng. *sang* (/o/ and /a/ merge in Proto-Germ.)

PIE \**sŋɡ*<sup>wh</sup> - > Eng. *sung* (epenthesis of /u/ with syllabic resonants in Proto-Germ.)

### 3 Laryngeals

Originally, there appeared to be another vowel variation in PIE, as shown by the Latin/Sanskrit/Greek data below:

\**dhē*- ‘place’:

Gr. tithēmi ‘I place’    thetos ‘placed’    ē ~ e

Skt. dadhāmi ‘I place’    (d)hita ‘placed’    ā ~ i

Lat. fēcī ‘I did’    factus ‘done’    ē ~ a

\**stā*- ‘stand, set up’:

Gr. histāmi ‘I set up’    statos ‘set up’    ā ~ a

Skt. sthātum ‘to set up’    sthita ‘set up’    ā ~ i

Lat. stāmen ‘warp’    status ‘set up’    ā ~ a

\**dō*- ‘give’:

Gr. didōmi ‘I give’    dotos ‘given’    ō ~ o

Skt. dadāti ‘gives’    diti ‘possession’    ā ~ i

Lat. dōnum ‘gift’    datus ‘given’    ō ~ a

The original idea had been that an PIE /ə/ alternated with the long forms of each vowel (schwa becomes /a/ in Latin, /i/ in Indo-Aryan and in Greek, it is lost to paradigmatic leveling).

Sassure’s objection was the strangeness of the Greek forms, and the fact that PIE *already* had a productive ablaut system. His idea was that the Greek forms were conservative, and that the underlying vowel of *all* these roots were the same: \**e*, the fundamental vowel of the first system.

The apparent lengthening in these forms was due to what he called *coefficients sonantiques* (what we call laryngeals) whose loss would condition compensatory lengthening. These *coefficients* would also *color* a vowel, meaning that the changes in quality and quantity could be account by these

elements.

So nowadays, we construct:

*\*d<sup>h</sup>eh<sub>1</sub>- \*steh<sub>2</sub>- \*deh<sub>3</sub>-*

Sound change:

PIE		Coloring		Laryngeal Loss		Greek
d <sup>h</sup> eh <sub>1</sub>	>	–	>	d <sup>h</sup> ē	>	tithēmi <sup>1</sup>
d <sup>h</sup> h <sub>1</sub>	>	–	>	d <sup>h</sup> e	>	thetos
steh <sub>2</sub>	>	stah <sub>2</sub>	>	stā	>	histāmi <sup>2</sup>
sth <sub>2</sub>	>	–	>	sta	>	statos
deh <sub>3</sub>	>	doh <sub>3</sub>	>	dō	>	didōmi
dh <sub>3</sub>	>	–	>	do	>	dotos

### 3.1 Result: PIE Consonant structure

(s)+CReRC

All roots must have elements somewhere in the onset and coda (be they resonants or stops). Additionally, the onset and coda may not contain the same single consonant (\*\**tet-*).

## 4 The Proto-Indo-European Verbal System

Phonologically, verbs come in two types, thematic (which take an extra vowel before their personal ending) and athematic (which do not). Athematic verbs seem to be more archaic/common and their stems are affected by ablaut, specifically, stress moves off of the stem in some persons and the stem becomes zero-grade. Notice also that the thematic vowel in the thematic verbs will be *e* in most cases, but *o* when followed by a resonant.<sup>3</sup>

<sup>1</sup>Note Grassmann's Law (reduplicant not aspirated).

<sup>2</sup>Also a reduplicant. /s/ > [h] / #\_V in Greek

<sup>3</sup>This is the kind of circumstantial evidence that might lead us to think that ablaut was originally phonologically conditioned.

	S	P	S	D	P
1	h <sub>1</sub> és-mi	h <sub>1</sub> s-mé	b <sup>h</sup> ér-o-h <sub>2</sub>	b <sup>h</sup> ér-o-we	b <sup>h</sup> ér-o-me
2	h <sub>1</sub> és-si	h <sub>1</sub> s-té	b <sup>h</sup> ér-e-si	b <sup>h</sup> ér-e-to	b <sup>h</sup> ér-e-te
3	h <sub>1</sub> és-ti	h <sub>1</sub> s-énti	b <sup>h</sup> ér-e-ti	b <sup>h</sup> ér-e-to	b <sup>h</sup> ér-o-nti

## 4.1 Tense and Aspect

We can clearly reconstruct four ‘tenses’ (really inflectional classes) in PIE: present, imperfect, aorist and perfect.

Present: root + (θ)<sup>4</sup> + primary ending

Imperfect: (\*e-)<sup>5</sup> + root + (θ) + secondary ending

Aorist: root (non-SG in zero-grade) + secondary ending

Perfect (Stative): Ce + root (\*o in singular, zero elsewhere) + perfect ending

Subjunctive (Future): root + (θ) + θ + primary ending

The stative is called the ‘perfect’ because that is what it becomes in daughter languages, although in the oldest Greek and Sanskrit, it clearly maintains a stative reading. The same is true of the future, seeing that it becomes the subjunctive in daughter families.

For non-perfect tense, there are two person/number inflectional paradigms: *primary* for present and future and *secondary* for the imperfect and aorist. Ironically, the secondary endings are actually the ‘primary’ ones in that the primary endings are derived from them with the addition of a \*-i suffix in some endings (generally called the *hic et nunc* particle).

	Primary:			Secondary:		
	S	D	P	S	D	P
1	*-mi/h <sub>2</sub>	*-wos	*-mos	1	*-m	*-wos *-mos
2	*-si	*-tes	*-te	2	*-s	*-tes *-te
3	*-ti	*-tes	*-nti	3	*-t	*-tes *-nt

There is a different set of perfect endings. The constructions for the dual are unclear.

<sup>4</sup>Thematic vowels appear only in thematic verbs.

<sup>5</sup>This \*e-, called ‘the augment,’ appears in only several language families (Greek, Indo-Iranian) and was probably ‘dialectal.’

Perfect endings:

	S	P
1	*-h <sub>2</sub> e	*-me
2	*-th <sub>2</sub> e	*-e
3	*-e	*-ēr

## 4.2 Voice

PIE has active and mediopassive forms for all non-perfect tenses. There appears to be a *very* wide semantic range of actions that fall into ‘mediopassive.’ In the earliest Indo-European languages, the mediopassive is used

Like the active, there are primary and secondary endings (used in the same tenses). Instead of the *hic et nunc* particle \*-i, the mediopassive shows a particle \*-r in the same places.

	Primary:		Secondary:	
	S	P	S	P
1	*-h <sub>2</sub> er	*-medhh <sub>2</sub>	1 *-h <sub>2</sub> e	*-medhh <sub>2</sub>
2	*-th <sub>2</sub> er	*-dhwe	2 *-th <sub>2</sub> e	*-dhwe
3	*-or	*-ror	3 *-o	*-ro

Compare these endings with the perfect/stative endings and you should see a stark similarity. It’s been variously suggested that at an archaic level, the mediopassive and stative were the same category.

## 5 Nouns

Like verbs, PIE nouns are either thematic or athematic. They are inflected for 8 different cases and singular, plural and dual (dual forms are harder to reconstruct and are thus not shown here).

Case	Athematic		Thematic	
	S	P	S	P
Nominative	*-s	*-es	*-os	*-oes
Vocative	*-∅	*-es	*-e	*-oes
Accusative	*-m	*-ns	*-om	*-ons
Neuter (NVA)	*-∅	*-h <sub>2</sub>	*-om	*-ōys
Instrumental	*-h <sub>1</sub>	*-b <sup>h</sup> í	*-oh <sub>1</sub>	*-ōymos
Dative	*-ey	*-mos	*-oey	*-omos
Ablative	*-es	*-mos	*-oh <sub>2</sub> at	*-omos
Genitive	*-es	*-ohom	*-os	*-ohom
Locative	*-i	*-su	*-oy	*-oysu

## 6 The Exception to All Rules: Anatolian

The general differences between Anatolian and the rest of IE:

- Anatolian has an animate-inanimate gender distinction while the rest of IE divide animate into masculine and feminine.
- While most IE languages have primarily thematic verbs with a few old athematics, Anatolian has *all* athematic verbs.
- Anatolian has many of the archaic -r/-n stems, which are extremely rare in other languages.
- Anatolian lack many inflectional categories, such as the perfect/stative, the subjunctive/future, the aorist, the optative.
- Anatolian has no trace of duals.
- Anatolian has an (apparently new) ergative ending for inanimate nominals *-enti*, which may be related to the PIE *\*-nt-* participle (which otherwise doesn't exist in Anatolian).
- Hittite has two conjugations a *-mi* conjugation and a *-hi* conjugation (named after the endings of their first singular forms). The *-hi* conjugation *seems* resemble the PIE stative/perfect.