

7. VERBS

7.1. INTRODUCTION

7.1.1. VOICE, MOOD, TENSE, PERSON, NUMBER

1. The inflection of the Verb is called its Conjugation.
2. Through its conjugation the Verb expresses Voice, Mood, Tense, Person and Number.
3. The Voices are two: Active and Middle (or *Mediopassive*).
4. The Moods can be four: Indicative and Imperative are the oldest ones, while Subjunctive and Optative, which are more recent, are not common to all Indo-European dialects.
5. The General Tenses are three, *viz.*:
 - a. The Present
 - b. The Past or Preterite.
 - c. The Future

NOTE. The Future Stem is generally believed to have appeared in Late PIE, not being able to spread to some dialects before the general split of the proto-languages; the distinction between a Present and a Future tense, however, is common to all IE languages.

6. The Aspects were up to three:
 - a. For continued, not completed action, the Present.
 - b. For the state derived from the action, the Perfect.
 - c. For completed action, the Aorist.

NOTE 1. There is some confusion on whether the Aorist (from Gk. *αοριστος*, “*indefinite or unlimited*”) is a tense or an aspect. This reflects the double nature of the aorist in Ancient Greek. In the indicative, the Ancient Greek aorist represents a combination of tense and aspect: past tense, perfective aspect. In other moods (subjunctive, optative and imperative), however, as well as in the infinitive and (largely) the participle, the aorist is purely aspectual, with no reference to any particular tense. Modern Greek has inherited the same system. In Proto-Indo-European, the aorist was originally just an aspect, but before the split of Late PIE dialects it was already spread as a combination of tense and aspect, just as in Ancient Greek, since a similar system is also found in Sanskrit.

NOTE 2. The original meanings of the past tenses (Aorist, Perfect and Imperfect) are often assumed to match their meanings in Greek. That is, the Aorist represents a single action in the past, viewed as a discrete event; the Imperfect represents a repeated past action or a past action viewed as extending over time, with the focus on some point in the middle of the action; and the Perfect represents a present state resulting from a past action. This

corresponds, approximately, to the English distinction between “I ate”, “I was eating” and “I have eaten”, respectively. Note that the English “I have eaten” often has the meaning, or at least the strong implication, of “I am in the state resulting from having eaten”, in other words “I am now full”. Similarly, “I have sent the letter” means approximately “The letter is now (in the state of having been) sent”. However, the Greek, and presumably PIE, perfect, more strongly emphasizes the *state* resulting from an action, rather than the action itself, and can shade into a present tense.

In Greek the difference between the present, aorist and perfect tenses when used outside of the indicative (that is, in the subjunctive, optative, imperative, infinitive and participles) is almost entirely one of grammatical aspect, not of tense. That is, the aorist refers to a simple action, the present to an ongoing action, and the perfect to a state resulting from a previous action. An aorist infinitive or imperative, for example, does *not* refer to a past action, and in fact for many verbs (e.g. “kill”) would likely be more common than a present infinitive or imperative. In some participial constructions, however, an aorist participle can have either a tensal or aspectual meaning. It is assumed that this distinction of aspect was the original significance of the Early PIE “tenses”, rather than any actual tense distinction, and that tense distinctions were originally indicated by means of adverbs, as in Chinese. However, it appears that by Late PIE, the different tenses had already acquired a tensal meaning in particular contexts, as in Greek, and in later Indo-European languages this became dominant.

The meanings of the three tenses in the oldest Vedic Sanskrit, however, differs somewhat from their meanings in Greek, and thus it is not clear whether the PIE meanings corresponded exactly to the Greek meanings. In particular, the Vedic imperfect had a meaning that was close to the Greek aorist, and the Vedic aorist had a meaning that was close to the Greek perfect. Meanwhile, the Vedic perfect was often indistinguishable from a present tense (Whitney 1924). In the moods other than the indicative, the present, aorist and perfect were almost indistinguishable from each other. The lack of semantic distinction between different grammatical forms in a literary language often indicates that some of these forms no longer existed in the spoken language of the time. In fact, in Classical Sanskrit, the subjunctive dropped out, as did all tenses of the optative and imperative other than the present; meanwhile, in the indicative the imperfect, aorist and perfect became largely interchangeable, and in later Classical Sanskrit, all three could be freely replaced by a participial construction. All of these developments appear to reflect changes in spoken Middle Indo-Aryan; among the past tenses, for example, only the aorist survived into early Middle Indo-Aryan, which was later displaced by a participial past tense.

7. There are four IE Verbal Stems we will deal with in this grammar:

I. The Present Stem, which gives the Present with primary endings and the Imperfect with secondary endings.

II. The Aorist Stem, always Past, with secondary endings, giving the Aorist, usually in zero-grade, with dialectal augment and sometimes reduplication.

III. The Perfect Stem, giving the Perfect, only later specialized in Present and Past.

IV. The Future Stem, an innovation of Late PIE.

NOTE. Under the point of view of most scholars, then, from this original PIE verbal system, the Aorist merged with the Imperfect Stem in Balto-Slavic, and further with the Perfect Stem in Germanic, Italic, Celtic and Tocharian dialects. The Aorist, meaning the completed action, is then reconstructed as a third PIE *tense-aspect*, following mainly the findings of Old Indian, Greek, and also – mixed with the Imperfect and Perfect Stems – Latin.

8. The Persons are three: First, Second, and Third.

9. The Numbers in Modern Indo-European are two: Singular and Plural, and it is the only common class with the name. It is marked very differently, though.

NOTE. The Dual, as in nouns, whether an innovation or an archaism of Late Proto-Indo-European dialects, is not systematized in Modern Indo-European.

7.1.2. NOUN AND ADJECTIVE FORMS

1. The following Noun and Adjective forms are also included in the inflection of the Indo-European Verb:

A. Verbal Nouns existed in Proto-Indo-European, but there is no single common prototype for a PIE Infinitive, as they were originally nouns which later entered the verbal conjugation and began to be inflected as verbs. There are some successful infinitive endings, though, that will be later explained.

NOTE 1. It is common to most IE languages that a special case-form (usually dative or accusative) of the verbal nouns froze, thus entering the verbal inflection and becoming infinitives. Although some endings of those successful precedents of the infinitives may be reproduced with some certainty for PIE, the (later selected) dialectal case-forms may not, as no general pattern is found.

NOTE 2. A common practice in Proto-Indo-European manuals (following the Latin tradition) is to name the verbs conjugated in first person present, e.g. **ésmi**, *I am*, for the verb **es**, *to be* or “being”, or **bhérō** (also probably older Athematic **bhérmi**), *I carry*, for the verb **bhértu**, *to carry*, or **bhérom**, *carrying*.

B. The Participles are older adjectives which were later included in the verbal inflection.

I. The oldest known is the Present Participle, in **-nt**.

II. The Perfect Participle, more recent, shows multiple endings, as **-ues**, **-uos**, **-uet**, **-uot**.

III. Middle Participles, an innovation in Late PIE, end in **-meno**, **-mōno**, **-mno**; and also some in **-to**, **-no**, **-lo**, **-mo**, etc.

C. The Gerund and the Absolutive, not generalized in Late PIE, indicated possibility or necessity.

2. The Participles are used as follows:

A. The Present Participle has commonly the same meaning and use as the English participle in *-ing*; as, **woqánts**, *calling*, **légents**¹³⁴, *reading*.

B. The Perfect Participle has two uses:

I. It is sometimes equivalent to the English perfect passive participle; as, **tektós**³⁴, *sheltered*, **adkēptós**, *accepted*, and often has simply an adjective meaning.

II. It is used with the verb **es**, *to be*, to form the static passive; as, **i woqātós ésti**, *he is called*.

NOTE 1. Some questions about the participles are not easily conciled: in Latin, they are formed with **e** ending and are stems in **i**; in Greek, they are formed in **o** and are consonantal stems. Greek, on the other hand, still shows remains of the thematic vowel in participles of *verba vocalia* **-ājont-** **-ējont-**, etc. Latin doesn't.

NOTE 2. The static passive is a new independent formation of many Indo-European dialects, not common to Late PIE, but probably a common resource of the European dialects, easily loan translated from Romance, Germanic and Balto-Slavic languages into Modern Indo-European as auxiliary verb *to be* + *perfect participle*.

C. The Gerundive is often used as an adjective implying obligation, necessity, or propriety (*ought* or *must*); as, **i awisdhījendhos ésti**, *he must be heard*.

NOTE. The verb is usually at the end of the sentence, as in Latin, Greek and Sanskrit. In Hittite, it is behind the particles (up to seven in succession). In Old Irish it was either at the beginning of the sentence or in second place after a particle. For more on this, see PIE Syntax in Appendix I.

7.1.3. VOICES

1. In grammar, Voice is the relationship between the action or state expressed by a verb and its arguments. When the subject is the agent or actor of the verb, the verb is said to be in the Active. When the subject is the patient or target of the action, it is said to be in the Passive.

2. The Active and Middle (or *Mediopassive*) Voices in Modern Indo-European generally correspond to the active and passive in English, but:

a. The Middle voice often has a reflexive meaning. It generally refers to an action whose object is the subject, or an action in which the subject has an interest or a special participation:

(i) **wértetoi**, *she/he turns (herself/himself)*.

(éi) **wésntoi**, *they dress (themselves)*.

NOTE. This reflexive sense could also carry a sense of benefaction for the subject, as in the sentence “I sacrificed a goat (for my own benefit)”. These constructions would have used the active form of “sacrificed” when the action was performed for some reason other than the subject's benefit.

b. The Mediopassive with Passive endings (in **-r**) is reserved for a very specific use in Modern Indo-European, the Dynamic or Eventive passives; as

(egó) **bhéromar 20^{t6s} Djówilioi**, *I became born on July 20th (or 20 Djówiliĩ, “20 of July”)*.

móiros¹⁷¹ píngetor¹⁷², *the wall is being painted or someone paints the wall*, lit. “the wall paints (impersonal mark)”.

NOTE 1. The dynamic passive usually means that an action is done, while the static or stative passive means that the action was done at a point in time, that it is already made. The last is obtained in MIE (as usually in Germanic, Romance and Balto-Slavic dialects) with a periphrasis, including the verb **es**, *be*. Following the above examples:

(egó) **gn(a)tá/bh(e)rtá ésmi 20^{6s} Djówilios**, *I (f.) was born on July 20*.

móiros pigtósⁱ (ésti), *the wall (is) [already] painted*.

ⁱ The infix **-n** is lost outside the Present Stem; thus, the Participle is not **píngtós**, but **pigtós**. Nevertheless, when the **n** is part of the Basic Stem, it remains. See the Verbal Stems for more details on the Nasal Infix.

NOTE 2. The Modern Indo-European Passive Voice endings (in **-r**) are older Impersonal and Late PIE Middle Voice alternative endings, found in Italic, Celtic, Tocharian, Germanic, Indo-Iranian and Anatolian, later dialectally specialized for the passive in some of those dialects. The concepts underlying modern IE Passives are, though, general to the Northern dialects (although differently expressed in Germanic and Balto-Slavic), and therefore MIE needs a common translation to express it. For the stative passive, the use of the verb **es**, *to be*, is common, but dynamic passives have different formations in each dialect. The specialized Mediopassive dialectal endings seems thus the best option keeping thus tradition and unity. See §§ 7.2.2 and 7.2.7.3.

c. Some verbs are only active, as, **ésmi⁴⁴**, *be*, **édmi¹⁷³**, *eat*, or **dómi⁹⁶**, *give*

d. Many verbs are middle in form, but active or reflexive in meaning. These are called Deponents: as, **kéjai⁷⁷**, *lay*; **séqomai⁶⁰**, *follow*, etc.

7.1.4. MOODS

1. While IE II had possibly only Indicative and Imperative, a Subjunctive and an Optative were added in the third stage of Proto-Indo-European, both used in the Present, Perfect and Aorist. Not all dialects, however, developed those new formations further.

2. The Imperative is usually formed with a pure stem, adding sometimes adverbial or pronominal elements.

3. Some common Subjunctive marks are the stem endings **-ā**, **-ē**, and **-s**, but it is more usually formed with the opposition Indicative Athematic vs. Subjunctive Thematic, or Indicative Thematic vs. Subjunctive Thematic with lengthened vowel.

4. The Optative is differentiated from the Subjunctive by its characteristic suffix **-iē/-ī**; in thematic Tenses it is **-oi**, i.e. originally the same Subjunctive suffix added to the thematic vowel **-o**.

5. The Moods are used as follows:

a. The Indicative Mood is used for most direct assertions and interrogations.

b. The Subjunctive Mood has many idiomatic uses, as in commands, conditions, and various dependent clauses. It is often translated by the English Indicative; frequently by means of the auxiliaries *may, might, would, should*; sometimes by the (rare) Subjunctive; sometimes by the Infinitive; and often by the Imperative, especially in prohibitions.

c. The Imperative is used for exhortation, entreaty, or command; but the Subjunctive could be used instead.

d. The Infinitive is used chiefly as an indeclinable noun, as the subject or complement of another verb.

7.1.5. TENSES OF THE FINITE VERB

1. The Tenses of the Indicative have, in general, the same meaning as the corresponding tenses in English:

a. Of continued action,

I. Present: **bhérō**²⁴, *I bear, I am bearing, I do bear*.

II. Imperfect: **bheróm**, *I was bearing*.

III. Future: **bhérsō**, *I shall bear*.

b. Of completed action or the state derived from the action,

IV. Perfect: **(bhé)bhora**, *I have borne*.

V. Aorist: **(é)bheróm**, *I bore*.

NOTE. Although the Aorist formation was probably generalized in Late PIE, Augment is a dialectal feature only found in Ind.-Ira., Gk., Arm and Phryg. It seems that the great success of that particular augment (similar to other additions like Lat. *per-* or Gmc. *ga-*) happened later in the proto-languages. Vedic Sanskrit shows that Augment was not obligatory, and for Proto-Greek, cf. Mycenaean *do-ke/a-pe-do-ke*, Myc. *qi-ri-ja-to*, Hom. Gk. *πριατο*, etc.

7.2. FORMS OF THE VERB

7.2.1. THE VERBAL STEMS

1. The Forms of the verb may be referred to four basic Stems, called (1) the Present, (2) the Aorist, (3) the Perfect and (4) the Future.

NOTE. There are some forms characteristic of each stem, like the suffix **-n-** or **-sko**, which give generally Present stems. Generally, however, forms give different stems only when opposed to others.

2. There are some monothematic verbs as **ésmi**, *to be*, or **édmi**, *eat* – supposedly remains of the older situation of IE II. And there are also some traces of recent or even nonexistent mood oppositions. To obtain this opposition there are not only reduplications, lengthenings and alternations, but also vowel changes and accent shifts.

3. There are also some other verbs, not derived from root words, the Denominatives and Deverbatives. The first are derived from nouns; as, **strówiō**, *strew, sprinkle*, from **stróu-**, *structure*; the last are derived from verbs, as, **wédiō**, *inform* (from **weid**⁻³³, *know, see*), also *guard, look after*.

NOTE. It is not clear whether these Deverbatives – Causatives, Desideratives, Intensives, Iteratives, etc. – are actually derivatives of older PIE roots, or are frozen remains, formed by compounds of older (IE II or Early PIE) independent verbs added to other verbs, the ones regarded as basic.

5. Reduplication is another common resource; it consists of the repetition of the root, either complete or abbreviated; as, **sísdō**, *sit down, settle down* (also **sízdō**, as Lat. *sisto*, Gk. *hidzein*, found in **nísdos/nízdos**, *nest*, all from **sed**⁻⁴⁴, *sit*), **gínoskō**, *know* (as Gk. *gignosko*, from **gnō**⁻¹⁰⁰), **mímnāskō**, *remember* (from **men**⁻¹⁷⁸, *think*), etc.

6. The Stem Vowel has no meaning in itself, but it helps to build different stems, whether thematic or semithematic (those which can be thematic and athematic), opposed to athematics. Thus, It can be used to oppose a) Indicative Athematic to Subjunctive Thematic, b) Present Thematic to Imperfect Athematic, c) Active to Middle voice, etc. Sometimes an accent shift helps to create a distinctive meaning, too.

7. Stems are inflected, as in the declension of nouns, with the help of lengthenings and endings (or “*desinences*”).

7.2.2. VERB-ENDINGS

1. Every form of the finite verb is made up of two parts:

I. The Stem. This is either the root or a modification or development of it.

II. The Ending or *Desinence*, consisting of:

a. The signs of Mood and Tense.

b. The Personal Ending.

Thus in the verb **bhér-se-ti**, *he will carry*, the root is **bher-**, *carry*, modified into the thematic future verb-stem **bher-s-e/o-**, *will carry*, which by the addition of the personal primary ending **-ti** becomes the meaningful **bhérseti**; the ending **-ti**, in turn, consists of the (probably) tense-sign **-i** and the personal ending of the third person singular, **-t**.

2. Verbal endings can thus define the verb Stem, Tense and Mood.

The primary series indicates present and future, and **-mi**, **-si**, **-ti**, and 3rd Pl. **-nti** are the most obvious formations of Late PIE. The secondary endings indicate Past; as, **-m**, **-s**, **-t** and 3rd Pl. **-nt**. The subjunctive and optative are usually marked with the secondary endings, but in the subjunctive primary desinences are attested sometimes. The imperative has \emptyset or special endings.

NOTE. Although not easily reconstructed, Late Proto-Indo-European had already independent formations for the first and second person plural. However, there were probably no common endings used in all attested dialects, and therefore a selection has to be made for MIE, v.i.

They can also mark the person; those above mark the first, second and third person singular and third plural. Also, with thematic vowels, they mark the voice: **-ti** Active Prim. <-> **-toi** Middle Prim. <-> **-tor** Passive, and so on.

3. The Augment was used in the southern dialects – i.e. Indo-Iranian, Greek & Armenian – to mark the Past Tense (i.e., the Aorist and the Imperfect). It was placed before the Stem, and consisted generally of a stressed **é-**, which is a dialectal Graeco-Aryan feature in Modern Indo-European.

NOTE. Some common variants existed, as lengthened **é-**, cf. Gk. $\eta < \bar{e} / \bar{a}$ and $\omega < \bar{o}$, the so-called Wackernagel contractions of the Augment and the beginning of the verbal root, which happened already by 2000 BC. These are different from those which happened in Attic Greek by 1000 BC.

4. Modern Indo-European verbal endings, as they are formed by the signs for mood and tense combined with personal endings, may be organized in five series.

		ACTIVE		MIDDLE (or Middle-Passive)		
		Primary	Secondary	Primary	Secondary	Passive-only
Sg.	1.	-mi	-m	-(m)ai	-ma	-(m)ar
	2.	-si	-s	-soi	-so	-sor
	3.	-ti	-t	-toi	-to	-tor
Pl.	1.	-mes/-mos	-me/-mo	-mesdha	-medha	-mosr/-mor
	2.	-te	-te	-dhe	-dhue	-dhuer
	3.	-nti	-nt	-ntoi	-nto	-ntor

NOTE. The Middle is easily reconstructed for the singular and the third person plural of the secondary endings. For the rest of the Primary Endings there is no consensus as how they looked like in PIE. What we do know is:

1. that the Southern and Anatolian dialects show Middle Primary Endings in **-i**, and second plural forms in **-medha** (or **med^hh₂*), **-mesdha** (or **mesd^hh₂*), which may be also substituted by the common IE forms in **-men-**, which is found as Gk. *-men*, Hitt. *-meni*.
2. that Latin, Italic, Celtic and Tocharian had Mediopassive Primary Endings in **-r**, whilst in Indo-Iranian and Anatolian, such endings coexisted with the general thematic **-oi**.
3. that therefore both Mediopassive endings (**-r** and **-oi**) coexisted already in the earliest reconstructable Proto-Indo-European; and
4. that the Middle endings were used for the Middle Voice in Graeco-Aryan dialects, while in the Northern dialects they were sometimes specialized as Passives or otherwise disappeared.

Thus, following the need for clarity in Modern Indo-European, we reserve the PIE endings in **-r** for the dynamic passive, and keep those in **-i** for the original Middle Voice.

5. The Perfect endings are as follows:

		Perfect
<i>sg.</i>	1.	-a
	2.	-ta
	3.	-e
<i>pl.</i>	1.	-mé
	2.	-té
	3.	-(é)r

6. The Thematic and Athematic endings of Active, Middle and Passive are:

Active		Athematic		Thematic	
		Primary	Secondary	Primary	Secondary
<i>sg.</i>	1.	-mi	-m	-ō, -omi	-om
	2.	-si	-s	-esi	-es
	3.	-ti	-t	-eti	-et
<i>pl.</i>	1.	-mes/-mos	-me/-mo	-omes/-omos	-ome/-omo
	2.	-te		-ete	
	3.	-nti	-nt	-onti	-ont

NOTE. Athematic Desinences in **-enti*, as found in Mycenaean and usually reconstructed as proper PIE endings, weren't probably original PIE forms. Compare Att.Gk. *-aasi* (<*-ansi*<*-anti*), or O.Ind. *-ati*, both remade

from an original zero-grade < **-nti**. In fact, Mycenaean shows some clearly remade examples, as Myc. *e-e-esi* < **esenti* (cf. Ion. εων), or *ki-ti-je-si* (< *ktiensi*)

Mediopass.		<i>Athematic</i>		<i>Thematic</i>		<i>PASSIVE*</i>	
		Primary	Secondary	Primary	Secondary	<i>Athematic</i>	<i>Thematic</i>
<i>sg.</i>	1.	-mai	-ma	-ai, -omai	-oma	-mar	-ar, -omar
	2.	-soi	-so	-esoi	-eso	-sor	-esor
	3.	-toi	-to	-etoi	-eto	-tor	-etor
<i>pl.</i>	1.	-mesdha	-medha	-omesdha	-omedha	-mo(s)r	-omo(s)r
	2.	-dhe	-dhue	-edhe	-edhue	-dhuer	-edhuer
	3.	-ntoi	-nto	-ontoi	-onto	-ntor	-ontor

a. The secondary endings are actually a negative term opposed to the primaries. They may be opposed to the present or future of indicative, they may indicate indifference to Tense, and they might also be used in Present.

NOTE 1. It is generally accepted that the Secondary Endings appeared first, and then an **-i** (or an **-r**) was added to them. Being opposed to the newer formations, the older endings received a Preterite (or Past) value, and became then Secondary.

NOTE 2. Forms with secondary endings – i.e. without a time marker **-i** or **-r** (without distinction of time) –, not used with a Preterite value, are traditionally called Injunctives, and have mainly a modal value. The Injunctive seems to have never been an independent mood, though, but just another possible use of the original endings in Proto-Indo-European.

b. The Middle-Active Opposition is not always straightforward, as there are only-active and only-middle verbs, as well as verbs with both voices but without semantic differences between them.

7.2.3. THE THEMATIC VOWEL

1. Stem vowels are – as in nouns – the vowel endings of the Stem, especially when they are derivatives. They may be **i**, **u**, **ā**, **ē** (and also **ō** in Roots). But the most extended stem vowel is **e/o** (also lengthened **ē/ō**), called Thematic Vowel, which existed in PIE before the split of the Anatolian dialects, and which overshadowed the (older) athematic stems by Late PIE. The thematization of stems, so to speak, relegated the athematic forms especially to the aorist and to the perfect; most of the old athematics, even those in **-ā-** and **-ē-**, are usually found extended with thematic endings **-ie-** or **-io-** in IE III.

NOTE. The old thematics were usually remade, but there are some which resisted this trend; as **bhérō**, *I bear*, **dō**, *I give*, or **i!**, *go!*.

The stem vowel has sometimes a meaning, as with *-ē-* and *-ā-*, which can indicate state. There are also some old specializations of meanings, based on oppositions:

a. Thematic vs. Athematic:

- Athematic Indicative vs. Thematic Subjunctive. The contrary is rare.
- Thematic Present vs. Athematic Aorist, and *vice versa*.
- Thematic 1st Person Sg. & Pl. and 3rd Person Pl., and Athematic the rest.
- It may also be found in the Middle-Active voice opposition.

b. Thematic stem with variants:

- The first person, thematic in lengthened *-ō-*.
- Thematic *o* in 1st Person Sg. & Pl. and 3rd Person Pl.; *e* in 2nd and 3rd Person Sg. and 2nd Pl. There is also an archaic 3rd Person Pl. in *e*, as in **sénti**, *they are*.

c. Opposition of Thematic stems. This is obtained with different vowel grades of the root and by the accent position.

2. In the Semithematic inflection the Athematic forms alternate with Thematic ones.

NOTE. The semithematic is for some an innovation of Late PIE, which didn't reach some of the dialects, while for others it represents a situation in which the opposition Thematic-Athematic and the Accent Shifts of an older system have been forgotten, leaving only some mixed remains.

7.2.4. VERB CREATION

1. With Verb Creation we refer to the way verbs are created from Nouns and other Verbs by adding suffixes and through reduplication of stems.

2. There are generally two kinds of suffixes: Root and Derivative; they are so classified because they are primarily added to the Roots or to Derivatives of them. Most of the suffixes we have seen (like *-u*, *-i*, *-n*, *-s*, etc.) is a root suffix.

Derivative suffixes may be:

- a. Denominatives, which help create new verbs from nouns; as, *-ie/-io*.
- b. Deverbatives, those which help create new verbs from other verbs; as, *-ei-* (plus root vocalism *o*), *-i-*, *-s-*, *-sk-*, *-ā-*, *-ē-* etc.

3. Reduplication is usual in many modern languages. It generally serves to indicate intensity or repetition in nouns; in the Proto-Indo-European verb it had two uses:

a. It helped create a Deverbative, opposed to root verbs, generally in the Present, especially in intensives; as, **bhérbher-** from **bhér-**, *carry*, or **gálgal-** (cf. O.C.S. *glagoljā*) from **gál-**¹⁷⁴, *call*; etc.

NOTE. It is doubtful whether these are remains of an older system based on the opposition Root/Deverbative, prior to the more complicated developments of Late PIE in suffixes and endings, or, on the contrary, it is the influence of the early noun derivations.

b. Essentially, though, reduplication has lost its old value and marks the different stems, whether Present, Aorist or Perfect. There are some rules in reduplication:

- In the Present, it can be combined with roots and accent; as, **bhíbher-mi**, **gínō-mi**, etc.
- In the Perfect, generally with root vocalism and special endings; as, **bhébhor-a**, **gégon-a**, etc.

NOTE. Reduplicated Perfects show usually o-grade root vowel (as in Gk., Gmc. and O.Ind.), but there are exceptions with zero-grade vocalism, cf. Lat. *tutudi*, Gk. *mémikha*, *tétaka*, *gégaa*.

- Full reduplications of intensives (cf. **bher-bher-**, **mor-mor-**) are different from simple reduplications of verbal Stems, which are formed by the initial consonant and **i** in the Present (cf. **bhi-bher-**, **mi-mno-**, **pí-bo-**), or **e** in the Perfect and in the Aorist (cf. **bhe-bher-**, **gé-gon**, **ké-klow-**).

NOTE. In other cases, reduplicated stems might be opposed, for example, to the Aorist to form Perfects or *vice versa*, or to disambiguate other elements of the stem or ending.

7.2.5. SEPARABLE VERBS

1. A Separable Verb is a verb that is composed of a Verb Stem and a Separable Affix. In some verb forms, the verb appears in one word, whilst in others the verb stem and the affix are separated.

NOTE. A Prefix is a type of affix that precedes the morphemes to which it can attach. A separable affix is an affix that can be detached from the word it attaches to and located elsewhere in the sentence in a certain situation.

2. Many Modern Indo-European verbs are separable verbs, as in Homeric Greek, in Hittite, in the oldest Vedic and in modern German ‘trennbare Verben’.

Thus, for example, the (Latin) verb **supplakáiō**, *beg humbly, supplicate* (from **suppláks**, *suppliant*, from PIE **plāk**, *be flat*), gives **sup wos (egó) plakáiō** (cf. O.Lat. *sub uos placō*), *I entreat you*, and not **(egó) wos-supplakáiō**, as Classic Lat. *uos supplicō*.

NOTE. German is well known for having many separable affixes. In the sentence Ger. *Ich komme gut zu Hause an* the prefix *an* in the verb *ankommen* is detached. However, in the participle, as in *Er ist angekommen*, “*He has arrived*”, it is not separated. In Dutch, compare *Hij is aangekomen*, “*He has arrived*”, but *Ik kom morgen aan*, *I shall arrive tomorrow*.

English has many phrasal or compound verb forms that act in this way. For example, the adverb (or adverbial particle) *up* in the phrasal verb *to screw up* can appear after the subject (“*things*”) in the sentence: “*He is always screwing things up*”.

Non-personal forms, i.e. Nouns and Adjectives, formed a *karmadharaya* with the preposition, as O.Ind. *prasādaḥ*, “favour”, Lat *subsidium*, *praesidium*, O.Ind. *apaciti*, Gk. *apotisis*, “reprisal”, etc.

NOTE. There are, indeed, non-separable verbs, as e.g. all those with non-Indo-European prefixes, viz. Lat. **re-**, **aiqi-**, Gk. **haimn-**, etc.

7.3. THE CONJUGATIONS

7.3.1. Conjugation is the traditional name of a group of verbs that share a similar conjugation pattern in a particular language, a Verb Class. This is the sense in which we say that Modern Indo-European verbs are divided into twelve *Regular Conjugations*; it means that any *regular* Modern Indo-European verb may be conjugated in any person, number, tense, mood and voice by knowing which of the twelve conjugation groups it belongs to, and its main stems.

NOTE. The meaning of Regular and Irregular becomes, thus, a matter of choice, although the selection is obviously not free. We could have divided the verbs into ten conjugations, or twenty, or just two (say Thematic and Athematic), and have left the less common types within them for a huge group of irregular verbs. We believe that our choice is in the middle between a simplified system (thus too artificial), with many irregular conjugations – which would need in turn more PIE data for the correct inflection of verbs –, and an extensive conjugation system – trying to include every possible inflection attested in Late PIE –, being thus too complicated and therefore difficult to learn.

It is clear that the way a language is systematized influences its evolution; to avoid such artificial influence we try to offer verbal groupings as natural as possible – of those verbs frequent in the Late Proto-Indo-European verbal system –, without being too flexible to create a defined and stable (and thus usable) system.

7.3.2. Modern Indo-European verbs are divided into two Conjugation Groups: the Thematic, newer and abundant in Late PIE, and the (older) Athematic Verbs. These groups are, in turn, subdivided into eight and four subgroups respectively.

NOTE. It is important to note that the fact that a root is of a certain type doesn't imply necessarily that it belongs to a specific conjugation, as they might be found in different subgroups depending on the dialects (for Eng. *love*, cf. Lat. *lubet*, Skr. *lubhyati*, Gmc. *liuban*), and even within the same dialect (cf. Lat. *scatō*, *scateō*). That's why Old Indian verbs are not enunciated by their personal forms, but by their roots.

Verbs cannot appear in different Conjugation Groups; they are either Thematic or Athematic.

NOTE 1. Some verbs (mainly PIE roots) are believed to have had an older Athematic conjugation which was later reinterpreted as Thematic, thus giving two inflection types and maybe the so-called Semithematic inflection (v.i.). Therefore, old root verbs like **bher-**, *carry*, may appear as **bhērsi** or **bhēresi**, *you carry*, and so on.

NOTE 2. Instead of this simple classification of verbs into modern groupings (the MIE Conjugations), from §7.2.6. on, a common, more traditional approach is used to explain how Proto-Indo-European verbs and verbal stems were usually built from roots and regularly conjugated.

I. THE THEMATIC CONJUGATION

The First or **Thematic** Conjugation Group is formed by the following 8 subgroups:

1) Root Verbs with root vowel **e** in the Present and **o** in the Perfect:

- Trilateral: **déikō, dikóm, dóika, déiksō**, *show*, etc.
- Concave: **téqō, teqóm, tóqa/tóqa, téqsō**, *escape*, **séqomai**, *follow*, etc.

NOTE. For IE **téqō**, cf. O.Ir. *téchid/táich* (<**e/ō**>).

2) Concave Root Verbs with non-regular Perfect vocalism. Different variants include:

- **lábhō, lábha**, *take*; **lávō, láwa**, *enjoy*, **slábai, sláboma**, *fall* (Middle Voice); **áidai**, *praise*.

NOTE. Compare Gk. *αἰδομαι*, O.ind. *ile*, Gmc. part. *idja-*. The first sentence of the Rigveda may already be translated to Modern Indo-European with the aforementioned verbs.

- **káno, kékana/kékāna**, *sing*.
- **légō, léga**, *join, read, decide*.
- **lówō, lówa**, *wash*.
- **rádō, ráda**, *shuffle, scrape, scratch*.
- **répō, répa**, *grab, rip out*.
- **ródō, rōda**, *excite*.

3) *Verba Vocalia* (i.e., extended forms **-á-io-**, **-é-io-**, **-í-jo-**, **-ú-io-**)

- **amáiō**, *love*.
- **lubhéiō**, *love, desire*.
- **sāgíjō**, *look for, search*.
- **argúiō** *reason, argue* (cf. Lat. *arguō*, Hitt. *arkuwwai*).

4) Verbs in **-io**:

- Trilateral: **kúpiō, kup(i)óm, kóupa, kéupsō**, *be worried*.
- Concave: **jákiō, jéka**, *throw*.
- Lamed-he: **páriō, pépra/péprōka**, *produce*.
- Reduplicated Intensives: **kárkariō**, *proclaim, announce* (cf. Gk. *καρκαίρω*, but Skr. *carkartī*)

NOTE. Examples of thematic reduplicated intensives include also common forms like Greek *πορφυρω, παμπαινω, γαργαιρω, μορμωρω, μερμηριζω, καγχαλαω, μαρμαιρω, δενδιλλω, λαλεω*, and, in other IE dialects, Slavic *glagoljo*, Latin ('broken' reduplication with different variants) *bombico, bombio, cachinno, cacillo, cracerro, crocito, cucullio, cucurrio, curculio, didintrio, lallo, imbubino, murmillo, palpor, pipito, plipio, pipio, tetrinnio, tetrissito, tintinnio, titio, titubo*, and so on.

5) Intensives-Inchoatives in **-sko**.

- Of Mobile Suffix: **swédhskō**, **swēdhióm**, **swédhua**, **swédhsō**, *get used to*.
- Of Permanent Suffix: **prkskō**, *inquire*.

6) With nasal infix or suffix.

- Perfect with o vocalism: **júngō**, **jugóm**, **jóuga**, **jéugsō**, *join*.
- Reduplicated Perfect: **túndō**, **tét(o)uda**/**tút(o)uda**, *strike*.
- Convex: **bhrángō**, **bhréga**, *break*.
- Nasal Infix and Perfect with **o** root: **gúsnō**, **góusa** (cf. Lat. *dēgūnō*, *dēgustus*)
- Nasal Infix and Reduplicated Perfect: cf. Lat. *tollō*, *sustulii* (**supsi+tét-**), *lift*.

7) With Reduplicated Present

- **sísō**, **sēwa**, *sow*.
- **gígnō**, **gégna**, **gégnaṅka**, *produce*.

8) Other Thematics:

- **pídō**, **pép(o)la**,
- **w(e)idéiō**, **wóida**,
- etc.

II. THE ATHEMATIC CONJUGATION

Verbs of the Second or **Athematic** Conjugation Group may be subdivided into:

1) Monosyllabic:

- In Consonant: **ésmi**, *be*, **édmi**, *eat*, **ésmāi**, *find oneself, be*.
- In **ā** (i.e. PIE $*h_2$): **snāmi**, *swim*, **bhāmai**, *speak*.
- In **ē** (i.e. PIE $*h_1$): **bhlēmi**, *cry*, **(s)rēmai**, *calculate*.
- With Nasal infix: **leiq-** (**linéqti**/**linqñti**), *leave*, **klew-** (**klnéuti**/**klnúnti**), *hear*, **pew-** (**punāti**/**punānti**), *purify*, etc.
- Others: **eími**, *go*, etc.

2) Reduplicated:

- **(sí)stāmi**, *stand*.
- **(dhí)dhēmi**, *set, place*, **jíjēmi**, *throw*.
- **(dí)dōmi**, *give*.
- **(bhí)bheimi**, *fear*.
- **kíkumi**/**kuwóm**/**kékuwa**, *strengthen*.

3) Bisyllabic:

- **wémāmi**, *vomit*.

NOTE. Possibly Latin forms with infinitive *-āre*, Preterite *-ui* and participle *-itus* are within this group; as, *crepō*, *fricō*, *domō*, *tonō*, etc.

- **bhélumi**, *weaken*, (cf. Goth. *bliggwan*, “*whip*”)

NOTE. This verb might possibly be more correctly classified as *bheluiō*, within the Verba Vocalia, type 3) in **-u-** **io** of the Thematic Group.

4) Suffixed:

- In **nā** (i.e. PIE **neh₂*): **pérnāmi**, *grant, sell* (cf. Gk. *περνημι*, O.Ir. *ren(a)id*, etc.), **qrínāmi**, *buy* (cf. O.Ind. *krīnāti*, O.Ind. *cren(a)im*, gr. *πρίσμαι*, etc.).
- In **nu**: **árnumi/órnumi**, *rise (up)*.

NOTE. For these verbs Old Indian shows zero-grade root vowel and alternating suffixes. Greek shows the opposite behaviour, which should be preferred in Modern Indo-European because of its ease of use.

7.4. THE FOUR STEMS

7.4.1. THE FOUR STEMS

1. The Stems of the Present may be:

- I. Roots, especially Thematic, but also Athematic and Semithematic.
- II. Reduplicated Roots, especially Athematic.
- III. Consonantal stems, all Thematic. They may end in occlusive, or **-s** and its lengthenings, like **-ske/o**; as, **prk-skó-**, *ask for, inquire*, from zero-grade of **prek**, *ask*.
- IV. In Vowel, Thematic in **-i-**, **-u-**, and Athematic in **-ā**, **-ē**.
- V. In Nasal, Thematic and Athematic (especially in **-neu/-nu**, **-nā/-na**).

2. The Aorist Stem is opposed to the Present:

- A. Aorist Athematic Roots vs. Present Roots and Reduplicates.
- B. Aorist Thematic Roots vs. Athematic Presents.
- C. Aorist Thematic Reduplicated Roots vs. Athematic Reduplicated Present.
- D. Aorist with **-s** and its lengthenings, both Thematic & Athematic.
- E. Aorist with **-t** and **-k** are rare, as Lat. *feci*.
- F. Aorist with **-ā**, **-ē**, and **-i**, **-u**, & their lengthenings.

3. The Stems of the Perfect have usually root vowel $\text{-}\check{\text{o}}/\text{-}\emptyset$, with dialectal reduplication – mainly Indo-Iranian and Greek –, and some especial endings.

4. Modern Indo-European uses a general Future Stem with a suffix -s- , usually Thematic.

NOTE. The future might also be formed with the present in some situations, as in English *I go to the museum*, which could mean *I am going to the museum* or *I will go to the museum*. The Present is, thus, a simple way of creating (especially immediate) future sentences in most modern Indo-European languages, as it was already in Late PIE times.

5. To sum up, there are four inflected Stems, but each one has in turn five inflected forms (Indicative, Imperative, Subjunctive, Optative and Participle), and one not inflected (Verbal Noun). Verbal inflection is made with desinences (including \emptyset), which indicate Person, Time and Voice. The person is thus combined with the other two.

NOTE. The imperfect stem had neither a subjunctive nor an optative formation in Late PIE.

An example of the four stems are (for PIE verbal root **léiq**¹⁵⁶, *leave*) **léiqe/o-** (or nasal **linéqe/o-**) for the Present, **(é)liqé/ó-** for the Aorist, **(lé)lóiq-** for the Perfect, and **léiqse/o-** for the Future.

7.4.2. THE PRESENT STEM

I. PRESENT STEM FORMATION PARADIGM

1. Verbal Roots (Athematic, Semithematic and Thematic) were not very common in Late PIE. They might have only one Stem, or they might have multiple Stems opposed to each other.

2. Reduplicates are usually different depending on the stems: those ending in occlusive or -u- are derived from extended roots, and are used mainly in verbs; those in -s and -u are rare, and are mainly used for the remaining stems.

3. The most prolific stems in Late PIE were those ending in -i , -ē and -ā , closely related. Athematics in -ē and -ā have mostly Present uses (cf. **dhē**¹³⁴, *put, do*, **cā**⁸², *go*), as Thematics in -ske/o (as **gnō-sko-**, *know*, **prk-skó**⁴², *inquire*) and Athematics or Thematics with nasal infix (i.e. in -n- , as **li-n-eq-**, *leave*, from **leiq**, or **bhu-n-dho-**, *make aware*, from **bheudh**⁶⁰).

II. PRESENT ROOT STEM

1. A pure Root Stem, with or without thematic vowel, can be used as a Present, opposed to the Aorist, Perfect and sometimes to the Future Stems. The Aorist Stem may also be Root, and it is then distinguished from the Present Stem with 1) vowel opposition, i.e., full grade, o-grade or zero-grade, 2) thematism-athematism, or 3) with secondary phonetic differentiations (as accent shift).

Present verbal roots may be athematic, semithematic and thematic. The athematics were, in Late PIE, only the remains of an older system, and so the semithematics.

2. In Monosyllabic Roots ending in consonant or sonant, the inflection is usually made:

- a. in the Active Voice Sg., with root vowel **e** and root accent
- b. in the Active and Middle Voice Pl., root vowel **o** and accent on the ending.

The most obvious example is that of **es**, *be*, which has a singular in **es-** and plural in **s-**. There are also other monosyllabic verbs, as **chen**¹¹¹, *strike*, **ed**¹⁷³, *eat*. Other roots, as **eí**⁶¹, *go*, follow this inflection too.

		ed , <i>eat</i>	chen , <i>knok</i>	eí , <i>go</i>	es , <i>be</i>	dhē , <i>set, put</i>	dō , <i>give</i>
<i>sg.</i>	1.	édmi	chénmi	eími	ésmi	(dhí)dhémi	(dí)dómi
	2.	édsi	chénsi	eísi	éssi	(dhí)dhési	(dí)dósi
	3.	ésti ⁱ	chénti	eíti	ésti	(dhí)dhéti	(dí)dóti
<i>pl.</i>	1.	dmé	chnmés	imés	sme	(dhí)dhames	(dí)dames
	2.	dté	chnté	ité	ste	(dhí)dhate	(dí)date
	3.	dénti	chnónti	jénti	sénti	(dhí)dhanti	(dí)danti

ⁱ MIE **ésti** < PIE ***édti**

NOTE. Most verbs are usually reconstructed with a mobile accent (as in Sanskrit), but we preserve the easier Greek columnar accent; it usually reads **dhidhamés**, **dhidhaté**, **dhidhánti**, or **didamés**, **didaté**, **didánti**.

3. There is also another rare verbal type, Root Athematic with full or long root vowel and fixed root accent, usually called Proterodynamic. It appears frequently in the Middle Voice.

4. Monosyllabic Roots with Long Vowel (as **dhē** and **dō**) are inflected in Sg. with long vowel, and in Pl. and Middle with **-a**. They are rare in Present, usually reserved for the Aorist.

5. Disyllabic Roots which preserve an athematic inflection have the Present in full/o-vowel. The alternative o/full-vowel is generally reserved for the Aorist.

6. In the Semithematic Root Stem, the 3rd Person Pl. has often an ending preceded by Thematic **e/o**. That happens also in the 1st Person Sg., which often has **-o** or **-o-m(i)**; and in the 1st Person Pl., which may end in **-o-mos**, **-o-mo**.

NOTE. In an old inflection like that of the verbal root **es**, i.e. **ésmi-smés**, sometimes a Semithematic alternative is found. Compare the paradigm of the verb *be* in Latin, where zero-grade and o vowel forms are found: **s-ómi** (cf. Lat. *sum*), not **és-mi**; **s-ómes** (cf. Lat. *sumus*), not **s-me**; and **s-ónti** (cf. Lat. *sunt*), not **s-énti**. Such inflection, not limited to Latin, has had little success in the Indo-European verbal system, at least in the dialects that have been attested. There are, however, many examples of semithematic inflection in non-root verbs, what could mean that an independent semithematic inflection existed in PIE, or, on the contrary, that old athematic forms were remade and mixed with the newer thematic inflection (Adrados).

7. Thematic verbal roots have generally an **-e/o** added before the endings. Therefore, in Athematic stems **e/o** may be found in the 3rd P.Pl., in Semithematics in the 1st P.Sg. and Pl., and in Thematic it appears always.

Thematic inflection shows two general formations:

- a. Root vowel **e** and root accent; as in **déiketi**, *he/she/it shows*.
- b. Root vowel **ø** and accent on the thematic vowel, as in **dikóm** *he/she/it showed*.

The first appears usually in the Present, and the second in the Aorist, although both could appear in any of them in PIE. In fact, when both appear in the Present, the a-type is usually a Durative – meaning an action not finished –, while b-type verbs are Terminatives or Punctuals – meaning the conclusion of the action. This semantic value is not general, though, and is often found in Graeco-Aryan dialects.

NOTE. The newer inflection is, thus (in a singular/plural scheme), that of full/full vocalism for Present, **ø/ø** for Aorist. The (mainly) Root Athematic - and Semithematic - inflection in full/**ø** appears to be older than the Thematic one. The Thematic inflection probably overshadowed the Athematic and Semithematic ones in IE III, and there are lots of examples of coexisting formations, some of the newer being opposed to the older in meaning.

III. PRESENT REDUPLICATED STEM

1. Depending on its Formation, present stems may have either Full Reduplication, sometimes maintained throughout the conjugation, or Simple Reduplication, which normally consists of the initial consonant of the root followed by **-i-**.

Depending on its Meaning, reduplication may have a general value (of Iteration or Intensity), or simply opposed values in individual pairs of *Basic Verb-Deverbative*. Therefore, it helps to distinguish the verb in its different forms.

2. How Reduplication is made:

I. Full Reduplication, normally found in the Present Stem, repeats the Root or at least the group *consonant/sonorant+vowel+consonant/sonorant*; as, **gal-gal-**, *talk*, **bher-bher-**, *endure*, **mor-mor-**/**mur-mur-**, *whisper*, etc.

Full reduplication is also that which repeats a Root with *vowel+consonant/sonorant*; as, **ul-ul-**, *cry aloud* (cf. Lat. *ululāre*).

II. Simple Reduplication is made:

- a. With *consonant + i*,
 - in Athematic verbs; as, **bhi-bher**, *carry* (from **bher**),

- in Thematic verbs; as, **gi-gnō-sko-**, *know* (from **gnō**), etc. **si-sdo-**, *sit down, settle* (from zero-grade of **sed**, *sit*),
 - Some Intensives have half full, half simple Reduplication, as in **dei-dik-**, *show* (from **déik**).
 - There are other forms with **-w**, **-u**, as in **leu-luk-**, *shine* (from **leuk**, *light*).
 - There are also some Perfect stems with **i**.
- b. With *consonant* + **e/ē**, as **dhe-dhē-**, **de-dō-**, etc.

Simple Reduplication in **e** appears mainly in the Perfect, while **i** is characteristic of Present stems. Reduplication in **e** is also often found in Intensives in southern dialects.

NOTE. Formal reduplication in **-i** is mainly optional in Modern Indo-European, as it is mostly a Graeco-Aryan feature; as, **gignōskō/gnōskō**, **didō/dō**, **pibō/pō(i)**¹⁷⁵, etc.

NOTE. Reduplication doesn't affect the different root vowel grades in inflection, and general rules are followed; as, **bíbherti-bibhrmés**, **(s)ístāmi-(s)istamés**, etc.

3. The different Meaning of Reduplicates found in PIE are:

- Indo-Iranian and Greek show a systematic opposition *Basic Verb* - *Deverbative Reduplicated*, to obtain an Iterative or Intensive verb.
- Desideratives are Reduplicates with **i** + Root + **-se/o**, as e.g. **men** vs. **mi-mn-so-**, *think*. Such Reduplicates are called Terminatives.

NOTE. Although the Iterative-Intensives, Desideratives and sometimes Terminatives did not succeed in the attested European dialects, we consider it an old resource of Late PIE, probably older than the opposition Present-Perfect. We therefore include this feature in the global MIE system.

IV. PRESENT CONSONANT STEM

1. Indo-European Roots may be lengthened with an occlusive to give a verb stem, either general or Present-only. Such stems are usually made adding a dental **-t**, **-d**, **-dh**, or a guttural **-k**, **-g**, **-gh** (also **-k**, **-g**, **-gh**), but only rarely with labials or labiovelars. They are all Thematic, and the lengthenings are added to the Root.

NOTE. Such lengthenings were probably optional in an earlier stage of the language, before they became frozen as differentiated vocabulary by Late PIE. Some endings (like **-sko**, **-io**, etc.) were still optional in IE III, v.i.

2. Here are some examples:

- **t** : **plek-tō**, *weave*, **kan-tō**, *sing*; **klus-tiō**, *hear, listen*, etc.
- **d** : **sal-dō**, *to salt*, **ekskel-dō**, *be eminent*, **pel-dō**, *beat*, etc.

NOTE. The lengthening in **-d** sometimes is integrated completely to the root (cf. Lat. *stridō*, *tendō*), or it appears only in some tenses, cf. Lat. *pellō/pepuli/pulsus*, but frec. *pulsō* & *pultō*, -āre.

- **dh** : **ghr-dhiō**, *gird*, **gawi-dhē**, *rejoice*; **wol-dhō**, *dominate*, etc.
- **k** : **ped-kā**, *stumble*, **pleu-kō**, *fly*, **gel-kiō**, *freeze*, etc.
- **g** : **tmā-gō**, from **tem**, *cut*, etc.
- **gh** : **smē-ghō**, **nē-ghō**, *negate*, **stena-ghō**, etc.
- **p** : **wel-pō**, *wait*, from **wel**, *wish*, *will*, etc.
- **bh** : **gnei-bhō**, *shave* (cf. **gneid**, *scratch*), **skre(i)-bhō**, *scratch to write* (from **sker**, *scratch*, *scrape*), **ster-bhō**, *die* (from **ster**, *get stiff*), etc.

NOTE. These lengthenings are considered by some linguists as equally possible root modifiers in Proto-Indo-European to those in **-s**, **-sk**, **-n**, **-nu**, **-nā**, etc. However, it is obvious that these ones (vide infra) appear more often, and that they appear usually as part of the conjugation, while the former become almost always part of the root and are modified accordingly. Whatever the nature and antiquity of all of them, those above are in Modern Indo-European usually just part of existing stems (i.e., part of the IE morphology), while the following extensions are often part of the conjugation.

3. Imperfect Stems in **-s** and its derivatives, as **-sk-** and **-st-**, are almost all Thematic.

NOTE. Thematic suffix **-ste/o** has usually an Expressive sense, meaning *sounds* most of the times; as, **bresto**, *tremble*, **bhresto**, *burst*, *break*, etc.

4. Stems in **-s** have a common specialized use (opposed to Basic stems), marking the Preterite, the Future, and sometimes the Subjunctive.

NOTE 1. Aorist stems in **-s** are usually Athematic.

NOTE 2. Because of its common use in verbal inflection, deverbatives with a lengthening in **-s-** aren't generally opposed in Meaning to their basic stems. There may be found some individual meanings in such opposed stem pairs, though, already in Late PIE; as, Insistents or Iteratives (cf. **wéid-s-o**, “*want to see, go to see*”, hence “*visit*”, as Lat. *vīsere*, Goth. *gaweisōn*, O.S. O.H.G. *wīsōn*, vs. Pres. **w(e)id-é-io**, *see, know*, as Lat. *vidēre*), Causatives, and especially Desideratives (which were also used to form the Future stem in the Southern Dialect). There is, however, no general common meaning reserved for the extended stem in **-s**. Compare also Lat. *pressī* < **pres-sai* vs. Lat. *premō*; Lat. *tremō* vs. a Gk. *τρεω* < **tre-sō*, O.Ind. *trásate*, “*he is frightened*”.

PRESENT CONSONANT LENGTHENINGS

A. Thematic suffix **-ske/o** is added to Roots in zero-grade, especially to monosyllabics and disyllabics; as, **prk-skó** (from **prek**⁴²), **cm-skó**, (from **cem**⁸²), **gnó-skō** (from **gnō**¹⁰⁰). It can also be added to Reduplicated stems, as **dí-dk-skō** (from **dek**⁸⁹), **gí-gnō-skō**, and to lengthened Roots, especially in **ī**, **u**, **ē**, **ā**, as **kré-skō** (from **ker**¹⁷⁵).

Sometimes these Deverbatives show limited general patterns, creating especially Iteratives, but also Inchoatives, Causatives, and even Determinatives or Terminatives.

This lengthening in **-sk-** seems to have been part of Present-only stems in Late PIE; cf. Lat. *flōrescō/flōruī*, Gk. *κυκλησκω/κεκληκα*, and so on.

NOTE 1. Cases like IE verb **prkskō**, *ask, demand* (cf. O.H.G. *forscōn*, Ger. *forschen*, Lat. *poscō*>*por(c)scō*, O.Ind. *pr̥cch*, Arm. *harc'anem*, O.Ir. *arcu*), which appear throughout the whole conjugation in different IE dialects, are apparently exceptions of the Late Proto-Indo-European verbal system; supporting a common formation of zero-grade root Iterative presents, compare also the form **(e)skó-** (<*h₁skó*), the verb **es-** with 'existencial' sense, as O.Lat. *escit*, "is", Gk. *ēske*, "was", Hom. Gk. *éske*, Pal. *iška*, etc.

NOTE 2. Supporting the theory that **-sk-** has a newer development than other lengthenings is e.g. the Hittite formation *duskiski(ta)* (cf. O.Ind. *túsyate*, 'silenter', O.Ir. *inna tuai* 'silentia'), which indicates that in Anatolian (hence possibly in IE III as well) such an ending – unlike the other endings shown – is still actively in formation.

B. Stems in **-n** are said to have a *nasal suffix* or a *nasal infix* – if added within the root. They may be Athematic or Thematic, and the most common forms are **-n**, **-neu/-nu**, **-nā**: as in **str-neu/ster-nu**, *spread*; **li-n-eq/li-n-q**, *leave*; **ml-nā**, *tame*; **dhre-n-g**, *drink*; **pu-n-g**, *prik*; **bhu-n-dh**, *be aware*, **pla-n-tā**, *plant*; etc. These verbs can be found also without the nasal suffix or infix, viz. **streu**, **leiq**, **demā**, **dhreg**, **peug**, **plat**.

There are other, not so common nasal formations; as, **-ne/o**, i.e. **-[no]** or **-[n̥-o]**, and (possibly derived from inflected **-neu** and **-nei**) the forms **-nue/o**, **-nie/o**.

NOTE. These formations are very recent to Late Proto-Indo-European. Some examples of the above are **sper-nō**, *scatter*, **p(e)l-nō**, *fill*. In Greek it is frequent the nasal suffix **-an**. Others as **-nue/o**, and **-nie/o** appear often, too; as Gk. *phthínuo*, Goth. *winnan* (from **wenwan*); Gk. *iaíno*, *phaínomai*, (see **bhā**) and Old Indian verbs in *-niati*.

V. PRESENT VOWEL STEM

1. Some roots and derivatives (deverbatives or denominatives) form the Thematic verb stems with **-ie/o**, and Semithematics in **-ī**, usually added to the stem in consonant.

The preceding vowel may be an **-ā-**, **-ē-**, **-i-** or **-u-**, sometimes as part of the root or derivative, sometimes as part of the suffix. Possible suffixes in **-io** are then also (the so-called *Verba Vocalia*) **-āio**, **-ēio**, **-ījo** and **-úio**.

NOTE 1. Verbs in **-io** are usually classified as a different type of deverbatives (not included in *verba vocalia*); in these cases, the Root grade is usually \emptyset ; as, **bhúdhio**, *wake up*, from **bheudh**; but the full grade is also possible, as in **spékiō**, *look*.

NOTE 2. Deverbatives in **-io** give usually Statives, and sometimes Causatives and Iteratives, which survive mainly in the European dialects (but cf. Gk. *ωθεω*, O.Ind. *vadhayati*, etc), as the especial secondary formation Causative-Iterative, with o-grade Root and suffix **-ēie/o**, cf. from **wes**, *dress*, Active **wosēieti** (cf. Hitt. *waššizzi*, Skr. *vāsāiati*, Ger. *wazjan*, Alb. *vesh*), from **leuk**, *light*, Active **loukéieti** (cf. Hitt. *lukiizzi*, Skr. *rocáyati*, Av. *raočayeiti*, O.Lat. *lūmina lūcent*), etc. There are also many deverbatives in **-io** without a general meaning when opposed to its basic verb.

NOTE 2. The Thematic inflection of these verbs is regular, and usually accompanied by the Semithematic in the Northern dialects, but not in the Southern ones, which don't combine them with **-i-**, **-ē-**, nor **-ā-**.

2. Thematic root verbs in **-io** are old, but have coexisted with the semithematics **-io/-i/-ī**. These verbs may be deverbatives – normally Iteratives or Causatives – or Denominatives.

NOTE. They served especially to form verbs from nouns and adjectives, as **wesnóm**, *price*, and **wesneiō**, *value* (cf. Skr. *vasna-yá*), **nómn**, *name*, **nómnīō**, *name* (cf. Got. *namnjan*), or **mélit**, *honey*, **mlítiō**, *take honey from the honeycomb* (as Gk. *blíttō*), etc.

The deverbative inflection could have **-io**, **-ēio**, or its semithematic variant.

NOTE 1. The State or Status value of these verbs is a feature mainly found in Balto-Slavic dialects, with verbs in **-ē** and **-ā**, whose inflection is sometimes combined with thematic **-ie/o**.

NOTE 2. About the usual distinction **-ēiō/-ēiō**, it is apparently attested in Anatolian, Indo-Iranian, Greek and Armenian (cf. Arm. Gen. *siroy*, “love”, *sirem*, “I love” < **kejre-ié-*); Greek loses the **-j-** and follows (as Latin) the rule ‘*uocālis ante uocālem corripitur*’, what helps metrics. However, Greek had probably a present with long **ē** (as in non-liquid future and perfect). Mycenaean doesn't clarify the question; moreover, it is often accepted that forms like O.Ind. in *-ayati* are isolated. For pragmatic purposes, Modern Indo-European prefers to follow always an ending **-ēiō**, which fits better into Western poetry, which follows the Classical Greek and Latin metrics – it is not so easy to include **lubhéieti** (with three syllables) in the common classic hexameter...

3. Stems in **-u** are rarely found in the Present, but are often found in the Preterite and Perfect stems.

NOTE. Stems in **-u** have, thus, an opposed behaviour to those in **-i**, which are usually found in Present and rarely in Preterite and Perfect.

In Present stems, **-u** is found in roots or as a suffix, whether thematic or athematic (but not semithematic), giving a stem that may normally appear as the general stem of the verb. It is therefore generally either part of the root or a stable lengthening of it.

NOTE. Common exceptions to this general rule concerning Late PIE verbs in **-u**, usually general stems, are different pairs **gheu-ghō**, **pleu-plō**, etc.

4. Root or stems in **-ē**, Athematic or mixed with **-i-**. Sometimes the **-ē** is part of the Root, sometimes it is a suffix added or substituting the **-e** of the Stem.

They may be verbs of State; as, **albhéiō**, *be white*, with a stative value. There are also Iterative-Causatives; Denominatives are usually derived from thematic adjectives in **e/o**.

NOTE. These are probably related with stems in **-i** (i.e., in **-ēie/o**) as in **albhéiō**, *be white*, **monéiō**, *remind, advise*, **senéiō**, *be old*.

Athematic examples are **lubhéiō**, *be dear, be pleasing*; **rudhéiō**, *blush, redden*; **galéiō**, *call* (not denominative).

5. Roots or stems in **-ā**, Athematic or mixed with **-i-**. They are spread throughout the general Verb system; as, **bhā(iō)**, *draw*; **dukā(iō)**, *drag, draw*; **amā(iō)**, *love*, etc.

NOTE. Some find apparently irregular formations, mixed with **-i-**, as Lat. *amō*, “*I love*”, from an older **amā-iō**, but sometimes reconstructed as from ***amō**, i.e. in **-ā** without ending (cf. Lat. *amas, amat*,...); against it, compare common IE formations as Umb. *subocau* ‘*invocō*’, Russ. *délaiu*, and so on.

About their Meaning, they may be (specially in Latin) Statives or Duratives, and sometimes Factitives opposed to Statives in **-ē** (cf. Hitt. *maršaḥ-marše-*, Lat. *clarāre-clarēre, albāre-albēre, nigrāre-nigrēre, liquāre-liquēre*). But there are also many deverbatives in **-ā** without a special value opposed to the basic verb.

Stems in **-ā** help create Subjunctives, Aorists, and Imperfectives. The use of **-ā** to make Iterative and Stative deverbatives and denominatives is not so common as the use **-ē**.

NOTE. There is a relation with verbs in **-i-** (i.e. in **-āio**), as with stems in **-ē**.

7.4.3. THE AORIST STEM

I. AORIST STEM FORMATION PARADIGM

1. The Aorist describes a completed action in the past, at the moment when it is already finished, as e.g. Eng. *I did send/had sent that e-mail before/when you appeared*.

NOTE. As opposed to the Aorist, the Imperfect refers to a durative action in the past (either not finished at that moment or not finished yet), as e.g. Eng. *I sent/was sending the e-mail when you appeared*.

2. The Aorist is made usually in **Ø/Ø**, Secondary Endings, Augment and sometimes Reduplication; as, 1st. P.Sg. (é)**bheróm**.

NOTE. Augment was obviously obligatory neither in Imperfect nor in Aorist formations in Late PIE (cf. Oldest Greek and Vedic Sanskrit forms), but it is usually shown in this grammar because IE studies’ tradition has made Augment obligatory, and because a) the Aorist is mostly a literary resource, b) only Greek and Sanskrit further specialized it, and c) these dialects made Augment obligatory. It is clear, however, that for a Modern Indo-European of Europe it would be better to select an ‘Augment’ in **pro-**, as in Celtic, in **kom-**, as in Germanic, or in **per-** as in Latin, instead of the Graeco-Aryan Augment in **é-**.

3. The opposition of Present and Preterite stems is made with:

- a. Present Reduplicated Root vs. Aorist Basic Root; as, **śi-stā-mi**, *I stand*, vs. **stā-m**, *I have stood*.
- b. Thematic Present vs. Athematic Aorist in **-s**; as, **léiq-ō**, *I leave*, **léiq-s-m**, *I was leaving*.
- c. Both stems Thematic, but with different vowel degrees; as, **léiq-ō**, *I leave*, **liq-óm**, *I have left*.

NOTE. Every stem could usually be Present or Aorist in PIE, provided that they were opposed to each other. And there could be more than one Present and Aorist stem from the same Root; as, for Thematic Present **léiq-ō**, *I leave*, which shows two old formations, one Athematic extended **léiq-s-m** (the so-called sigmatic Aorist), and other Thematic zero-grade **liq-óm**.

4. There was a logical trend to specialize the roles of the different formations, so that those Stems which are rarely found in Present are usual in Aorists. For example, Thematic roots for the Present, and Aorists extended in (athematic) **-s-**.

NOTE. In fact, there was actually only one confusion problem when distinguishing stems in Proto-Indo-European, viz. when they ended in **-ē** or **-ā**, as they appeared in Presents and Aorists alike. It was through oppositions and formal specializations of individual pairs that they could be distinguished.

II. AORIST ROOT STEM

1. Athematic Aorist Root stems were generally opposed to Athematic Reduplicated Present stems, but it wasn't the only possible opposition in PIE.

NOTE. Such athematic Root stems aren't found with endings in consonant, though.

2. Monosyllabic Root Aorists are usually opposed to Presents:

- a. In **-neu**; as, **klnéuō**, from **klew**, *hear*, or **qrnéuō**, from **qer**, *make, do*; etc.
- b. Reduplicated or in **-sko**, **-io**; as, **camskó**, from **cem**, *come*, or **bhésiō**, from **bhes**, *breathe*; etc.
- c. Thematic Present; as, **ghéwō**, from **ghew**, *pour*; **bhāwō**, from **bhā**, *proclaim*.

3. Disyllabic Root Presents show a similar opposition pattern; as, **gígnōskō-gnō**, **bháliō-bhlē**, etc.

The thematic vowel is the regular system in inflection, i.e. Present Sg. Active with full vowel, and *ø* in the rest.

NOTE. It seems that Proto-Indo-European disyllabic roots tended to generalize a unique form, disregarding the opposition pattern; as, **gnō-**, **bhlē-**, etc.

4. Thematic Aorist stems are the same ones as those of the Present, i.e. full-grade and zero-grade, e.g. **leiq-** and **liq-**, always opposed to the Present:

- a. The **liqé/ó-** form (i.e. zero-grade) is usually reserved for the Aorist stem;

b. The **leiqe/o-** form (i.e. full-grade) is rarely found in the Aorist – but, when it is found, the Present has to be logically differentiated from it; e.g. from the Imperfect with Augment, viz. from **bhertu**, *to carry*, Pres. **bhéreti/bhérti**, *he carries*, Imperf. **bherét/bhert**, *he was carrying*, Aorist **ébheret/ébhert**, *he carried*.

III. AORIST REDUPLICATED STEM

1. Aorist Reduplicated stems – thematic and athematic – are found mainly in Greek and Indo-Iranian, but also sporadically in Latin.

NOTE. Southern dialects have also (as in the Present) a specialized vowel for Reduplicated Aorists, v.i., but in this case it is unique to them, as the other dialects attested apparently followed different schemes. In Modern Indo-European the attested dialectal schemes are followed.

2. Aorist Thematic Reduplicates have a general vowel **e** (opposed to the **i** of the Present), zero-grade root vowel (general in Aorists), and sometimes also accent before the ending; as, **chéchnō**, *I killed*, from **chen**.

In roots which begin with vowel, reduplication is of the type *vowel+consonant*.

NOTE. This resource for the Aorist formation seems not to have spread successfully outside Graeco-Aryan dialects; however, the opposition of Present Reduplication in **i**, Preterite Reduplication in **e** (cf. Perfect Stem) was indeed generalized in Late Proto-Indo-European.

3. Some roots which begin with vowel form also Reduplicated Aorists; as **ágagom** (as Gk. γαγῶν, where $\eta < \bar{a} < \acute{e} + a$ – Wackernagel, hence ***é-agagom**)

4. Also, Causatives form frequently Reduplicated Aorists, cf. Lat. *momorit*, *totondit*, *spopondit*, etc., or O.Ind. *atitaram*, *ajijanam*, etc.

IV. AORIST CONSONANT STEM

1. As we have seen, Present Thematic stems in **-s-** are often Desideratives (also used as immediate Futures). The same stems serve as Aorists with secondary endings, usually reserved for the Aorist, generally called the Sigmatic Aorist (from Gk. σίγμα, “*sigma*”, i.e. Σ, σ or ς).

NOTE. Forms in **-so** are often found in Slavic; as, *vedu-veso*, *reco-reso*, etc.

2. The **-s-** is added:

- a. to a Consonant ending and lengthened root vowel, in contrast with the Present in full vowel.
- b. to a vowel **ā**, **ē**, **ō**, with the same stem as the Present, or to the noun from which the verb is derived. Those in **ē** and **ā** must have \emptyset root grade.

There is also a second Aorist mark: an **-e-** before the **-s-** (possibly an older Aorist mark, to which another mark was added); as, **álkō**, **alkesó**, *grow*, from **al**; **mniō**, **mnesó**, *be mad*, from **men**; etc.

NOTE. Thematic Aorist stems are mostly used as Presents in Indo-Iranian, Greek, Slavic, and Latin (cf. Lat. *dīxī*).

3. Athematic stems in **-s-** are widespread in Late PIE. They were formerly added to the Root, whether monosyllabic or disyllabic, in consonant or vowel, opposed thus to the Present.

Monosyllabic or Disyllabic Aorist root stems in **i**, **u**, **ā**, **ē**, **ō**, have a fixed vowel grade (like most Athematic Root Aorists); e.g. the 3rd P.Pl. **plēnt**, from redupl. **pí(m)plēmi**, *fill* (i.e. in zero-/full-grade), or 3rd P.Pl. **pewisnt** from **pōnā**, *purify* (i.e. in full-/zero-grade).

The most frequent Aorist stems in PIE were monosyllabic roots ending in consonant or sonant.

NOTE 1. They usually have in Graeco-Aryan lengthened root vowel in the active voice, and zero-grade in the rest; as, **leiq-**, *leave*, from which **liq-** & **lēiq-s-m**; so too from **qer-**, *make*, giving **qēr-s-o**; or from **bher-**, *carry*, **bhēr-s-o**, etc. Such lengthened vocalism in sigmatic aorists is probably an innovation in Late PIE.

NOTE 2. Aorists in **-s-** are then a modern feature of Late PIE, found in all its dialects (as Imperfects or Perfects in European dialects), but for Germanic and Baltic, possibly the dialects spoken far away from the remaining PIE core, still in close contact after the migrations. Aorist stem formation in **-i-**, **-ē-**, **-ā-** are still more recent, appearing only in some proto-languages.

4. Some other common dialectal formations in **-s-**:

a. in **-is** (Latin and Indo-Aryan), **-es** (Greek); as, **genis-** from **gen**, *beget*; **wersis-** from **wers-**, *rain*; also, cf. Lat. *amauis* (*amāuistī* and *amāuerām* < ***-uisām**), etc.

b. in **-sa**, attested in Latin, Tocharian and Armenian.

c. in **-sē**, **-sie/o**, etc.

5. Stems in **-t-** function usually as Aorists opposed to Present stems, especially in Latin, Italic, Celtic and Germanic.

NOTE. While the use of **-t** for persons in the verbal conjugation is certainly old, the use of an extension in **-t-** to form verbal Stems seems to be more recent, and mainly developed by European dialects.

6. Stems in **-k-** are rare, but there are examples of them in all forms of the verb, including Aorists.

V. AORIST VOWEL STEM

1. Aorists in **ā**, **ē**, are very common, either as pure stems with Athematic inflection, or mixed with other endings, as e.g. **-u-**.

NOTE. Stems extended in **-u-** are rarely found in Present stems, but are frequent in Preterites, and the contrary has to be said of stems in **-i-**. For more on this formations, *vide supra* the Present Vowel Stem section.

When opposed to a Present, stems extended in **-ā**, **-ē**, are often Aorists.

2. A common pattern in the opposition Present Stem vs. Aorist Vowel Stem is:

A. Present in **-i-** (thematic or semithematic) vs. Aorist in **-ē**, **-ā**; as, **mniō-mnē**, *be mad*, **álkiō-alkā**, *be hungry*.

B. Present Thematic (in **-e/o**) vs. Aorist in **-ē**, **-ā**; as, **lege-legē**, *collect, speak*, **gnte-gntāu**, *know*.

3. The use of stems in **-u-** is usually related to the Past and sometimes to the Perfect. Such endings may appear as **-u**, **-āu**, **-ēu**, **-ēuē**, **-āuā**, **-ēuā**, **-āuē**.

4. Stems in **-i/-ī** are scarcely used for Aorists, cf. **awisdhíjō-awisdhíuī**, *hear*, Lat. *audīo*, *audīui*.

Aorist stems are often lengthened in **-e-** or **-i-**, to avoid the loss of consonants when extended in **-s-**.

7.4.4. THE PERFECT STEM

The Perfect stem (opposed to the Present) has **ō** or lengthened root vowel and special Perfect endings, Sg. **-a**, **-ta**, **-e**; 3rd Pl. **-r**. In Gk. and Ind.-Ira., the stem was often reduplicated, generally with vowel **e**.

NOTE. Originally the Perfect was probably a different Stative verb, which eventually entered the verbal conjugation, meaning the state derived from the action. PIE Perfect did not have a Tense or Voice value; it was opposed to the *Pluperfect* (or Past Perfect) and became Present, and to the Middle Perfect and became Active.

I. Root vowel is usually **ō/ø**; as, (Pres. 1stP.Sg., Perf. 1stP.Sg., Perf.1stP.Pl), **gígnō-mi**, **gégon-a**, **geg-nmé**, *know*; **bhíndh-ō**, **bhóndh-a**, **bhndh-mé**, *bind*; **bhéudh-ō**, **bhóudh-a**, **bhudh-mé**, *bid*;

But for different formations, cf. **kán-ō**, **(ké)kán-a**, **kn-mé**, *sing*; (for subgroups of conjugations, v.s.)

NOTE 1. Compare O.Ir. *cechan*, *cechan*, *cechuin* (and *cechain*), *cechnammar*, *cechn(u)id*, *cechnatar*. For examples of root vowel **ā**, cf. Lat. *scābī*, or Gk. *τεθηλα*, and for examples with root vowel **a**, cf. Umb. *procanurent* (Lat. 'procinuerint', see ablaut) – this example has lost reduplication as Italic dialects usually do after a preposed preposition (cf. Lat. *compulī*, *detinuī*), although this may not be the case (cf. Lat. *concinuī*).

NOTE 2. There are also (dialectal) Perfects with lengthened Root vowel; as, from Latin **sedē-iō**, **séd-a**, *sit*; **éd-ō**, **éd-a**, *eat*; **cém-iō**, **cém-a**, *come*; **ág-ō**, **ág-a**, *act*; from Germanic, **sléb-ō**, **séslēb-a**, *sleep*; etc.

II. The Endings of the Perfect are **-a**, **-ta**, **-e**, for the singular, and **-mé**, **-(t)é**, **-(ē)r**, for the plural.

III. Reduplication is made in **e**, and also sometimes in **-i** and **-u**.

NOTE. Apparently, Indo-Iranian and Greek dialects made reduplication obligatory, whereas European dialects didn't. Thus, as a general rule, verbs are regularly reduplicated in Modern Indo-European if the Present Stem is a reduplicate; as, Present **bhi-bher-**, Perfect **bhe-bhor-**, etc. Such a general rule is indeed subjected to natural exceptions; cf. Gk. *εγνοκα*, Lat. *sēuī* (which seems old, even with Goth. *saiso*), etc. Also, cf. Lat. *sedī*, from *sedeō* and *sīdo*, which don't let reconstruct when is ***sesdai** and when ***sēdai**.

7.4.5. THE FUTURE STEM

1. Future stems were frequently built with a Thematic **-s-** ending, although not all Indo-European dialects show the same formations.

NOTE. The Future comes probably from PIE Desiderative-Causative Present stems, usually formed with extensions in **-s-** (and its variants), which probably became with time a regular part of the verbal conjugation in some dialects, whilst disappearing in others. In fact, whether using this formation or not, all Indo-European languages tended to differentiate the Present from the Future Tense. Usual resources found in Indo-European languages to refer to the future are 1) the *Present as Immediate Future*, 2) the *Present Subjunctive or Aorist with prospective value*, 3) *different Desiderative formations in Present*, and 4) *Verbal Periphrasis*.

Future stems were usually made in Proto-Indo-European dialects:

- a. With a simple Athematic **-s**, or with extended Thematic **-so**, **-sio**, or **-seio**.
- b. With root vowel **e**, i.e. in full-grade.
- c. With or without reduplication.

NOTE. Compare, for a common origin of the future in **-s-**, Sanskrit (and Baltic) futures in **-sia** (cf. Skr. *da-syā-mi*, Lith. *dou-siu*, “I will give”), Doric Greek in **-seo**, **-sio**, Classical Greek and Archaic Latin in **-so** (cf. O.Lat. *faxo*, ***dhak-so**, “I will make”, O.Lat. *peccas-so*, from *peccāre*, Lat. *erō*, “I will be”, from **esō*, from IE **es**, etc.), and Old Irish common Desideratives in **-s**. Also, some more dialectal additions are found appearing before the **-s**-edings; as, **-i-s-** in Indo-Iranian and Latin, **-e-s-** in Greek and Osco-Umbrian.

2. In Modern Indo-European, the Future is regularly made by adding a Thematic **-so**, **-sio** (or even **-seio**), following if possible the attested common vocabulary.

NOTE. The Future stem in **-s** is found neither in Germanic and Slavic dialects, nor in Classic Latin, which developed diverse compound futures. However, Indo-Iranian, Greek and Baltic show almost the same Future stems (along with similar formations in Archaic Latin, Osco-Umbrian and Old Celtic dialects), what means that the Future stem had probably a common (but unstable) pattern already developed before the first migrations; apparently, Germanic and Slavic dialects, as well as the systematized Classic Latin, didn't follow it or later substituted it with their own innovative formations. We use it in Modern Indo-European, though, because a regular Future formation is needed.

For Germanic future compounds, compare general Gmc. *werthan*, “become, turn into” (cf. Goth. *wairþan*, O.S. *werthan*, O.Du. *werthan*, O.N. *verða*, O.E. *weorðan*, O.Fris. *wertha*, O.H.G. *werdan*, Eng. *worth*, Ger. *werden*), from IE **wer**, *turn*. Also, Gmc. *skulan*, “owe, be under obligation” (cf. Goth. *skulan*, O.S. *sculan*, O.N., Swed. *skola*, O.H.G. *solan*, M.Du. *sullen*, Eng. *shall*, Ger. *sollen*), with a dialectal meaning shift from ‘obligation’ to ‘probable future’, related to O.E. *scyld* “guilt”, Ger. *Schuld*, also in O.N. *Skuld*; cf. O.Prus. *skallisnan*, Lith. *skeleti* “be guilty”, *skilti*, “get into debt”. Also, for Eng. “will”, from Gmc. *welljan*, “wish, desire”, compare derivatives from PIE **wel**.

In Osco-Umbrian and Classic Latin, similar forms are found that reveal the use of compounds with the verb **bhew**¹³⁰, *be, exist*, used as an auxiliary verb with Potential-Prospective value (maybe in a common Proto-Italic language), later entering the verbal conjugation as a desinence; compare Osc., Umb. *-fo-*, (cf. Osc., Umb. *carefo*, *pipafo*), or Lat. *-bo-*, *-be-* (cf. Lat. *ama-bo*, from earlier **amái bhéwō*, or *lauda-bo*, from **laudái bhewō*).

The common Slavic formation comes also from PIE **bhew**, *be, exist, grow*, with zero-grade **bhútiō**, *come to be, become*, found in Bal.-Sla. *byt-* (cf. O.C.S. *бѣти*, Russ. *бѣтъ*, Cz. *býti*, Pol. *być*, Sr.-Cr. *bíti*, etc.), and also in Lith. *būti*, O.Ind. *bhūtīṣ*, and O.Ir *buith*. Also, with similar meanings and forms, compare Gmc. *biju*, “*be*”, (cf. Eng. *be*, Ger. *bin*), or Lat. *fui*, “*was*”, also in **bhutús**, “*that is to be*”, and **bhutúros**, *future*, as Lat. *futūrus*, or Gk. *φύομαι*; also, cf. Goth. *bauan*, O.H.G. *buan*, “*live*”.

3. Conditional sentences might be built in some Proto-Indo-European dialects using common Indicative and Subjunctive formations. In Modern Indo-European, either such archaic syntax is imitated, or an innovative formation is used, *viz.* the Future Stem with Secondary Endings.

NOTE. MIE offers a new conditional inflection using the Future Stem, with a mainly temporal use, often for expressing a “*future in the past*” tense, made with “*a past form of the Future stem*”, i.e. – applying this modern formation to the PIE verbal system – using the Future Stem with Secondary Endings. However, conditional sentences may be made with the available verbal conjugation, using periphrasis with Indicative and Subjunctive (as Classic Latin), or with the Subjunctive and Optative (as Classical Greek), etc. Whether MIE speakers prefer to use the Conditional Inflection or different periphrasis of PIE indicatives, subjunctives and optatives, is a practical matter outside the scope of this grammar.

In Sanskrit, the Conditional was built using the Future Stem with Secondary Endings; as, Skr. *daa-sya-ti*, “*he will give*”, vs. *daa-sya-t*, “*he would give*”, from IE **dō**, or Skr. *abhavi-sya-mi*, “*I will be*”, *abhavi-sya-m*, “*I would be*”, from IE **bhew**. In Classical Greek,

In Germanic dialects, the conditional is usually made with a verbal periphrasis, consisting of the modal (future) auxiliary verb in the past, i.e. *would* (or *should*, also *could*, *might*), and the infinitive form of the main verb, as in *I will come*, but *I would come*; compare also Ger. (fut.) *Ich werde kommen*, (cond.) *Ich würde kommen*.

While Latin used the indicative and subjunctive in conditional sentences, Romance languages developed a conditional inflection, made by the imperfect of Lat. *habēre*, cf. V.Lat. (fut.) *uenire habeo*, “*I have to come*”, V.Lat. (cond.) *uenire habēbam*, “*I had to come*”, as in Fr. (fut.) *je viendr-ai*, (cond.) *je viendr-ais*, Spa. (fut.) *yo vendr-é*, (cond.) *yo vendr-ía*, etc., cf. also the Portuguese still separable forms, as e.g. Pt. *fazê-lo-ia* instead of “*o fazería*”. Modern Italian has substituted it by another similar ending, from the perfect of Lat. *habēre*.

Full conditional sentences contain two clauses: the Protasis or condition, and the Apodosis or result, although this is a matter studied in detail by Indo-European Syntax.

7.4.6. OTHER FORMATIONS

MIDDLE PERFECT AND PAST PERFECT

a. It was a common resource already in Proto-Indo-European to oppose a new Perfect formation to the old one, so that the old became only Active and the newer Middle. Such formations were generalized in the southern dialects, but didn't succeed in the northern ones.

The new Perfect Middle stem was generally obtained with the Perfect stem in zero-grade and middle endings.

b. The Past Perfect or Pluperfect was also a common development of some dialects, opposing the new Perfect with secondary endings to the old Perfect, which became then a Present Perfect.

THE COMPOUND PAST

A special Past or Preterite is found in IE dialects of Europe (i.e., the northwestern dialects and Greek), sometimes called *Future Past*, which is formed by two elements: a verbal stem followed by a vowel (-**ā**, -**ē**, -**ī**, -**ō**), and an auxiliary verb, with the meanings *be* (**es**), *become* (**bhew**), *do* (**dhē**), or *give* (**dō**).

NOTE. Although each language shows different formations, they all share a common pattern and therefore have a common origin traceable to Late PIE, unstable at first and later systematized in the individual proto-languages.

The Compound Past may be studied dividing the formation in three main parts: the forms of the first and second elements and the sense of the compound.

1. The First Element may be

a. A Pure Root.

b. Past Stem with the same lengthening as the rest of the verb.

c. Past Stem lengthened, but alternating with the Present stem, i.e. normally Present zero-grade vs. Past in full-grade.

d. Past Stem lengthened vs. Thematic Present (and Aorist).

NOTE. Originally, then, Compound Pasts are derived from a root or a stem with vowel ending, either the Present or the Aorist Stem. They are, then, Pasts similar to the others (i.e. Imperfects and Aorists), but instead of receiving secondary endings, they receive a secondary stem (like the Perfect).

2. The second element is an auxiliary verb; as, **dhē** in Greek and Germanic, **bhew** in Latin and Celtic, and **dō** in Balto-Slavic.

3. Their specific Past meaning could vary according to the needs of the individual dialects.

7.5. MOOD STEMS

7.5.1. INDICATIVE

The Indicative expresses the Real Action, in contrast to the other moods, which were specialized in opposition to the basic Indicative mood. It appears in the Four verbal Stems.

7.5.2. IMPERATIVE

The Imperative had probably in IE II the same basic stem of the Indicative, and was used without ending, in a simple Expressive-Impressive function, of Exclamation or Order. They were the equivalent in verbal inflection to the vocative in nominal declension.

Some Late PIE dialects derived from this older scheme another, more complex Imperative system, with person, tense and even voice.

NOTE. In Late PIE, only the person distinctions appear to have been generalized, and we have included only these known common forms in this MIE grammar.

It is also old, beside the use of the pure stem, the use of the Injunctive for the Imperative in the second person plural; as, **bhére!**, *carry! (thou)*, **bhérete!**, *carry! (you)*.

The Injunctive is defined as the Basic Verb, with Secondary Endings, without Augment. It indicated therefore neither the present nor the past, thus easily indicating Intention. It is this form which was generally used as the Imperative.

1. The Basic Stem for the Imperative 2ndP.Sg. is thus general;
2. The Injunctive forms the 2ndP.Pl.; and
3. the 3rdP. Sg. and the 3rdP.Pl. show a special ending **-tōd**.

NOTE. This general ending is usually explained as the introduction into the verbal conjugation of a secondary Ablative form of the neuter pronoun **to**, *this*. They were further specialized in some dialects as Future Imperatives.

The Imperative in Modern Indo-European is made with the Present Stem and Secondary Endings, and is thus generally divided into two main formations:

- a. The old, athematic Imperatives; as in **í!**, *go!*, from **eí**; or **es!**, *be!*; etc.

NOTE 1. In old Root Athematic verbs, the plural forms show -ø vowel and accent on the ending; as, **s-éntōd!**, *be they!*.

NOTE 2. Some scholars reconstruct for the 2nd P.Sg. Athematic, along with the general zero-ending, a common -**dhi** ending, which seems to be very old too.

- b. Thematic Imperatives; as **bhére!**, *carry!*, or **áge!**, *do!*, *act!*, etc.

Imperat.		Athem.	Them.
sg.	2.	-Ø, (- dhi)	- e
	3.	- tōd	- etōd
pl.	2.	- te	- ete
	3.	- ntōd	- ontōd

NOTE. An ending **-u**, usually ***-tu**, is sometimes reconstructed (Beekes); the inclusion of such an ending within the verbal system is, however, difficult. A common IE ending **-tōd**, on the other hand, may obviously be related to an older ablative of the demonstrative **so/to**, a logical addition to an Imperative formation, with the sense of 'here', hence 'now', just as the addition of **-i**, 'here and now' to oppose new endings to the older desinences.

7.5.3. SUBJUNCTIVE

1. The Subjunctive is normally Athematic, usually in **-ā**, **-ē** and sometimes **-ō**, always opposed to the Indicative. There are also Subjunctives in **-s**, probably newer than those in **-ē**, **-ā**.

NOTE. It is a known feature of Balto-Slavic dialects that no subjunctive is attested, which could mean that it was an innovation of Late PIE that didn't spread to all dialects before the first migrations.

2. The Subjunctive Stem is made opposing it to the Indicative Stem, usually following these rules:

a. Indicative Athematic vs. Subjunctive Thematic; as, Ind. **ésmi**, *I am*, Sub. **ésō**, *(if) I be*.

b. Indicative Thematic vs. Subjunctive with Lengthened Thematic Vowel (not root vowel!); as, Ind. **bhèresi**, *you carry*, Sub. **bhéréś**, *you may carry, (if) you carried*.

3. In Thematic Verbs the Subjunctive is made from the Present Stem, but in Athematic Verbs it is usually made from the Basic Stem; as, from **jeug**, *join*, 1st P.Pres. **júngō**, Subj. **júngōm**; from **kleu**, *hear*, 1st P.Pres. **kléumi**, Subj. **kléwōm**, not **kléuōm**.

7.5.4. OPTATIVE

1. The Optative mood is a volitive mood that signals wishing or hoping, as in English *I wish I might*, or *I wish you could*, etc.

1) The Athematic Optative has an alternating suffix **-iē** (**-ije** after long syllable), usually in the singular, and zero-grade **-ī**, usually in the plural.

2) The Thematic Optative has a regular **-oi**. (probably the thematic **-o-** plus the reduced Opt. **-i**)

NOTE. Only Albanian, Avestan, Ancient Greek, Sanskrit, and to some extent Old Church Slavonic kept the subjunctive and optative fully separate and parallel. However, in Sanskrit, use of the subjunctive is only found in the Vedic language of earliest times, and the optative and imperative are in comparison less commonly used.

2. The Optative is built with Secondary Endings, and usually with zero-grade root vowel.

3. The Present Optative formations have usually root accent, while the rest show accent on the Optative suffix.

7.6. THE VOICE

7.6.1. ACTIVE VOICE

1. The characteristic Primary Endings are **-mi**, **-si**, **-ti**, 3rd Pl. **-nti**, while the Secondary don't have the final **-i**, i.e. **-m**, **-s**, **-t**, 3rd Pl. **-nt**.

NOTE. The secondary endings are believed to be older, being originally the only verbal endings available. With the addition of a deictic **-i**, which possibly indicated originally “*here and now*”, the older endings became secondary, and the newer formations became the primary endings.

Compare a similar evolution in Romance languages from Lat. *habere*, giving common Fr. *il y a*, “*there (it) is*”, or Cat. *i ha*, “*there is*”, while the Spanish language has lost the relationship with such older Lat. *i*, “*there*”, viz. Spa. *hay*, “*there is*” (from O.Spa. *ha+i*), already integrated within the regular verbal conjugation of the verb *haber*.

2. These Desinences are used for all verbs, whether Athematic or Thematic; as, **ésti**, *he is*, or **bhéreti**, *he carries*. However, in the 1st P.Sg., many Thematics end in **-ō**; as, **bhérō**.

NOTE. These endings in **-ō** are probably remains of an older situation, in which no ending was necessary to mark the 1st P.Sg. (that of the speaker), and therefore, even though a desinence **-m** became general with time, some irregular older formations prevailed, in some cases even along with the newer Thematic **-o-mi**.

Active		Athematic		Thematic	
		Primary	Secondary	Primary	Secondary
sg.	1.	-mi	-m	-ō, -omi	-om
	2.	-si	-s	-esi	-es
	3.	-ti	-t	-eti	-et
pl.	1.	-mes, -mos	-me, -mo	-omes, -omos	-ome, -omo
	2.	-te		-ete	
	3.	-nti	-nt	-onti	-ont

NOTE. The forms of the first person plural are not easily reconstructed (as every Indo-European dialect has developed its own endings) but they were usually formed with **-me-/-mo-** + \emptyset /Consonant (**-s**, **-n** or **-r**).

7.6.2. MIDDLE VOICE

1. The Middle Endings are generally those of the Active voice with a characteristic Middle voice **-o** (sometimes **-e**), in which the Primary Endings have an additional **-i**.

Middle		<i>Primary</i>	<i>Secondary</i>
<i>sg.</i>	1.	-(m)ai	-(m)a
	2.	-soi	-so
	3.	-toi	-to
<i>pl.</i>	1.	-mesdha	-medha
	2.	-dhe	-dhue
	3.	-ntoi	-nto

2. In the Moods, the endings attested in PIE are usually the same, but there were some exceptions; as,
- Indicative Middle **-a-** vs. Subjunctive Middle **-ā**,
 - Subjunctive 1st P.Sg. **-ai** (and not **-ma**).

Generally, though, the adding of Middle Voice regular Secondary Endings in MIE is enough.

7.6.3. PASSIVE VOICE

1. The Passive voice didn't exist in the attested Proto-Indo-European language; it seems nevertheless useful to develop a common modern Indo-European grammatical formation, based on old PIE endings.

2. The **-r** ending was usual in the Middle formations of some early Indo-European dialects, and it had also a specific impersonal value. The **-r** has therefore two uses in Indo-European:

- a. The **-r** *After the Stem* had usually in PIE an impersonal value, and it was also found lengthened as **-ro**, **-roi**, **-renti**, **-ronti**, **-rontoi**, etc.

NOTE. The **-r** was used in the 3rd P. Sg. & Pl., and it was extended in **-nt-** when necessary to distinguish the plural, giving initially the impersonal forms e.g. 3rd P.Sg. **déidiktor**, “*it is indicated, you indicate*”, and 3rd P.Pl. **dídkntor**, “*they are indicated, they indicate*”, with the impersonal ending **-r** which was later generalized in some dialects, spreading as Mediopassives in Hittite, Italic, Celtic, Latin and Tocharian. also, when a Middle form was needed, a Middle ending **-o** was added. The primary marker **-i** was used apparently with the same aim.

- b. The **-r** *After the Ending* was usual in forms related to the so-called PIE Mediopassive Voice, attested in Latin, Osco-Umbrian, Celtic and Tocharian, as well as in Germanic, Indo-Iranian and Anatolian dialects. In Celtic, Osco-Umbrian and Latin, they replaced the Middle Primary Endings, and acquired a Passive value.

NOTE 1. The oldest meaning traceable of the endings in **-r** in Proto-Indo-European, taking the Anatolian examples, show apparently the same common origin: either an impersonal subject or, at least, a subject separated from the action, which is a meaning very closely related to the later dialectally specialized use of a Passive Voice.

NOTE 2. There are no distinctions of Primary-Secondary Passive Endings, as the Secondary formations are the same oldest Mediopassive **-o** Endings. The newer **-i** (Middle) and **-r** (Impersonal) endings were added later and spread on a dialect-to-dialect basis, some of them using and/or mixing both of them, all specializing its use.

Passive		Athematic	Thematic
sg.	1.	-mar	-ar, -omar
	2.	-sor	-esor
	3.	-tor	-etor
pl.	1.	-mosr/-mor	-omosr/-omor
	2.	-dhuer	-edhuer
	3.	-ntor	-ontor

7.7. NOUN AND ADJECTIVE FORMS

7.7.1. INFINITIVES

1. The Infinitives are indeclinable nouns with non-personal verbal functions, which can be in some dialects as many as inflection, voice, aspect and even time.

NOTE. Infinitives are, thus, old nouns reinterpreted as forming part of the verbal conjugation.

2. The older Infinitives are the Verbal Nouns, casual forms inflected as nouns, sometimes included in the verbal inflection. A Verbal Noun is a declinable substantive, derived from the root of a verb.

NOTE. The difference in the syntax is important; the verbal noun is constructed as a substantive, thus - for example - with the object in the genitive; as, **wīrī chénom**, *the killing of a man*, opposed to an infinitive with an accusative; as, **chéntu wīrom**, *to kill a man*, v.i.

3. Verbal Nouns were, thus, the normal way to express the idea of a modern Infinitive in Proto-Indo-European. They were usually formed in PIE with the verbal stem and a nominal suffix if Athematic, and is usually formed in MIE with the verbal stem plus neuter **-om** if Thematic; as, **bhér-om**, *carrying*.

NOTE. Each Indo-European dialect chose between some limited noun-cases for the Infinitive formation, generally Acc., Loc., Abl.; compare Lat. **-os** (sibilant neuter), Gmc. **-on-om** (thematic neuter), etc. General IE infinitive suffixes include **-tu** as Lat. (active & passive supine) **-tum** (acc.) **-tū** (dat.-loc.) **-tui** (dat.), Skr. **-tus**, **-tum** (acc.), Av. **-tos** (gen.), **-tave**, **-tavaī** (dat.), **-tum**, Prus. **-twei** (dat.) **-tun**, **-ton** (acc.), O.Sla. **-tŭ** (supine), Lith. **-ty**, etc.; for **-ti**, cf. Ved. **-taye** (dat), Bal.-Sla., Cel. **-ti** (loc.), Lith. **-tie** (dat.), etc.; also, in **-m**, cf. Skr. **-mane**, O.Gk. **-men(ai)**, etc. Also, a common ending **-dhuāi/-dhiāi** (Haudry) added to the Basic Verbal Stem, possibly originally related to the forms **-tu**, **-ti**, is the basic IE form behind Ved. **-dhyai**, Gk. Middle **-oθai**, Toch. **-tsi**, as well as Latin gerunds. Other forms include **-u**, **-er/n**, **-(e)s**, extended **-s-**, **-u-**, **-m-**, also Gmc. **-no** (as Goth. *itan*), Arm. **-lo**, etc.

4. In Modern Indo-European, two general infinitive (neuter) suffixes may be used, **-tu** and **-ti**. Such formations convey the same meaning as the English infinitive; as, **bhértu/bhérti**, *carrying*.

7.7.2. PARTICIPLES

1. The Participles are adjectives which have been assimilated to the verbal system, having thus verbal inflection.

NOTE. The reconstructed Proto-Indo-European shows an intense reliance on participles, and thus a certain number of participles played a very important role in the language.

2. Those in **-nt** are the older ones, and are limited to the Active voice and to the Present, Imperfect and Future; as, **bheront-/bherent-**, *who carries*.

3. The Perfect active has a suffix **-ues**, **-uos** (ø-grade **-us**), or **-uet**, **-uot**; as, **widuot**, **widuos**, **eduos**, etc.

NOTE. Both the Present and Perfect participles are indeed inflected following the second declension; as, Nom. **-nts**, **-uos**, Acc. **-ntm**, **-uosm**, Gen. **-ntos**, **-usos**, Nom. pl. **-ntes**, **-uoses**, etc.

4. The Middle Participles have a common suffix **-meno-/mēno-/mno-** (originally probably adjectival) as; **álomnos**⁷⁹, “*who feeds himself*”, *student*, (as Lat. *alumnus*, from **al**), **dhémnā**, “*who suckles*”, *woman*, (as Lat. *femina*, from **dhēi**¹²⁰).

5. The Participles have been also developed as Passives in some languages, and are also used in static passive formations in Modern Indo-European. They are usually formed with the Basic or Preterite Stem with the following suffixes:

a. **-tó-**; as, **altós**, *grown*; **dhetós**, *placed*; **kaptós**, *taken*; etc.

NOTE. The adjectives in **-to** imply reference to a Noun. They had usually zero-grade root vowel; as **liqtós**, *left*, **pigtós**, *painted*, and so on.

b. **-nó-** and its variants; as, **bheidhnós**, *parted*, *bitten*; **wrgnós**, *worked*; **delānós**, *made*.

NOTE. Compare with adjectives in **-n**, as in **pl(e)nós** (cf. Goth. *fulls*, Eng. *full*, Lat. *plenus*), from **pel**.

c. **-mó-**; as, **prwimós**, *foremost*, *first* (cf. Toch. *parwät/parwe*, Lith. *pirmas*, O.C.S. *přrvŭ*, etc.), see ordinal “*first*”.

NOTE. Latin *prīmus* is usually reconstructed as **preismós**, or maybe **pristmós**, in any case (as the rest of IE words for ‘*first*’) from IE **per**; for its derivation from IE **prwimós**, see Adrados.

d. **-ló-**; see next section.

NOTE. All these Passive participles follow the first-type adjective declension, i.e. **-os**, **-ā**, **-om**, and were usually accentuated on the ending.

7.7.3. GERUNDIVES AND ABSOLUTIVES

1. Verbal Adjectives are not assimilated to the verbal system of Tense and Voice. Those which indicate need or possibility are called Gerundives.

NOTE. Verbal Adjectives and Adjectives (as Verbal Nouns and Nouns) cannot be easily differentiated.

2. Whereas the same Passive Participle suffixes are found, i.e. **-tó-**, **-nó-**, **-mó-**, there are two forms especially identified with the Gerundives in Late PIE dialects:

a. **-ló-** and **-lí-** are found in Armenian, Tocharian and Latin; as, **ṛbherelós**, *unbearable*, **ghabhlís**, *able* (as Lat. *habilis*), etc.

NOTE. The suffix **-lo-**, as already stated, was probably originally a participle suffix, cf. Russ. *videlŭ*, Lat. *credulus*, *bibulus*, *tremulus*, etc.

b. **-ió-** (a common lengthening to differentiate adjectives) is sometimes a gerundive of obligation, as well as **-tu-**, **-ti-**, **-ndho-**, etc.; as, **dharsiós**, *visible*; **gnotinós**, *that has to be known*; **seqondhós**, *second, that has to follow*; **gnaskendhós**, *that has to be born*; and so on.

c. **-mōn**, with a general meaning of ‘able’; as, **mnāmōn**, *mindful*.

NOTE. For the “Internal Derivation” (after the German and Austrian schools) of this PIE suffix **-mn** > **-mon**, cf. Gk. *mnēma* > **mñ-mn**, “reminder”, MIE **mnám**, into Gk. *mnēmon* > **mnā-món**, “who remembers”; compare also Skr. *bráhma*n, “prayer”, Skr. *brahmán*, “brahman”, etc.

3. The adverbial, not inflected Verbal Adjectives are called Absolutes or Gerunds. They were usually derived from the older Gerundives.

NOTE. Speakers of Modern Indo-European have to use verbal periphrasis or other resources to express the idea of a modern Gerund, as there is no common reconstructable PIE gerund. As the Verbal Nouns for the Infinitives, the Verbal Adjectives or Gerundives might be a good starting point to translate a modern IE Gerund.

A common Future or Obligation Passive Absolute ending, **-téu(ij)os**, may also be used in Modern Indo-European; as, **legtéu(ij)os**, *which has to be said, read or gathered*.

NOTE. For this PIE ending, cf. Gk. *-teos*, O.Ind. *-tavya*, O.Ir. *-the*, etc.

Because of its Passive use, it may be used only with transitive verbs.

7.8. CONJUGATED EXAMPLES

7.8.1. THEMATIC VERBS

I. PRESENT STEM

lówom¹⁷⁶, *washing**PRESENT STEM low-o-*

ACTIVE

	<i>Indicative</i>	<i>Subjunctive</i>	<i>Optative</i>	<i>Imperative</i>
<i>sg.</i>	lówō	lówōm	lówoim	lówe
	lówesi	lówēs	lówois	lówetōd
	lóweti	lówēt	lówoit	-
<i>pl.</i>	lówomes	lówōme	lówoime	lówete
	lówete	lówēte	lówoite	lówontōd
	lówonti	lówōnt	lówoint	-

MIDDLE-PASSIVE

	<i>Indicative</i>	<i>Subjunctive</i>	<i>Optative</i>	<i>PASSIVE*</i>
<i>sg.</i>	lówai	lowá	lówoia	lówar
	lówesoi	lowéso	lówoiso	lówesor
	lóweto	lowéto	lówoito	lóweter
<i>pl.</i>	lówomesdha	lowómedhā	lówoimedha	lówomor
	lówedhe	lowédhue	lówoidhue	lówedhuer
	lówontoi	lowónto	lówojnto	lówontor

IMPERFECT

	<i>ACTIVE</i>	<i>MIDDLE</i>	<i>PASSIVE*</i>
<i>sg.</i>	lowóm	lowá	lowár
	lowés	lowéso	lowésor
	lowét	lowéto	lowéter
<i>pl.</i>	lowóme	lowómedha	lowómor
	lowéte	lowédhue	lowédhuer
	lowónt	lowónto	lowóntor

déikom, *showing**PRESENT STEM deik-o-*

ACTIVE

	<i>Indicative</i>	<i>Subjunctive</i>	<i>Optative</i>	<i>Imperative</i>
<i>sg.</i>	déikō	déikōm	déikoim	déike
	déikesi	déikēs	déikois	déiketōd
	déiketi	déikēt	déikoit	-
<i>pl.</i>	déikomes	déikōme	déikoime	déikete
	déikete	déikēte	déikoite	déikontōd
	déikonti	déikōnt	déikoint	-

MIDDLE-PASSIVE

	<i>Indicative</i>	<i>Subjunctive</i>	<i>Optative</i>	<i>PASSIVE*</i>
<i>sg.</i>	déikai	déikā	déikoia	déikar
	déikesoi	déikēso	déikoiso	déikesor
	déiketoi	déikēto	déikoito	déiketor
<i>pl.</i>	déikomesdha	déikōmedhā	déikoimedha	déikomor
	déikedhe	déikēdhue	déikoidhue	déikedhuer
	déikontoi	déikōnto	déikojnto	déikontor

IMPERFECT

	<i>ACTIVE</i>	<i>MIDDLE</i>	<i>PASSIVE*</i>
<i>sg.</i>	deikóm	deiká	deikár
	deikés	deikéso	deikésor
	deikét	deikéto	deikétor
<i>pl.</i>	deikóme	deikómedha	deikómor
	deikéte	deikédhue	deikédhuer
	deikónt	deikónto	deikóntor

wéidom, *seeing, knowing*

PRESENT STEM **w(e)id-é-io-** (*Verba Vocalia*)

ACTIVE

	<i>Indicative</i>	<i>Subjunctive</i>	<i>Optative</i>	<i>Imperative</i>
<i>sg.</i>	weidéiō	weidéiōm	weidéioim	weidéie
	weidéiesi	weidéiēs	weidéiois	weidéietōd
	weidéieti	weidéiēt	weidéioit	-
<i>pl.</i>	weidéiomes	weidéiōme	weidéioime	weidéiete
	weidéiete	weidéiēte	weidéioite	weidéiontōd
	weidéionti	weidéiōnt	weidéioint	-

MIDDLE

	<i>Indicative</i>	<i>Subjunctive</i>	<i>Optative</i>	<i>PASSIVE*</i>
<i>sg.</i>	weidéiai	weidéiā	weidéioia	<i>weidéiar</i>
	weidéiesoi	weidéiēso	weidéioiso	<i>weidéiesor</i>
	weidéietoi	weidéiēto	weidéioito	<i>weidéietor</i>
<i>pl.</i>	weidéiomesdha	weidéiōmedhā	weidéioimedha	<i>weidéiomor</i>
	weidéiedhe	weidéiēdhue	weidéioidhue	<i>weidéiedhuer</i>
	weidéiontoi	weidéiōnto	weidéiojnto	<i>weidéiontor</i>

IMPERFECT

	<i>ACTIVE</i>	<i>MIDDLE</i>	<i>PASSIVE*</i>
<i>sg.</i>	weidēióm	weidēiá	<i>weidēiár</i>
	weidēiés	weidēiēso	<i>weidēiésor</i>
	weidēiét	weidēiēto	<i>weidēiétor</i>
<i>pl.</i>	weidēióme	weidēiómedha	<i>weidēiómor</i>
	weidēiēte	weidēiēdhue	<i>weidēiēdhuer</i>
	weidēiánt	weidēiánto	<i>weidēiántor</i>

NOTE. *Verba Vocalia* in **-éjō**, if they are not Causatives, have usually zero-grade, as in this example **widéiō**; cf. Lat. *vidēō*, *stūpēō*, *stūdēō*, etc., as in derivatives in **-n-** or **-jo**. However, without this sense they have usually full-grade, cf. Gk. *εἶδω*, Rus. *vižu*, and so on.

II. AORIST STEM

lówom, *washing*AORIST STEM **lou-s-** (*Sigmatic Aorist*)

ACTIVE

	<i>Indicative</i>	<i>Subjunctive</i>	<i>Optative</i>
<i>sg.</i>	lóusm	lousóm	lousíjēm
	lóus(s)	lousés	lousíjēs
	lóust	lousét	lousíjēt
<i>pl.</i>	lóusme	lousóme	lousíme
	lóuste	louséte	lousíte
	lóusnt	lousónt	lousíjnt

MIDDLE

	<i>Indicative</i>	<i>Subjunctive</i>	<i>Optative</i>
<i>sg.</i>	lóusma	lóusa	lousíjā
	lóus(s)o	lóuseso	lousíso
	lóusto	lóuseto	lousító
<i>pl.</i>	lóusmedha	lóusomedhā	lousímedha
	lóusdhue	lóusedhue	lousídhue
	lóusnto	lóusonto	lousíjnto

déikom, *showing*AORIST STEM **dik-ó-** (*zero-grade*)

ACTIVE

	<i>Indicative</i>	<i>Subjunctive</i>	<i>Optative</i>
<i>sg.</i>	dikóm	dikó	dikóim
	dikés	dikés	dikóis
	dikét	dikét	dikóit
<i>pl.</i>	dikóme	dikóme	dikóime
	dikéte	dikéte	dikóite
	dikónt	dikónt	dikóint

MIDDLE

	<i>Indicative</i>	<i>Subjunctive</i>	<i>Optative</i>
<i>sg.</i>	diká	diká	dikóia
	dikéso	dikéso	dikóiso
	dikéto	dikéto	dikoito
<i>pl.</i>	dikómedha	dikómedhā	dikóimedha
	dikédhue	dikédhue	dikóidhue
	dikónto	dikónto	dikójnto

wéidom, *seeing, knowing*

AORIST STEM **wid-ó-** (zero-grade)

ACTIVE

	<i>Indicative</i>	<i>Subjunctive</i>	<i>Optative</i>
<i>sg.</i>	widóm	widó	widóim
	widés	widés	widóis
	widét	widét	widóit
<i>pl.</i>	widóme	widóme	widóime
	widéte	widéte	widóite
	widónt	widónt	widóint

MIDDLE

	<i>Indicative</i>	<i>Subjunctive</i>	<i>Optative</i>
<i>sg.</i>	widá	widá	widóia
	widéso	widéso	widóiso
	widéto	widéto	widoito
<i>pl.</i>	widómedha	widómedhā	widóimedha
	widédhue	widédhue	widóidhue
	widónto	widónto	widójnto

III. PERFECT STEM

*lówom, washing**PERFECT STEM lōw-/lou-*

	<i>Indicative</i>	<i>Subjunctive</i>	<i>Optative</i>	<i>PAST*</i>	<i>MIDDLE*</i>
<i>sg</i>	lówa	lówō	lōwóim	lōwóm	lówā
	lóuta	lówes	lōwóis	lōwés	lówesō
	lówe	lówet	lōwóit	lōwét	lóweto
<i>pl</i>	loumé	lówome	lōwóime	lōwóme	lówomedha
	louté	lówete	lōwóite	lōwéte	lówedhue
	lowr	lówont	lōwóint	lōwónt	lówonto

*déikom, showing**PERFECT STEM doik-/dik-*

	<i>Indicative</i>	<i>Subjunctive</i>	<i>Optative</i>	<i>PAST*</i>	<i>MIDDLE*</i>
<i>sg</i>	dóika	dóikō	doikóim	doikóm	dóikā
	dóikta	dóikes	doikóis	doikés	dóikesō
	dóike	dóiket	doikóit	doikét	dóiketo
<i>pl</i>	dikmé	dóikome	doikóime	doikóme	dóikomedha
	dikté	dóikete	doikóite	doikéte	dóikedhue
	dikér	dóikont	doikóint	doikónt	dóikonto

*wéidom, seeing, knowing**PERFECT STEM woid-/wid-*

	<i>Indicative</i>	<i>Subjunctive</i>	<i>Optative</i>	<i>PAST*</i>	<i>MIDDLE*</i>
<i>sg</i>	wóida	wóidō	woidóim	woidóm	wóidā
	wóistaⁱ	wóides	woidóis	woidés	wóidesō
	wóide	wóidet	woidóit	woidét	wóideto
<i>pl</i>	widmé	wóidome	woidóime	woidóme	wóidomedha
	wistéⁱⁱ	wóidete	woidóite	woidéte	wóidedhue
	widér	wóidont	woidóint	woidónt	wóidonto

ⁱ From **wóidta*. ⁱⁱ From **widté*.

IV. FUTURE STEM

lówom, *washing**FUTURE STEM* **lou-s-io-**

	<i>Future</i>	<i>Conditional*</i>
<i>sg</i>	lóusiō	lóusiom
	lóusiesi	lóusies
	lóusieti	lóusiet
<i>pl</i>	lóusiomes	lóusiome
	lóusiete	lóusiete
	lóusionti	lóusiont

déikom, *showing**FUTURE STEM* **deik-s-o-**

	<i>Future</i>	<i>Conditional*</i>
<i>sg</i>	déiksō	déiksom
	déiksesi	déikses
	déikseti	déikset
<i>pl</i>	déiksomes	déiksme
	déiksete	déiksete
	déiksonti	déiksont

wéidom, *seeing, knowing**FUTURE STEM* **weid-s-o-**

	<i>Indicative</i>	<i>Conditional*</i>
<i>sg</i>	wéidsō	wéidsom
	wéidsesi	wéidses
	wéidseti	wéidset
<i>pl</i>	wéidsomes	wéidsome
	wéidsete	wéidsete
	wéidsonti	wéidsont

7.8.2. ATHEMATIC INFLECTION

I. PRESENT STEM

*es, being**PRESENT STEM es-/s-*

	<i>Indicative</i>	<i>Subjunctive</i>	<i>Optative</i>	<i>Imperative</i>	<i>IMPERFECT</i>
<i>sg.</i>	ésmi	ésō	sīēm	-	ésm
	éssi	éses	sīēs	es (sdhi)	és(s)
	ésti	éset	sīēt	éstōd	ést
<i>pl.</i>	smés	ésome	sīme	-	ésme
	sté	ésete	sīte	(e)sté	éste
	sénti	ésont	sījēnt	séntōd	ésent
<i>Participle: sonts, sontia, sont</i>					

NOTE. Proto-Indo-European verb **es**, *be*, is a copula and verb substantive; it originally built only a durative aspect of present, and was therefore supported in some dialects (as Gmc., Sla., Lat.) by the root **bhew**, *be, exist*, which helped to build some future and past formations.

For cognates of the singular forms and the 3rd person plural, compare Gmc. *ezmi, ezzi, esti, senti* (cf. Goth. *im, is, is, sind*, O.N. *em, est, es*, O.E. *eom, eart, ist, sind/sint*, O.H.G. *-, -, ist, sind*, Eng. *am, art, is, -*), Lat. *sum* (<**ésomī**>), *es(s), est, sunt* (<**sónti**>), Gk. *εμῖ, εῖ, εστί, εἰσί* (Dor. *έντι*), O.Ind. *ásmi, ási, ásti, sánti*, Av. *ahmi* (O.Pers. *amiy*), *-, asti, hanti*, Arm. *em, es, ē, -, O.Pruss. asmai, assai, est*, Lith. *esmi, esi, esti, O.C.S. jesmь, jesi, jestь, sqьtь* (<**sónti**>), Russ. *ecmь, ecu, ecmь, cyть* (<**sónti**>), O.Ir. *am, a-t, is, it* (cf. O.Welsh *hint*) Alb. *jam, -, -, etc.*

*klew³⁸, hearing**PRESENT STEM kneu-/knu- (with Nasal Infix)*

ACTIVE

	<i>Indicative</i>	<i>Subjunctive</i>	<i>Optative</i>	<i>Imperative</i>
<i>sg.</i>	klnéumi	kléwō	klnwījēm	-
	klnéusi	kléwes	klnwījēs	klnéu(dhi)
	klnéuti	kléwet	klnwījēt	klnéutōd
<i>pl.</i>	klnúmes	kléwome	klnwíme	-
	klnúte	kléwete	klnwíte	klnéute
	klnúnti	kléwont	klnwíjnt	klnéwntōd

NOTE. Indicative forms may usually be read **klnumés, klnuté, klnúnti**, as in Vedic.

MIDDLE-PASSIVE

	<i>Indicative</i>	<i>Subjunctive</i>	<i>Optative</i>	<i>PASSIVE*</i>
<i>sg.</i>	klnéumai	kléwā	klnwíma	<i>klnéwar</i>
	klnéusoi	kléweso	klnwíso	<i>klnéwesor</i>
	klnéutoi	kléweto	klnwíto	<i>klnéweter</i>
<i>pl.</i>	klnéumesdha	kléwomedhā	klnwímedha	<i>klnéwomor</i>
	klnéudhe	kléwedhue	klnwídhue	<i>klnéwedhuer</i>
	klnéwntoi	kléwonto	klnwíjnto	<i>klnéwontor</i>

NOTE. Athematic Optatives form the Present with zero-grade; cf. Lat. *siēm*, *duim*, Gk. *ισταιην*, *διδουην*, *τιθειην*, O.Ind. *syaam* (*asmi*), *dvisyām* (*dvesmi*), *iyām* (*emi*), *juhuyām* (*juhkomī*), *sunuykām* (*sunomī*), *rundhyām* (*runadhmi*), *kuryām* (*karomī*), *krīñiyām* (*krīñāmī*), etc. Exceptions are Lat. *uelim* (not *uulim*), Goth. (concave) *wiljau*, *wileis*, etc.

IMPERFECT

	<i>ACTIVE</i>	<i>MIDDLE</i>	<i>PASSIVE*</i>
<i>sg.</i>	klnéwm	klewá	<i>klnewár</i>
	klnéus	klewéso	<i>klnewésor</i>
	klnéut	klewéto	<i>klnewéter</i>
<i>pl.</i>	klnéume	klewómedhā	<i>klnewómor</i>
	klnéute	klewédhue	<i>klnewédhuer</i>
	klnéwnt	klewónto	<i>klnewóntor</i>

stā⁶², *standing*

PRESENT STEM (si)stā-/(si)sta-

ACTIVE

	<i>Indicative</i>	<i>Subjunctive</i>	<i>Optative</i>	<i>Imperative</i>
<i>sg.</i>	(sí)stāmi	stāiō	(si)staijēm	-
	(sí)stāsi	stāies	(si)staijēs	(sí)stā(dhi)
	(sí)stāti	stāiet	(si)staijēt	(sí)stātōd
<i>pl.</i>	(sí)stames	stāiome	(si)staiīme	-
	(sí)state	stāiete	(si)staīte	(sí)state
	(sí)stanti	stāiont	(si)staijnt	(sí)stanti

NOTE. Indicative forms may usually be read **sistamés**, **sistaté**, **sistánti**, as in Vedic.

MIDDLE-PASSIVE

	<i>Indicative</i>	<i>Subjunctive</i>	<i>Optative</i>	<i>PASSIVE*</i>
<i>sg.</i>	(sǐ)stāmai	stāiā	(si)stāima	(sǐ)stāmar
	(sǐ)stāsoi	stāieso	(si)stāiso	(sǐ)stāsor
	(sǐ)stātoi	stāieto	(si)stāito	(sǐ)stātor
<i>pl.</i>	(sǐ)stāmesdha	stāiomedha	(si)stāimedha	(sǐ)stāmor
	(sǐ)stādhe	stāiedhue	(si)stāidhue	(sǐ)stāsdhuer
	(sǐ)stāntoi	stāionto	(si)stāijnto	(sǐ)stāntor

IMPERFECT

	<i>ACTIVE</i>	<i>MIDDLE</i>	<i>PASSIVE*</i>
<i>sg.</i>	(si)stām	(si)stāma	(si)stāmar
	(si)stās	(si)stāso	(si)stāsor
	(si)stāt	(si)stāto	(si)stātor
<i>pl.</i>	(si)stāme	(si)stāmedha	(si)stāmor
	(si)stāte	(si)stādhue	(si)stādhuer
	(si)stānt	(si)stānto	(si)stāntor

II. AORIST STEM

es, *being* (only Active)

AORIST STEM es-/s- (ēs-/es-)

<i>sg.</i>	<i>Indicative</i>	<i>Subjunctive</i>	<i>Optative</i>
	ésm/ēsm	ěsóm	(é)síēm
	és(s)/ēs(s)	ěsés	(é)síēs
	ést/ēst	ěsét	(é)síēt
<i>pl.</i>	ésme/ésme	ěsóme	(é)síme
	éste/éste	ěséte	(é)síte
	ésnt/ésnt	ěsónt	(é)síjent

NOTE. The Aorist was built with the regular Aorist Stem and dialectal Augment, viz. **ēs-**(>é+es-), adding Secondary Endings. Compare Old Indian Sg. *āsam*, *ās*, *ās*, Pl. *āsma*, *āsta*, *āsan*, Gk. Hom. 1. Sg. ἦα, 2. Sg. hom. att. ἦσθα, 3. Sg. dor. etc. ἦς, Pl. hom. ἦμεν, ἦτε, ἦσαν, cf. also Lat. *erat*, Hitt. *e-eš-ta* (*ēsta*), Alb. *isha*.

bhew, *being, existing*AORIST STEM **bhū-** or **bhuw-**

	<i>Indicative</i>	<i>Subjunctive</i>	<i>Optative</i>
<i>sg.</i>	bhūm	bhuwóm	bhuwíjēm
	bhūs	bhuwés	bhuwíjēs
	bhūt	bhuwét	bhuwíjēt
<i>pl.</i>	bhūme	bhuwóme	bhuwíme
	bhūte	bhuwéte	bhuwíte
	bhūnt/bhúwnt	bhuwónt	bhuwíjent
Pres. Part. bhwonts , bhuwntia , bhuwont			

NOTE. The Verb **es**, *be*, has been sometimes substituted or mixed in its conjugation (specially in past and future forms) by IE **bhew**, *be, exist*, compare Gmc. *bu-*, “*dwel*” (cf. Goth. *bauan*, “*live*”, O.E., O.H.G. *būan*, O.E. *bēon*, in *bēo*, *bist*, *biþ*, pl. *bēoþ*, or Ger. *bin*, *bist*, Eng. *be*), Lat. *fui*, “*I was*”, and *futurus*, “*future*”, Gk. *φύομαι*, O.Ind. *bhāvati*, *bhūtís*, *bhūtís*, Lith. *būti*, O.C.S. *бѣи*, Russ. *быть*, *был*, Pol. *być*, O.Ir. *buith*.¹⁷⁷

klew, *hearing*AORIST STEM **klū-**/**kluw-**

	<i>Indicative</i>	<i>Subjunctive</i>	<i>Optative</i>
<i>sg.</i>	klwóm	klwóm	klwíjēm
	klwés	klwés	klwíjēs
	klwét	klwét	klwíjēt
<i>pl.</i>	klwóme	klwóme	klwíme
	klwéte	klwéte	klwíte
	klwónt	klwónt	klwíjent

MIDDLE

	<i>Indicative</i>	<i>Subjunctive</i>	<i>Optative</i>
<i>sg.</i>	klwómā	klwóma	klwíjā
	klwéso	klwéso	klwíso
	klwéto	klwéto	klwító
<i>pl.</i>	klwómesdha	klwómedha	klwímedha
	klwédhue	klwédhuer	klwídhue
	klwónto	klwónto	klwíjnto

*stā, being, existing**AORIST STEM (é)stā-*

	<i>Indicative</i>	<i>Subjunctive</i>	<i>Optative</i>
<i>sg.</i>	stām	stāiō	stāījēm
	stās	stāiés	stāījēs
	stāt	stāiét	stāījēt
<i>pl.</i>	stamé	stāiόμε	stāíme
	staté	stāiéte	stāíte
	stánt	stāiánt	stāījnt

MIDDLE

	<i>Indicative</i>	<i>Subjunctive</i>	<i>Optative</i>
<i>sg.</i>	stáma	stāiá	stāījā
	stáso	stāiéso	stāíso
	státo	stāiéto	stāíto
<i>pl.</i>	stámedha	stāiomedha	stāímedha
	stádhue	stāiédhue	stāídhue
	stánto	stāiónto	stāījnto

III. PERFECT STEM

*bhew, being, existing**PERFECT STEM bhū-i- (Pres. - Jasanoff 2003)*

	<i>Indicative</i>	<i>Subjunctive</i>	<i>Optative</i>	<i>PAST*</i>	<i>MIDDLE*</i>
<i>sg</i>	bhūia	bhūiō	bhūījēm	bhūiom	bhūiā
	bhūita	bhūiowes	bhūījēs	bhūiés	bhūieso
	bhūie	bhūiowet	bhūījēt	bhūiét	bhūieto
<i>pl</i>	bhūimé	bhūiowom	bhūījīme	bhūiόμε	bhūiomedha
	bhūité	bhūiowete	bhūījīte	bhūiéte	bhūiedhue
	bhūiér	bhūiowont	bhūījīnt	bhūiánt	bhūionto

klew, *hearing**PERFECT STEM kéklou-*

	<i>Indicative</i>	<i>Subjunctive</i>	<i>Optative</i>	<i>PAST*</i>	<i>MIDDLE*</i>
<i>sg</i>	kéklowa	kéklowō	keklowíjēm	keklowóm	kéklowā
	kéklouta	kéklowes	keklowíjēs	keklowés	kékloweso
	kéklowe	kéklowet	keklowíjēt	keklowét	kékloweto
<i>pl</i>	kekłumé	kéklowome	keklowíme	keklowóme	kéklowomedha
	kekłuté	kéklowete	keklowíte	keklowéte	kéklowedhue
	kekłwér	kéklowont	keklowíjnt	keklowónt	kéklowonto

IV. FUTURE STEM

bhew, *being, existing**FUTURE STEM bheu-s-o-*

	<i>Future</i>	<i>Conditional*</i>
<i>sg</i>	bhéusō	bhéusom
	bhéusesi	bhéuses
	bhéuseti	bhéuset
<i>pl</i>	bhéusomes	bhéusome
	bhéusete	bhéusete
	bhéusonti	bhéusont

klew, *hearing**FUTURE STEM kleu-s-o-*

	<i>Future</i>	<i>Conditional*</i>
<i>sg</i>	kléusō	kléusom
	kléusesi	kléuses
	kléuseti	kléuset
<i>pl</i>	kléusomes	kléusome
	kléusete	kléusete
	kléusonti	kléusont

7.8.3. OTHER COMMON PIE STEMS

I. THEMATIC VERBS

ROOT

- Present **lówō**, *I wash*, Imperfect **lowóm**, Aorist (é)**lousm**.
- Present **sérpō**, *I crawl*, Imperfect **serpóm**, Aorist (é)**srpom**.
- Present **bhérō**, *I carry*, Imperfect **bheróm**, Aorist (é)**bherom**.
- Present **bhéugō**, *I flee*, Imperfect **bheugóm**, Aorist (é)**bhugom**.
- Present **bhéidhō**, *I believe, persuade*, Imperfect **bheidhóm**, Aorist (é)**bhidhom**.
- Present **wéqō**, *I speak*, Imperfect **weqóm**, Aorist (Them. Redupl.) (é)**wewiqom**
- Present **trémō**, *I tremble*, Imperfect **tremóm**, Aorist (é)**trmóm**.

NOTE. A particular sub-class of Thematic Presents without suffix is of the type Skr. *tudati*, which have Present Stems with zero-grade root-vowel, as **glubhō**/**gleubhō**, *skin*.

REDUPLICATED

There are many reduplicated thematic stems, analogous to the athematic ones:

- Present **gígnō**, *I generate*, (from **gen**), Imperfect **gignóm**, Aorist (é)**genom**, (é)**gnom**, Perfect **gégona**, P.Part. **gn(a)tós** (cf. O.Ind. *jatá*, Lat. *nātus*).
- Present **píbō**, *I drink* (from ***pípō**, from **pō**) Imperfect **pibóm**.
- Present **mímnō**, *I remember*, (from **men**¹⁷⁸), Imperfect **mimnóm**.

IN -IO

Some of them are causatives.

- Present **spékiō**, *I watch*, Imperfect **spekióm**, Aorist (é)**speksm**, P.Part. **spektós**.
- Present **téniō**, *I stretch*, Imperfect **tenjóm**, Aorist (é)**tnom**/(é)**tenóm**, Perfect **tétona**, P.Part. **tntós**.

VERBA VOCALIA

- Present **bhoréiō**, *I make carry*, from **bher**, *carry*.
- Present **w(e)idéiō**, *I see, I know*, Imperfect **w(e)idēióm**, Aorist (é)**widóm**, Perfect **wóida** P.Part. **wistós** (<***widťós**).
- Present **monéiō**, *I make think, remember*, as Lat. *moneo*, from **men**, *think*.
- Present **troméiō**, *I make tremble*, from **trem**, *tremble*.

IN -SKO

Verbs built with this suffix have usually two main functions in the attested Proto-Indo-European verbs:

- Durative action, Intensive or Repetitive (i.e., *Intensive-Iterative*), as attested in Greek;
- Incompleted action, with an Inchoative value, indicating that the action is beginning.

Common examples include:

- Present **prkskō**, *I ask, demand, inquire* (cf. Lat. *posco*, Ger. *forschen*, v.i.) from **prek**, *ask*.
- Present **gnńskai/gnńskai**, *I am born* (cf. Lat. *gnascor*) from zero-grade **gnn-sko-**, lit. “*I begin to generate myself*”, in turn from reduplicated verb **gignō**, *generate*.
- Present **gnóskō, gígnōskō**, *I begin to know, I learn*, from **gnō**, *know*.

WITH NASAL INFIX

- Present **jungo**, *join* (from **jeug**), Imperfect **jungóm**, Aorist **jēugsm**.

NOTE. Compare O.H.G. [untar-]jauhta (as Lat. *sub-jugauī*), Lat. *jungō, -ere, -nxi, -nctus*, Gk. ζεύγνυμι, ζεύξαι ζυγηναι; O.Ind. *yunákti* (3. Pl. *yuñjánti* = Lat. *jungunt*), *yuñjati*, full-grade *yōjayati* (<**jeugejeti**); Av. *yaoj-*, *yuj-*; Lit. *jùngiu*, *jùngti*, etc. For Past Participles (with and without Present infix **-n-**), compare O.E. *geoht*, *iukt*, Lat. *junctus*, Gk. δεπθόο, O.Ind. *yuktá-*, Av. *yuxta-*, Lit. *jùngtas*, etc.

II. ATHEMATIC VERBS

ROOT

They are the most archaic PIE verbs, and their Present conjugation is of the old type Singular root vowel in full-grade, Plural root vowel in zero-grade.

- Present **ésmi**, *I am*, vs. Imperfect **ésm**, *I was/have been*.
- Present **eími**, *I walk*, vs. Imperfect **eím**, *I walked/have walked*.
- Present **bhámī**, *I speak*, vs. Imperfect **bhām**, *I spoke/have spoken*.
- Present **ámi**, *I talk*, vs. Imperfect **ām**, *I talked/have talked*.

NOTE. The verb talk is sometimes reconstructed as PIE ***āmi**; for evidence of an original ***ag(h)-jō**, compare Lat. *aiō*, Gk. ην, Umb. *aiu*, Arm. *asem*. Thus, this paradigm would rather be Thematic, i.e. Present **ag(h)iō**, *I talk*, vs. Imperfect **ag(h)ióm**, *I talked/have talked*.

- Present **édmi**, *I eat*, vs. Imperfect **édm**, *I ate/have eaten*.

NOTE. Note that its Present Participle **dōnts/dents**, “*eating*”, might be used as substantive, meaning “*tooth*”.

- Present **wélmi**, *I want*, vs. Imperfect **wélm**, *I wanted/have wanted*.

REDUPLICATED

- Present **sístāmi** (from **stā**, *stand*), Imperfect **(si)stām**, Aorist **(é)stām**, P.Part. **statós**.
- Present **déidikmi** (from **deik**, *show*), Imperfect **deidíkm**, Aorist **(é)dēiksm**, Perfect **dédoika**, P.Part. **diktós**.
- Present **dhídhēmi** (from **dhē**, *do, make*), Imperfect **dhídhēm**, Aorist **(é)dhēm**, P.Part. **dhatós**.
- Present **dídōmi** (from **dō**, *give*), Imperfect **didóm**, Aorist **(é)dōm**, P.Part. **datós**.
- Present **jíjēmi**, *throw*, Imperfect **jíjēm**, Aorist **(é)jem**.

NOTE. For evidence on an original PIE **jíjēmi**, and not ***jījāmi** as usually reconstructed, cf. Lat. pret. *iēcī*, a form due to its two consecutive laryngeals, while Lat. *iaciō* is a present remade (Julián González Fernández, 1981).

WITH NASAL INFIX

- **klnéumi**, *hear* (from **kleu**), Imperfect **klnéwm**, Aorist **(é)klwom**, Perfect **kéklowa**, P.Part. **klutós**, meaning “*heard*” and also “*famous*”.
- **punémi**, *rot* (from **pew**), Imperfect **puném**, Aorist **(é)pēwsm**.