

A GRAMMAR OF MODERN INDO-EUROPEAN

First Edition

Language and Culture

Writing System and Phonology

Morphology

Syntax



DŃGHŪ

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Modesnī Sindhueurōpāī Grbhmñtikā

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PREFACE

This first edition of Dnghu's *A Grammar of Modern Indo-European*, is a renewed effort to systematize the reconstructed phonology and morphology of the Proto-Indo-European language into a modern European language, after the free online publication of *Europaio: A Brief Grammar of the European Language* in 2006.

Modern Indo-European is, unlike Latin, Germanic or Slavic, common to most Europeans, and not only to some of them. Unlike Lingua Ignota, Solresol, Volapük, Esperanto, Quenya, Klingon, Lojban and the thousand invented languages which have been created since humans are able to speak, Indo-European is natural, i.e. it evolved from an older language – Middle PIE or IE II, of which we have some basic knowledge –, and is believed to have been spoken by prehistoric communities at some time roughly between 3.000 and 2.000 B.C., having itself evolved into different dialects, some very well-attested branches from IE IIIa (Graeco-Armenian and Indo-Iranian), other well-attested ones from IE IIIb (Italo-Celtic, Germanic) and some possibly transition dialects (as Balto-Slavic), some still alive.

Proto-Indo-European has been reconstructed in the past two centuries (more or less successfully) by hundreds of linguists, having obtained a rough phonological, morphological, and syntactical system, equivalent to what Jews had of Old Hebrew before reconstructing a system for its modern use in Israel. Instead of some inscriptions and oral transmitted tales for the language to be revived, we have a complete reconstructed grammatical system, as well as hundreds of living languages to be used as examples to revive a common Modern Indo-European.

This grammar focuses still the European Union – and thus the Indo-European dialects of Europe –, although it remains clearly usable as a basic approach for an International Auxiliary Language. So, for example, specialized vocabulary of Modern Indo-European shown in this grammar is usually based on Germanic, Latin and Greek words, and often Celtic and Balto-Slavic, but other old sources – especially from Indo-Iranian dialects – are frequently ignored, if not through Western loans.

The former Dean of the University of Huelva, Classical Languages' philologist and Latin expert, considers the Proto-Indo-European language reconstruction an invention; Spanish Indo-Europeanist Bernabé has left his work on IE studies to dedicate himself to “something more serious”; Francisco Villar, professor of Greek and Latin at the University of Salamanca, deems a complete reconstruction of PIE impossible; his opinion is not rare, since he supports the glottalic theory, the Armenian Homeland hypothesis, and also the use of Latin instead of English within the EU. The work of Elst, Talageri and others defending the ‘Indigenous Indo-Aryan’ viewpoint by N. Kazanas, and their support of an unreconstructable and hypothetical PIE nearest to Vedic Sanskrit opens still more the gap between the

mainstream reconstruction and minority views supported by nationalist positions. Also, among convinced Indo-Europeanists, there seems to be no possible consensus between the different ‘schools’ as to whether PIE distinguished between \check{o} and \check{a} (as Gk., Lat. or Cel.) or if those vowels were all initial \check{a} , as in the other attested dialects (Villar), or if the Preterites were only one tense (as Latin *praeteritum*) with different formations, or if there were actually an Aorist and a Perfect.

Furthermore, José Antonio Pascual, a member of the Royal Spanish Academy (RAE), considers that “it is not necessary to be a great sociologist to know that 500 million people won’t agree to adopt Modern Indo-European in the EU” (Spa. journal *El Mundo*, 8th April 2007). Of course not, as they won’t agree on any possible question – not even on using English, which we use in fact –, and still the national and EU’s Institutions work, adopting decisions by majorities, not awaiting consensus for any question. And it was probably not necessary to be a great sociologist a hundred years ago to see e.g. that the revival of Hebrew under a modern language system (an “invention” then) was a utopia, and that Esperanto, the ‘easy’ and ‘neutral’ IAL, was going to succeed by their first World Congress in 1905.

Such learned opinions are only that, opinions, just as if Hebrew and Semitic experts had been questioned a hundred years ago about a possible revival of Biblical Hebrew in a hypothetical new Israel.

Whether MIE’s success is more or less probable (and why) is not really important for our current work, but hypothesis dealt with by sociology, anthropology, political science, economics and even psychology, not to talk about chance. Whether the different existing social movements, such as Pan-Latinism, Pan-Americanism, Pan-Sanskritism, Pan-Arabism, Pan-Iranism, Pan-Slavism, Pan-Hispanism, *Francophonie*, Anglospherism, Atlanticism, and the hundred different pan-nationalist positions held by different sectors of societies – as well as the different groups supporting anti-globalization, anti-neoliberalism, anti-capitalism, anti-communism, anti-occidentalism, etc. – will accept or reject this project remains unclear.

What we do know now is that the idea of reviving Proto-Indo-European as a modern language for Europe and international organizations is not madness, that it is not something new, that it doesn’t mean a revolution – as the use of Spanglish, Syndarin or Interlingua – nor an involution – as regionalism, nationalism, or the come back to French, German or Latin predominance –, but merely one of the many different ways in which the European Union linguistic policy could evolve, and maybe one way to unite different peoples from different cultures, languages and religions (from the Americas to East Asia) for the sake of stable means of communication. Just that tiny possibility is enough for us to “lose” some years trying to give our best making the (Proto-)Indo-European language as usable and as known as possible.

PREFACE TO THE FIRST EDITION

According to Dutch sociologist Abram de Swaan, every language in the world fits into one of four categories according to the ways it enters into (what he calls) the *global language system*.

- **Central:** About a hundred languages in the world belong here, widely used and comprising about 95% of humankind.
- **Supercentral:** Each of these serves to connect speakers of central languages. There are only twelve supercentral languages, and they are **Arabic, Chinese, English, French, German, Hindi, Japanese, Malay, Portuguese, Russian, Spanish** and **Swahili**.
- **Hypercentral:** The lone hypercentral language at present is English. It not only connects central languages (which is why it is on the previous level) but serves to connect supercentral languages as well. Both Spanish and Russian are supercentral languages used by speakers of many languages, but when a Spaniard and a Russian want to communicate, they will usually do it in English.
- **Peripheral:** All the thousands of other languages on the globe occupy a peripheral position because they are hardly or not at all used to connect any other languages. In other words, they are mostly not perceived as useful in a multilingual situation and therefore not worth anyone's effort to learn.

De Swaan points out that the admission of new member states to the European Union brings with it the addition of more languages, making the polyglot identity of the EU ever more unwieldy and expensive. On the other hand, it is clearly politically impossible to settle on a single language for all the EU's institutions. It has proved easier for the EU to agree on a common currency than a common language.

Of the EU's current languages, at least 14 are what we might call a 'robust' language, whose speakers are hardly likely to surrender its rights. Five of them (English, French, German, Portuguese and Spanish) are supercentral languages that are already widely used in international communication, and the rest are all central.

In the ongoing activity of the EU's institutions, there are inevitably shortcuts taken - English, French and German are widely used as 'working languages' for informal discussions. But at the formal level all the EU's official languages (i.e. the language of each member state) are declared equal.

Using all these languages is very expensive and highly inefficient. There are now 23 official languages: **Bulgarian, Czech, Danish, Dutch, English, Estonian, Finnish, French, German, Greek, Hungarian, Irish Gaelic, Italian, Latvian, Lithuanian, Maltese, Polish, Portuguese, Romanian, Slovak, Slovene, Spanish** and **Swedish**, and three *semiofficial* (?): **Catalan, Basque** and **Galician**. This means that all official documents must be translated into all the members'

recognized languages, and representatives of each member state have a right to expect a speech in their language to be interpreted. And each member state has the right to hear ongoing proceedings interpreted into its own language.

Since each of the twenty one languages needs to be interpreted/translated into all the rest of the twenty, 23×22 (minus one, because a language doesn't need to be translated into itself) comes to a total of **506** combinations (not taking on account the '*semiofficial*' languages). So interpreters/translators have to be found for ALL combinations.

In the old Common Market days the costs of using the official languages Dutch, English, French, and German could be borne, and interpreters and translators could be readily found. But as each new member is admitted, the costs and practical difficulties are rapidly becoming intolerably burdensome.

The crucial point here is that each time a new language is added, the total number of combinations isn't additive but multiplies: 506 + one language is not 507 but 552, i.e. 24×23 , since every language has to be translated/interpreted into all the others (except itself).

It is not hard to see that the celebration of linguistic diversity in the EU only lightly disguises the logistical nightmare that is developing. The EU is now preparing for more languages to come: **Romanian** and **Bulgarian** have been recently added, with the incorporation of these two countries to the EU; **Albanian**, **Macedonian**, **Serbian**, **Bosnian** and **Croatian** (the three formerly known as Serbo-Croatian, but further differentiated after the Yugoslavian wars) if they are admitted to the EU as expected; and many other regional languages, following the example of Irish Gaelic, and the three *semi-official* Spanish languages: **Alsatian**, **Breton**, **Corsican**, **Welsh**, **Luxemburgish** and **Sami** are likely candidates to follow, as well as **Scottish Gaelic**, **Occitan**, **Low Saxon**, **Venetian**, **Piedmontese**, **Ligurian**, **Emilian**, **Sardinian**, **Neapolitan**, **Sicilian**, **Asturian**, **Aragonese**, **Frisian**, **Kashubian**, **Romany**, **Rusin**, and many others, depending on the political pressure their speakers and cultural communities can put on EU institutions. It will probably not be long before **Turkish**, and with it **Kurdish** (and possibly **Armenian**, **Aramaic** and **Georgian** too), or maybe **Ukrainian**, **Russian** and **Belarusian**, are other official languages, not to talk about the *eternal candidates*' languages, **Norwegian** (in at least two of its language systems, **Bokmål** and **Nynorsk**), **Icelandic**, **Romansh**, **Monegasque** (Monaco) and **Emilian-Romagnolo** (San Marino), and this could bring the number of EU languages over 40. The number of possible combinations are at best above 1000, which doesn't seem within the reach of any organization, no matter how well-meaning.

Many EU administrators feel that to a great extent this diversity can be canceled out by ever-increasing reliance on the computer translation that is already in heavy use. It is certainly true that if we couldn't count on computers to do a lot of the translation 'heavy lifting', even the most idealistic administrator would never even dream of saddling an organization with an enterprise that would

quickly absorb a major part of its finances and energy. But no machine has yet been invented *or probably ever will be* that is able to produce a translation without, at the very least, a final editing by a human translator or interpreter.

The rapidly increasing profusion of languages in the EU is quickly becoming intolerably clumsy and prohibitively expensive. And this doesn't even count the additional expense caused by printing in the Greek alphabet and soon in the Cyrillic (Bulgarian and Serbian). Everyone agrees that all languages must have their 'place in the sun' and their diversity celebrated. But common sense suggests that the EU is going to be forced to settle on a very small number of working languages, perhaps only one, and the linguistic future of the EU has become the subject of intense debate.

Only in public numbers, the EU official translation/interpretation costs amount to more than 1.230 M€, and it comes to more than 13% of today's administrative expenditure of the EU institutions. There are also indirect costs of linguistic programmes aimed at promoting the learning of three or more languages since the *Year of Languages* (2001), which also means hundreds of millions of Euros, which haven't been counted in the EU's budget as linguistic expenditure, but are usually included in budget sections such as Cohesion or Citizenship. It is hard to imagine the huge amount of money (real or potential) lost by EU citizens and companies each day because of communication problems, not only because they *can't* speak a third party's language, but because they *won't* speak it, even if they can.

Preserving the strict equality is the EU's lifeblood, and it is a very disturbing thought that the strongest candidate for a *one-language EU* is the one with an established dominance in the world, **English**, which is actually only spoken by a minority within Europe. Latin and Artificial languages (as Esperanto, Ido or Interlingua) have been proposed as alternatives, but neither the first, because it is only related to romance languages, nor the second, because they are (too) artificial (invented by one person or a small group at best), solve the linguistic theoretical problems, not to talk about the practical ones.

The **Indo-European** language that we present in this work, on the contrary, faces not only the addressed theoretical problems - mainly related to cultural heritage and sociopolitical proud - but brings also a practical solution for the European Union, without which there can be no real integration. European nations are not prepared to give up some of their powers to a greater political entity, unless they don't have to give up some fundamental rights. Among them, the linguistic ones have proven harder to deal with than it initially expected, as they are raise very strong national or regional feelings.

Indo-European is already the grandmother of the majority of Europeans. The first language of more than 97% of EU citizens is Indo-European, and the rest can generally speak at least one of them as second language. Adopting Indo-European as the main official language for the EU will not mean giving up linguistic rights, but enhancing them, as every other official language will have then the same status

under their common ancestor; it won't mean losing the own culture for the sake of unity, but recovering it altogether for the same purpose; and, above all, it will not mean choosing a *lingua franca* to communicate with foreigners within an international organization, but accepting a National Language to communicate with other nationals within the same country.

NOTE. The above information is mainly copied (literally, adjusted or modified) from two of Mr. William Z. Shetter *Language Miniatures*, which can be found in his website:

- <http://home.bluemarble.net/~langmin/miniatures/Qvalue.htm>
- <http://home.bluemarble.net/~langmin/miniatures/eulang.htm>
- EU official expenditure numbers can be consulted here:
 - <http://europa.eu.int/rapid/pressReleasesAction.do?reference=MEMO/05/10&type=HTML&aged=0&language=EN&guiLanguage=en>
 - http://europa.eu.int/comm/budget/library/publications/budget_in_fig/dep_eu_budg_2007_en.pdf
- Official information about EU languages can be found at:
 - http://europa.eu.int/comm/education/policies/lang/languages/index_en.html
 - http://europa.eu.int/comm/education/policies/lang/languages/langmin/euromosaic/index_en.html

WHAT'S NEW IN THIS EDITION

This is *A Grammar of Modern Indo-European, First Edition*, with Modern Indo-European Language Grammatical system in *Version 3*, still in beta phase – i.e., still adjusting some major linguistic questions, and lots of minor mistakes, thanks to the contributions of experts and readers. The timetable of the next grammatical and institutional changes can be followed in the website of the Indo-European Language Association at www.dnghu.org.

“*Modern Indo-European*” 3.x (June 2007) follows the revised edition of V. 2.x, which began in March 2007, changing some features of “*Europaio*”/“*Sindhueuropaio*” 1.x (2005-2006), in some cases coming back to features of *Indo-European* 0.x (2004-2005), especially:

1. The artificial distinction in “*Europaio*” and “*Sindhueuropaio*” systems (each based on different dialectal features) brings more headaches than advantages to our Proto-Indo-European revival project; from now on, only a unified “*Modern Indo-European*” is promoted.

2. Unlike the first simplified grammar, this one goes deep into the roots of the specific Indo-European words and forms chosen for the modern language. Instead of just showing the final output, expecting readers to accept the supposed research behind the selections, we let them explore the details of our choices – and sometimes the specifics of the linguistic reconstruction –, thus sacrificing simplicity for the sake of thorough approach to modern IE vocabulary.

3. The old Latin-only alphabet has been expanded to include Greek and Cyrillic writing systems, as well as a stub of possible Armenian, Arabo-Persian and Devanagari (abugida) systems. The objective is not to define them completely (as with the Latin alphabet), but merely to show other possible writing systems for Modern Indo-European.

4. The traditional phonetic distinction of palatovelars was reintroduced for a more accurate phonetic reconstruction of Late PIE, because of the opposition found (especially among Balto-Slavic experts) against our simplified writing system. Whether satemization was a dialectal and phonological trend restricted to some phonetic environments (PIE **k*- before some sounds, as with Latin *c*- before *-e* and *-i*), seemed to us not so important as the fact that more people feel comfortable with an exact – although more difficult – phonetic reconstruction. From versions 3.x onwards, however, a more exact reconstruction is looked for, and therefore a proper explanation of velars and vocalism (hence also laryngeals) is added at the end of this book – we come back, then, to a simplified writing system.

4. The historically alternating *Oblique* cases *Dative*, *Locative*, *Instrumental* and *Ablative*, were shown on a declension-by-declension (and even pronoun-by-pronoun) basis, as Late PIE shows in some

declensions a simpler, thus more archaic, reconstructable paradigm (as **i,u**) while others (as the thematic **e/o**) show almost the same Late PIE pattern of four differentiated oblique case-endings. Now, the 8 cases traditionally reconstructed are usable – and its differentiation recommended – in MIE.

The classification of Modern Indo-European nominal declensions has been reorganized to adapt it to a more Classic pattern, to help the reader clearly identify their correspondence to the different Greek and Latin declension paradigms.

5. The verbal system has been reduced to the reconstructed essentials of Late Proto-Indo-European conjugation and of its early dialects. Whether such a simple and irregular system is usable as is, without further systematization, is a matter to be solved by Modern Indo-European speakers.

The so-called Augment in **é-**, attested almost only in Greek, Indo-Iranian and Armenian, is sometimes left due to Proto-Indo-European tradition, although recent research shows that it was neither obligatory, nor general in Late PIE. It is believed today that it was just a prefix with a great success in the southern dialects, as *per-* in Latin or *ga-* in Germanic.

6. The syntactical framework of Proto-Indo-European has been dealt with extensively by some authors, but, as the material hasn't still been summed up and corrected by other authors (who usually prefer the phonological or morphological reconstruction), we use literal paragraphs from possibly the most thorough work available on PIE syntax, Winfred P. Lehman's Proto-Indo-European Syntax (1974), along with some comments and corrections made since its publication by other scholars.

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CONVENTIONS USED IN THIS BOOK

1. “Modern Indo-European” or MIE: To avoid some past mistakes, we use the term *Europaïom* only to refer to the *European language system*, or *Europe’s Indo-European*, also *Northwestern Indo-European*. The suitable names for the simplified Indo-European language system for Europe are thus *European language* or *European*, as well as “*Europaïo(m)*”.

2. The **roots** of the reconstructed **Proto-Indo-European language** (PIE) are basic morphemes carrying a lexical meaning. By addition of suffixes, they form stems, and by addition of desinences, these form grammatically inflected words (nouns or verbs).

NOTE. PIE reconstructed roots are subject to *ablaut*, and except for a very few cases, such ultimate roots are fully characterized by its constituent consonants, while the vowel may alternate. PIE roots as a rule have a single syllabic core, and by ablaut may either be monosyllabic or unsyllabic. PIE roots may be of the following form (where K is a voiceless stop, G an unaspirated and G^h an aspirated stop, R a semivowel (*r̥, l̥, m̥, ŋ, u, i*) and H a laryngeal (or s). After Meillet, impossible PIE combinations are voiceless/aspirated (as in **teubh* or **bheut*), as well as voiced/voiceless (as in **ged* or **deg*). The following table depicts the general opinion:

<i>stops</i>	-	K-	G-	G ^h -
-	[HR]e[RH]	K[R]e[RH]	G[R]e[RH]	G ^h [R]e[RH]
-K	[HR]e[RH]K	-	G[R]e[RH]K	G ^h [R]e[RH]K
-G	[HR]e[RH]G	K[R]e[RH]G	-	G ^h [R]e[RH]G
-G ^h	[HR]e[RH]G ^h	K[R]e[RH]G ^h	G[R]e[RH]G ^h	G ^h [R]e[RH]G ^h *

*This combination appears e.g. in *bheudh*, *awake*, and *bheidh*, *obey*, *believe*.

A root has at least one consonant, for some at least two (e.g. IE II **h₂ek* vs. Late PIE *ek* or *ek̥*, “quick”, which is the root for IE adj. *ōkús*). Depending on the interpretation of laryngeals, some roots seem to have an inherent *a* or *o* vowel, *ar* (vs. older **h₂ar-*), *fit*, *onc* (vs. older **h₃eng^w*) “anoint”, *ak* (vs. older **h₂ec*) “keen”.

By “root extension”, a basic CeC (with C being any consonant) pattern may be extended to CeC-C, and an s-mobile may extend it to s-CeC.

The total number of consonant, sonant and laryngeal elements that appear in an ordinary syllable are three – i.e., as the trilateral Semitic pattern. Those which have less than three are called ‘Concave’ verbs (cf. *Hes*, *Hei*, *g^wem*); those extended are called ‘Convex’ verbs (cf. Lat. *plango*, *spargo*, *frango*, etc., which, apart from the extension in *-g*, contain a laryngeal); for more on this, *vide infra* on MIE Conjugations.

3. Verbs are usually shown in notes without an appropriate verbal noun ending *-m*, infinitive ending *-tu/-ti*, to distinguish them clearly from nouns and adjectives. They aren’t shown inflected in 1st P.Sg. Present either – as they should –, because of the same reason, and aren’t usually accented.

NOTE. Ultimate PIE reconstructed verbal roots are written even without an athematic or thematic ending. When an older laryngeal appears, as in **pelh₂*, it is sometimes written, as in **pela**, or in case of ultimate roots with semivowel endings [j̥], [u̥], followed by an older laryngeal, they are written with ending -j or -w.

4. Adjectives are usually shown with a masculine (or general) ending **-ós**, although sometimes a complete paradigm **-á**, **-óm**, is also written.

5. Accentuated vowels and semivowels have a written accent; accented long vowels and sonants are represented with special characters. However, due to the limited UTF-8 support of some fonts, the old “*Europaio*” 1.x writing system, i.e. without non-English characters, is still usable.

6. For *zero-grade* or *zero-ending*, the symbol ø is sometimes used.

7. Proto-Indo-European vowel apophony or Ablaut is indeed normal in MIE, but different dialectal Ablauts are corrected when loan-translated. Examples of these are **kombhastós**, from Lat. *confessus* (cf. Lat. *fassus sum*), from IE **bhā**; MIE **dhaklís/disdhaklís**, as Lat. *facilis/difficilis*, from IE **dhē**; MIE **sáliō/ensáliō/ensáltō**, as Lat. *saliō/insiliō/insultō*, etc. Such Ablaut is linked to languages with musical accent, as Latin. In Italic, the tone was always on the first syllable; Latin reorganized this system, and after Roman grammarians’ “penultimate rule”, Classic Latin accent fell on the penultimate syllable, thus triggering off different inner vocalic timbres or *Ablauts*. Other Italic dialects, as Oscan or Umbrian, didn’t suffer such apophony; cf. Osc. *anterstataí*, Lat. *interstitae*; Umb. *antakres*, Lat. *integrís*; Umb. *procanurent*, Lat. *procinuerint*, etc. Germanic also knew such tone variations.

8. In Germanic, Celtic and Italic dialects the IE intervocalic **-s-** becomes voiced, and then it is pronounced as the trilled consonant, a phenomenon known as Rhotacism; as with zero-grade **krs** [kʀs] from PIE stem **kers**, *run*, giving ‘s-derivatives’ O.N. *horskr*, Gk. *-koupoç*, and ‘r-derivatives’ as MIE **krsos**, *wagon*, *cart*, from Celtic (cf. O.Ir., M.Welsh *carr*, Bret. *karr*) and **krsō**, *run*, from Lat. *currere*. In light of Greek forms as *criterion*, *monastery*, etc., the suffix to indicate “place where” (and sometimes instrument) had an original IE **r**, and its reconstruction as PIE **s** is wrong.

9. Some loans are left as they are, without necessarily implying that they are original Indo-European forms; as Latin *mappa*, “*map*”, *aiqi-*, “(a)equi-”, or *re-*, “*re-*”, Celtic *pen-*, “*head*”, Greek *sphaira*, “*sphere*”, Germanic *iso-*, “*ice*”, and so on. Some forms are already subject to change in MIE for a more ‘purist’ approach to a common IE, as **ati-** for Lat. *re-*, **-ti** for (Ita. and Arm.) secondary **-tio(n)**, etc.

10. In Romance languages, *Theme* is used instead of *Stem*. Therefore, *Theme Vowel* and *Thematic* refer to the Stem endings, usually to the **e/o** endings. In the Indo-European languages, *Thematic* roots are those roots that have a “*theme vowel*”; a vowel sound that is always present between the root of the word and the attached inflections. *Athematic* roots lack a theme vowel, and attach their inflections directly to the root itself.

NOTE. The distinction between thematic and athematic roots is especially apparent in the Greek verb; they fall into two classes that are marked by quite different personal endings. Thematic verbs are also called $-\omega$ ($-\acute{o}$) verbs in Greek; athematic verbs are $-\mu$ ($-m\acute{i}$) verbs, after the first person singular present tense ending that each of them uses. The entire conjugation seems to differ quite markedly between the two sets of verbs, but the differences are really the result of the thematic vowel reacting with the verb endings.

In Greek, athematic verbs are a closed class of inherited forms from the parent Indo-European language. Marked contrasts between thematic and athematic forms also appear in Lithuanian, Sanskrit, and Old Church Slavonic. In Latin, almost all verbs are thematic; a handful of surviving athematic forms exist, but they are considered irregular verbs.

The thematic and athematic distinction also applies to nouns; many of the older Indo-European languages distinguish between “vowel stems” and “consonant stems” in the declension of nouns. In Latin, the first, second, fourth, and fifth declensions are vowel stems characterized by *a*, *o*, *u* and *e*, respectively; the third declension contains both consonant stems and *i* stems, whose declensions came to closely resemble one another in Latin. Greek, Sanskrit, and other older Indo-European languages also distinguish between vowel and consonant stems, as did Old English.

11. The General form to write PIE **d+t**, **t+t**, **dh+t**, etc. should be normally MIE **st**, **sdh**, but there are probably some mistakes in this grammar, due to usual (pure) reconstructions and to the influence of modern IE dialects. For those common intermediate phases, cf. Gk. *st*, *sth* (as *pistis*, *oisqa*), Lat. *est* (“come”) and O.H.G. examples. Also, compare O.Ind. *sehí*< **sazdhi*, ‘sit!’, and not **satthi* (cf. O.Ind. *dehí*, Av. *dazdi*), what makes an intermediate **-st** (still of Late PIE) very likely.

12. PIE made personal forms of composed verbs separating the root from the so-called ‘prepositions’, which were actually particles which delimited the meaning of the sentence. Thus, a sentence like Lat. *uos supplico* is in PIE as in O.Lat. *sub uos placo*. The same happened in Homeric Greek, in Hittite, in the oldest Vedic and in modern German ‘trennbare Verben’. Therefore, when we reconstruct a verb like MIE **adkēptā**, it doesn’t mean it should be used as in Classic Latin (in fact its ablaut has been reversed), or indeed as in Modern English, but with its oldest use, separating **ad** from the root.

13. Reasons for not including the palatovelars in MIE’s writing system are 1) that, although possible, their existence is not sufficiently proven (see Appendix II.2); 2) that their writing because of tradition or ‘etymology’ is not justified, as this would mean a projective writing (i.e., like writing Lat. *casa*, but Lat. *ĉentum*, because the k-sound before *-e* and *-i* evolves differently in Romance). The pairs ġ Ğ and ƙ Ƙ, have been proposed to write them, for those willing to differentiate their pronunciation.

The following abbreviations apply in this book:

IE	: Indo-European
PIE	: Proto-Indo-European
IE I	: Early PIE
IE II	: Middle PIE or <i>Indo-Hittite</i>
IE III	: Late PIE
MIE	: Modern Indo-European

I.-I.	: Indo-Iranian
Ind.	: <i>Proto-Indo-Aryan</i>
O.Ind.	: Old Indian
Skr.	: Sanskrit
Hind.	: Hindustani
Hi.	: Hindi
Ur.	: Urdu
Ira.	: <i>Proto-Iranian</i>
Av.	: Avestan
O.Pers.	: Old Persian
Pers.	: Persian
Kur.	: Kurdish
Oss.	: Ossetian
Kam.	: Kamviri

Cel.	: Proto-Celtic
Gaul.	: Gaulish
O.Ir.	: Old Irish
Sco.	: Scottish Gaelic
Ir.	: Irish Gaelic
Bret.	: Breton
Cor.	: Cornish
O.Welsh	: Old Welsh

O.Gk.	: Old Greek
Gk.	: Greek
Phryg.	: Phrygian
Thr.	: Thracian
Dac.	: Dacian
Ven.	: Venetic
Lus.	: Lusitanian
A.Mac.	: Ancient Macedonian
Illy.	: Illyrian
Alb.	: Albanian

Ita.	: Proto-Italic
Osc.	: Oscan
Umb.	: Umbrian
Lat.	: Latin
O.Lat.	: Archaic Latin
V.Lat.	: Vulgar Latin
L.Lat.	: Late Latin
Med.Lat.	: Mediaeval Latin
Mod.Lat.	: Modern Latin
O.Fr.	: Old French
Prov	: Provençal
Gl.-Pt.	: Galician-Portuguese
Gal.	: Galician
Pt.	: Portuguese
Cat.	: Catalan
Fr.	: French
It.	: Italian
Spa.	: Spanish
Rom.	: Romanian

Gmc.	: Proto-Germanic
Goth.	: Gothic
Frank.	: Frankish
Sc.	: <i>Scandinavian (North Germanic)</i>
O.N.	: Old Norse
O.Ice.	: Old Icelandic
O.S.	: Old Swedish
Nor.	: Norwegian
Swe.	: Swedish
Da.	: Danish
Ice.	: Icelandic
Fae.	: Faeroese
W.Gmc.	: <i>West Germanic</i>
O.E.	: Old English (<i>W.Saxon, Mercian</i>)
O.Fris.	: Old Frisian
O.H.G.	: Old High German
M.L.G.	: Middle Low German
M.H.G.	: Middle High German
M.Du.	: Middle Dutch
Eng	: English
Ger.	: German
L.Ger.	: Low German
Fris.	: Frisian
Du.	: Dutch
Yidd.	: Yiddish (Judeo-German)

Bl.-Sl.	: Balto-Slavic
Bal.	: <i>Proto-Baltic</i>
O.Lith.	: Old Lithuanian
O.Pruss.	: Old Prussian
Lith.	: Lithuanian
Ltv.	: Latvian
Sla.	: <i>Proto-Slavic</i>
O.C.S.	: Old Church Slavonic
O.Russ.	: Old Russian
O.Pol.	: Old Polish
Russ.	: Russian
Pol.	: Polish
Cz.	: Czech
Slo.	: Slovenian
Slk.	: Slovak
Ukr.	: Ukrainian
Bel.	: Belarusian
Bul.	: Bulgarian
Sr.-Cr.	: Serbo-Croatian

1. INTRODUCTION

1.1. THE INDO-EUROPEAN LANGUAGE FAMILY

1.1.1. The Indo-European languages are a family of several hundred languages and dialects, including most of the major languages of Europe, as well as many in Asia. Contemporary languages in this family include English, German, French, Spanish, Portuguese, Hindustani (i.e., Hindi and Urdu among other modern dialects), Persian and Russian. It is the largest family of languages in the world today, being spoken by approximately half the world's population as first language. Furthermore, the majority of the other half speaks at least one of them as second language.

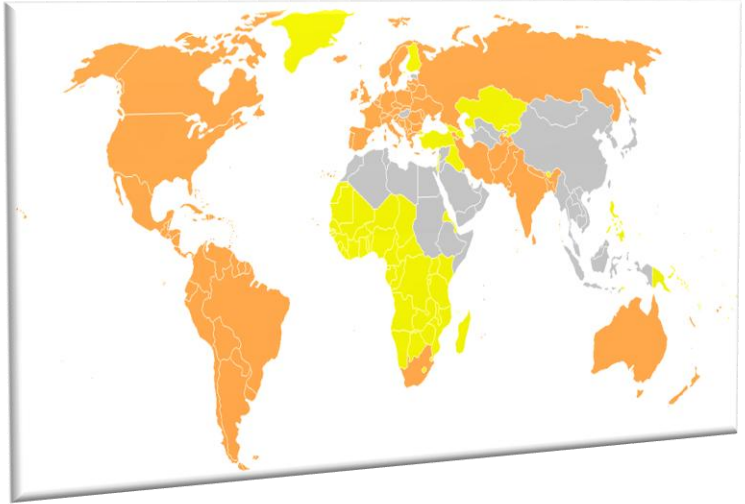


Figure 1. In **dark**, countries with a majority of Indo-European speakers; in **light color**, countries with Indo-European-speaking minorities.

1.1.2. Romans didn't perceive similarities between Latin and Celtic dialects, but they found obvious correspondences with Greek. After Roman Grammarian Sextus Pompeius Festus:

Suppum antiqui dicebant, quem nunc supinum dicimus ex Graeco, videlicet pro adspiratione ponentes <s> litteram, ut idem ὕλας dicunt, et nos silvas; item ἕξ sex, et ἑπτὰ septem.

Such findings are not striking, though, as Rome was believed to have been originally founded by Trojan hero Aeneas and, consequently, Latin was derived from Old Greek.

1.1.3. Florentine merchant Filippo Sassetti travelled to the Indian subcontinent, and was among the first European observers to study the ancient Indian language, Sanskrit. Writing in 1585, he noted some word similarities between Sanskrit and Italian, e.g. *deva/dio*, "God", *sarpa/serpe*, "snake", *sapta/sette*, "seven", *ashta/otto*, "eight", *nava/nove*, "nine". This observation is today credited to have foreshadowed the later discovery of the Indo-European language family.

1.1.4. The first proposal of the possibility of a common origin for some of these languages came from Dutch linguist and scholar Marcus Zuerius van Boxhorn in 1647. He discovered the similarities among Indo-European languages, and supposed the existence of a primitive common language which he called "Scythian". He included in his hypothesis Dutch, Greek, Latin, Persian, and German, adding later Slavic, Celtic and Baltic languages. He excluded languages such as Hebrew from his hypothesis.

However, the suggestions of van Boixhorn did not become widely known and did not stimulate further research.

1.1.5. On 1686, German linguist Andreas Jäger published *De Lingua Vetustissima Europae*, where he identified an remote language, possibly spreading from the Caucasus, from which Latin, Greek, Slavic, ‘Scythian’ (i.e., Persian) and Celtic (or ‘Celts-Germanic’) were derived, namely *Scytho-Celtic*.

1.1.6. The hypothesis re-appeared in 1786 when Sir William Jones first lectured on similarities between four of the oldest languages known in his time: Latin, Greek, Sanskrit and Persian:

*“The Sanskrit language, whatever be its antiquity, is of a wonderful structure; more perfect than the Greek, more copious than the Latin, and more exquisitely refined than either, yet bearing to both of them a stronger affinity, both **in the roots of verbs and the forms of grammar**, than could possibly have been produced by accident; so strong indeed, that no philologist could examine them all three, without believing them to have sprung **from some common source**, which, perhaps, no longer exists: there is a similar reason, though not quite so forcible, for supposing that both the Gothic and the Celtic, though blended with a very different idiom, had the same origin with the Sanskrit; and the old Persian might be added to the **same family**”*

1.1.7. Danish Scholar Rasmus Rask was the first to point out the connection between Old Norwegian and Gothic on the one hand, and Lithuanian, Slavonic, Greek and Latin on the other. Systematic comparison of these and other old languages conducted by the young German linguist Franz Bopp supported the theory, and his *Comparative Grammar*, appearing between 1833 and 1852, counts as the starting-point of Indo-European studies as an academic discipline.

1.1.8. The classification of modern Indo-European dialects into ‘languages’ and ‘dialects’ is controversial, as it depends on many factors, such as the pure linguistic ones – most of the times being the least important of them –, and also social, economic, political and historical considerations. However, there are certain common ancestors, and some of them are old well-attested languages (or language systems), such as Classic Latin for modern Romance languages – French, Spanish, Portuguese, Italian, Romanian or Catalan –, Classic Sanskrit for some modern Indo-Aryan languages, or Classic Greek for Modern Greek.

Furthermore, there are some still older IE ‘dialects’, from which these old formal languages were derived and later systematized. They are, following the above examples, *Archaic* or *Old Latin*, *Archaic* or *Vedic Sanskrit* and *Archaic* or *Old Greek*, attested in older compositions, inscriptions and inferred through the study of oral traditions and texts.

And there are also some old related dialects, which help us reconstruct proto-languages, such as Faliscan for *Latino-Faliscan* (and with Osco-Umbrian for an older *Proto-Italic*), the Avestan language for a *Proto-Indo-Iranian* or Mycenaean for an older *Proto-Greek*.

NOTE. Although proto-language groupings for Indo-European languages may vary depending on different criteria, they all have the same common origin, the Proto-Indo-European language, which is generally easier to reconstruct than its dialectal groupings. For example, if we had only some texts of Old French, Old Spanish and Old Portuguese, Mediaeval Italian and Modern Romanian and Catalan, then Vulgar Latin – i.e., the features of the common language spoken by all of them, not the older, artificial, literary Classical Latin – could be easily reconstructed, but the groupings of the derived dialects not. In fact, the actual groupings of the Romance languages are controversial, even knowing well enough Archaic, Classic and Vulgar Latin...

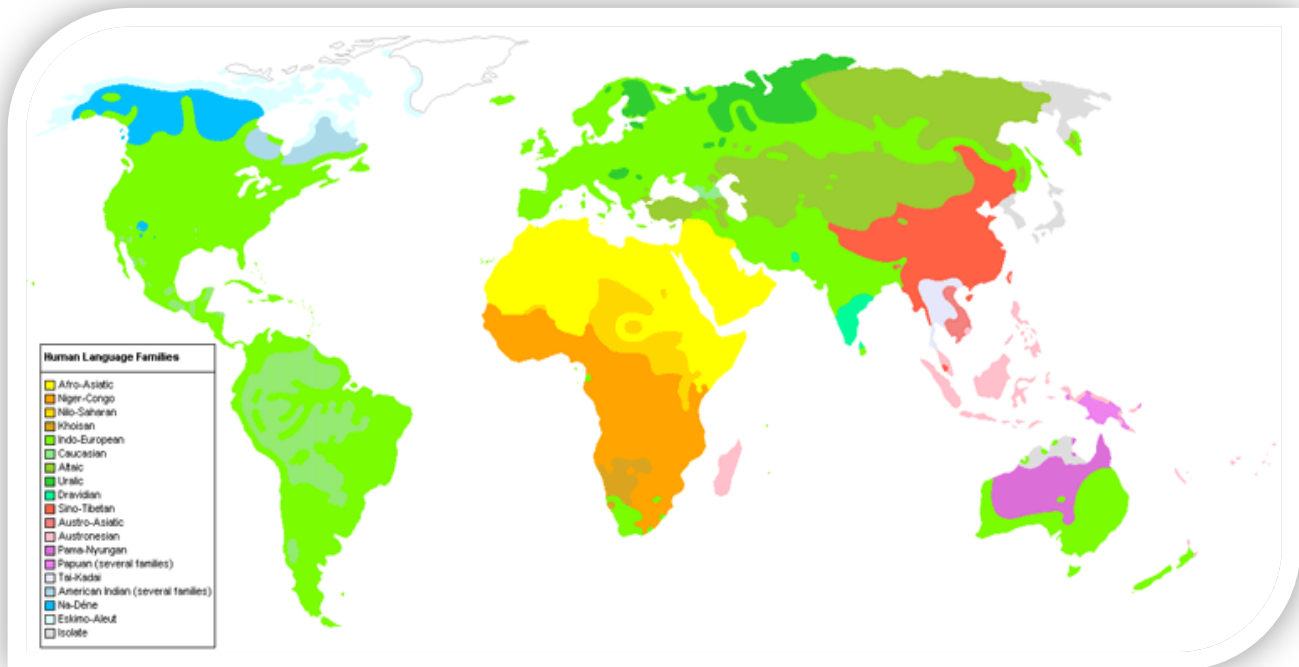


Figure 2. Language families' distribution in the 20th century. In Eurasia and the Americas, Indo-European languages; in Scandinavia, Central Europe and Northern Russia, Uralic languages; in Central Asia, Turkic languages; in Southern India, Dravidian languages; in North Africa, Semitic languages; etc.

1.2. TRADITIONAL VIEWS

1.2.1. In the beginnings of the Indo-European or Indo-Germanic studies using the comparative grammar, the Indo-European proto-language was reconstructed as a unitary language. For Rask, Bopp and other Indo-European scholars, it was a search for *the* Indo-European. Such a language was supposedly spoken in a certain region between Europe and Asia and at one point in time – between ten thousand and four thousand years ago, depending on the individual theories –, and it spread thereafter and evolved into different languages which in turn had different dialects.

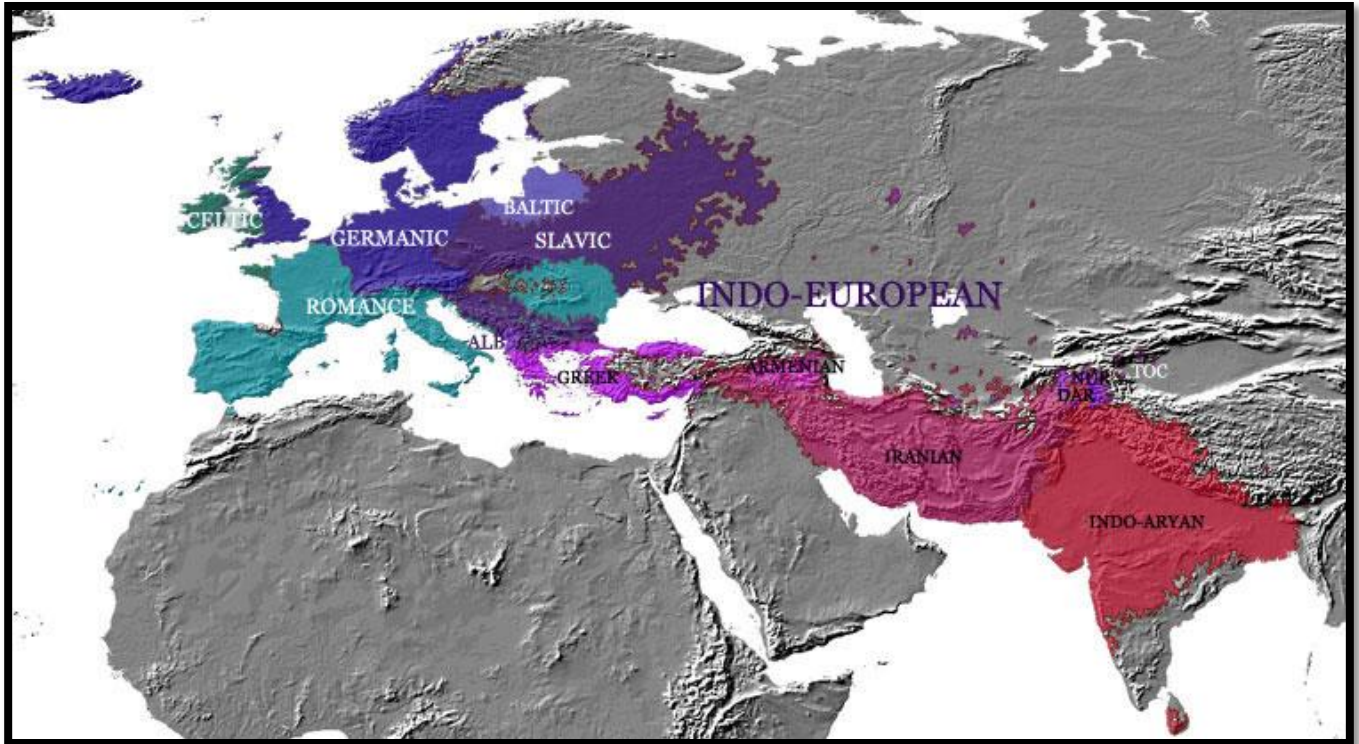


Figure 3. Eurasia ca. 1500 A.D. This map is possibly more or less what the first Indo-Europeanists had in mind when they thought about a common language being spoken by the ancestors of all those Indo-European speakers, a language which should have spread from some precise place and time.

1.2.2. The *Stammbaumtheorie* or Genealogical Tree Theory states that languages split up in other languages, each of them in turn split up in others, and so on, like the branches of a tree. For example, a well known old theory about Indo-European is that, from *the* Indo-European language, two main groups of dialects known as *Centum* and *Satem* separated – so called because of their pronunciation of the gutturals in Latin and Avestan, as in the word **kmtóm**, *hundred*. From these groups others split up, as *Centum* Proto-Germanic, Proto-Italic or Proto-Celtic, and *Satem* Proto-Balto-Slavic, Proto-Indo-Iranian, which developed into present-day Germanic, Romance and Celtic, Baltic, Slavic, Iranian and Indo-Aryan languages.

NOTE. The Centum and Satem isogloss is one of the oldest known phonological differences of IE languages, and is still used by many to classify them in two groups, thus disregarding their relevant morphological and syntactical differences. It is based on a simple vocabulary comparison; as, from PIE **kmtóm** (possibly earlier ***dkntóm**, from **dékṃ**, *ten*), Satem: O.Ind. *śatám*, Av. *satəm*, Lith. *šimtas*, O.C.S. *sto*, or Centum: Gk. *ἑκατόν*, Lat. *centum*, Goth. *hund*, O.Ir. *cet*, etc.

1.2.3. The *Wellentheorie* or Waves Theory, of J. Schmidt, states that one language is created from another by the spread of innovations, the way water waves spread when a stone hits the water surface. The lines that define the extension of the innovations are called isoglosses. The convergence of different isoglosses over a common territory signals the existence of a new language or dialect. Where isoglosses from different languages coincide, transition zones are formed.

NOTE. Such old theories are based on the hypothesis that there was one common and *static* Proto-Indo-European language, and that all features of modern Indo-European languages can be explained in such unitary scheme, by classifying them either as innovations or as archaisms of that old, rigid proto-language. The language system we propose for the revived Modern Indo-European is based mainly on that traditionally reconstructed Proto-Indo-European, not because we uphold the traditional views, but because we still look for the immediate common ancestor of modern Indo-European languages, and it is that old, unitary Indo-European that scholars had been looking for during the first decades of IE studies.

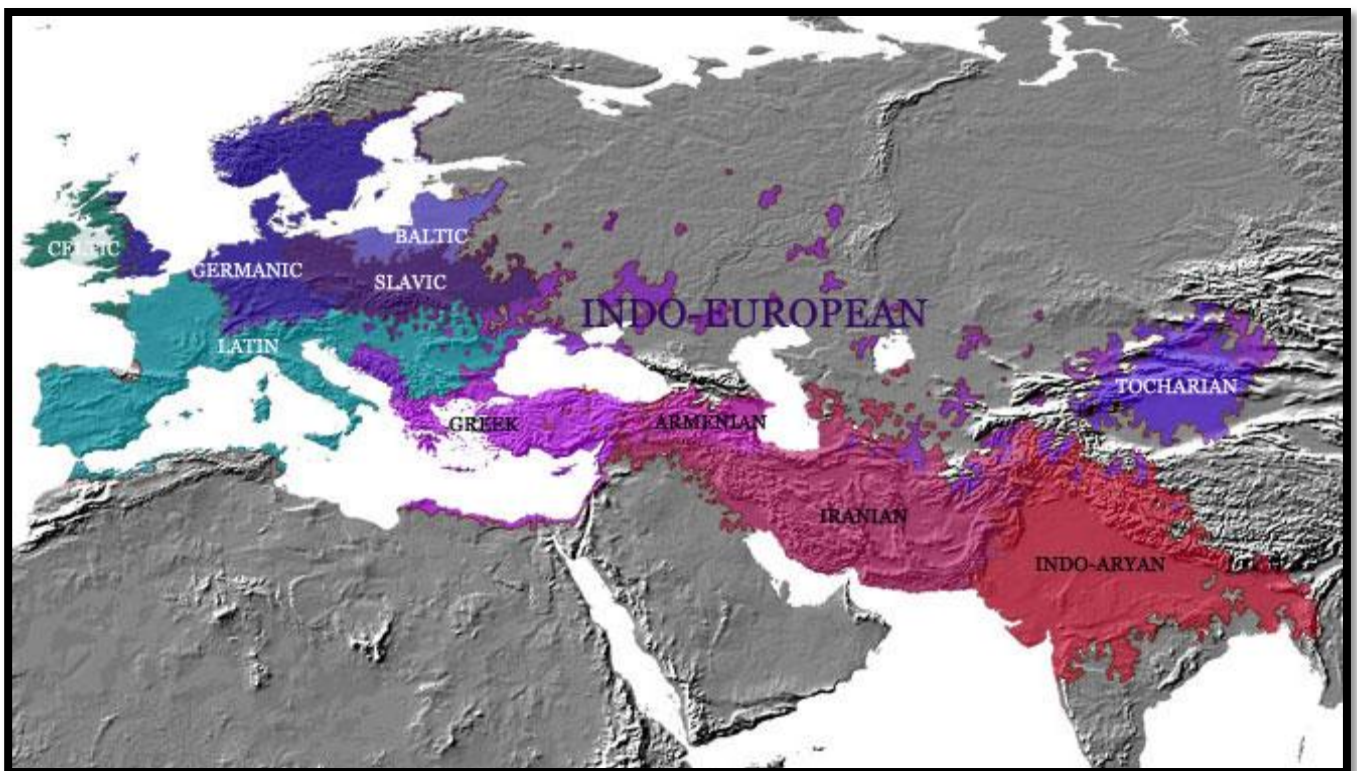


Figure 4. Indo-European dialects' expansion by 500 A.D., after the fall of the Roman Empire.

1.3. THE THEORY OF THE THREE STAGES

1.3.1. Even some of the first Indo-Europeanists had noted in their works the possibility of older origins for the reconstructed (Late) Proto-Indo-European, although they didn't dare to describe those possible older stages of the language.

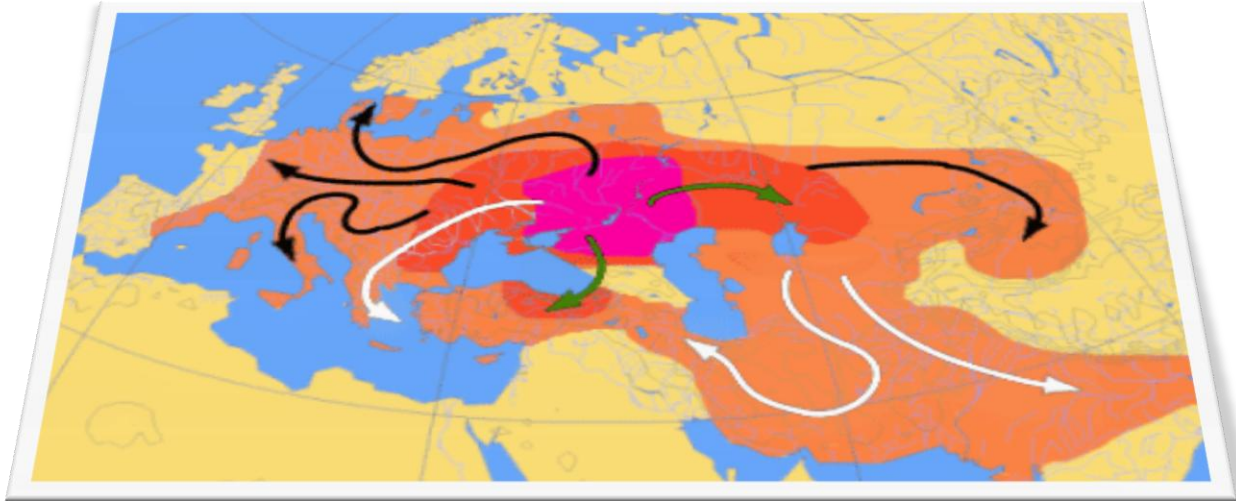


Figure 5. Sample Map of the expansion of Indo-European dialects 4.000-1.000 B.C., according to the Kurgan and Three-Stage hypothesis. Between the Black Sea and the Caspian Sea, the original Yamna culture. In colored areas, expansion of PIE speakers and Proto-Anatolian. After 2.000 BC, black lines indicate the spread of northern IE dialects, while the white ones show the southern or Graeco-Aryan expansion.

1.3.2. Today, a widespread Three-Stage Theory depicts the Proto-Indo-European language evolution into three main historic layers or stages:

1) Indo-European I or **IE I**, also called *Early PIE*, is the hypothetical ancestor of IE II, and probably the oldest stage of the language that comparative linguistics could help reconstruct. There is, however, no common position as to how it was like or where it was spoken.

2) The second stage corresponds to a time before the separation of Proto-Anatolian from the common linguistic community where it coexisted with Pre-IE III. That stage of the language is called Indo-European II or **IE II**, or *Middle PIE*, for some *Indo-Hittite*. This is identified with the early Kurgan cultures in the Kurgan Hypothesis' framework. It is assumed by all Indo-European scholars that Anatolian is the earliest dialect to have separated from PIE, due to its peculiar archaisms, and shows therefore a situation different from that looked for in this Grammar.

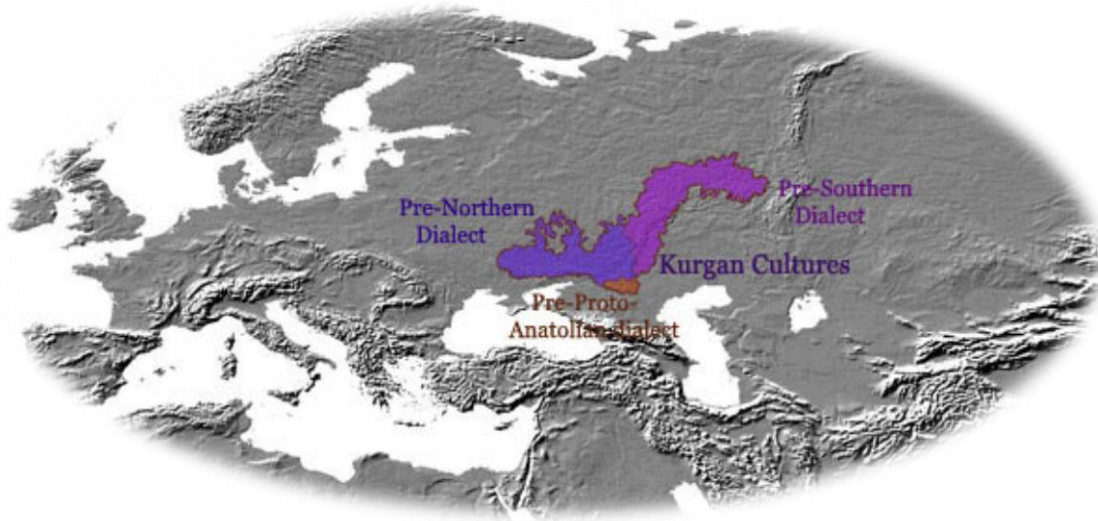


Figure 6. Early Kurgan cultures in ca. 4.000 B.C., showing hypothetical territory where IE II proto-dialects (i.e. pre-IE III and pre-Proto-Anatolian) could have developed.

3) The common immediate ancestor of the early IE proto-languages –more or less the same static PIE searched for since the start of Indo-European studies – is usually called *Late PIE*, also *Indo-European III* or **IE III**, or simply *Proto-Indo-European*. Its prehistoric community of speakers is generally identified with the Yamna or Pit Grave culture (cf. Ukr. *яма*, “pit”), in the Pontic Steppe. Proto-Anatolian speakers are arguably identified with the Maykop cultural community.

NOTE. The development of this theory of three linguistic stages can be traced back to the very origins of Indo-European studies, firstly as a diffused idea of a non-static language, and later widely accepted as a dynamic dialectal evolution, already in the 20th century, after the discovery of the Anatolian scripts.

1.3.3. Another division has to be made, so that the dialectal evolution is properly understood. Late PIE had at least two main dialects, the *Northern* (or IE IIIb) and the *Southern* (or IE IIIa) one. Terms like *Northwestern* or *European* can be found in academic writings referring to the Northern Dialect, but we will use them here to name only the northern dialects of Europe, thus generally excluding Tocharian.

Also, *Graeco-Aryan* is used to refer to the Southern Dialect of PIE. Indo-Iranian is used in this grammar to describe the southern dialectal grouping formed by Indo-Aryan, Iranian and Nuristani dialects, and not – as it is in other texts – to name the southern dialects of Asia as a whole. Thus, unclassified IE dialects like *Cimmerian*, *Scythian* or *Sarmatian* (usually deemed just Iranian dialects) are in this grammar simply some of many southern dialects spoken in Asia in Ancient times.

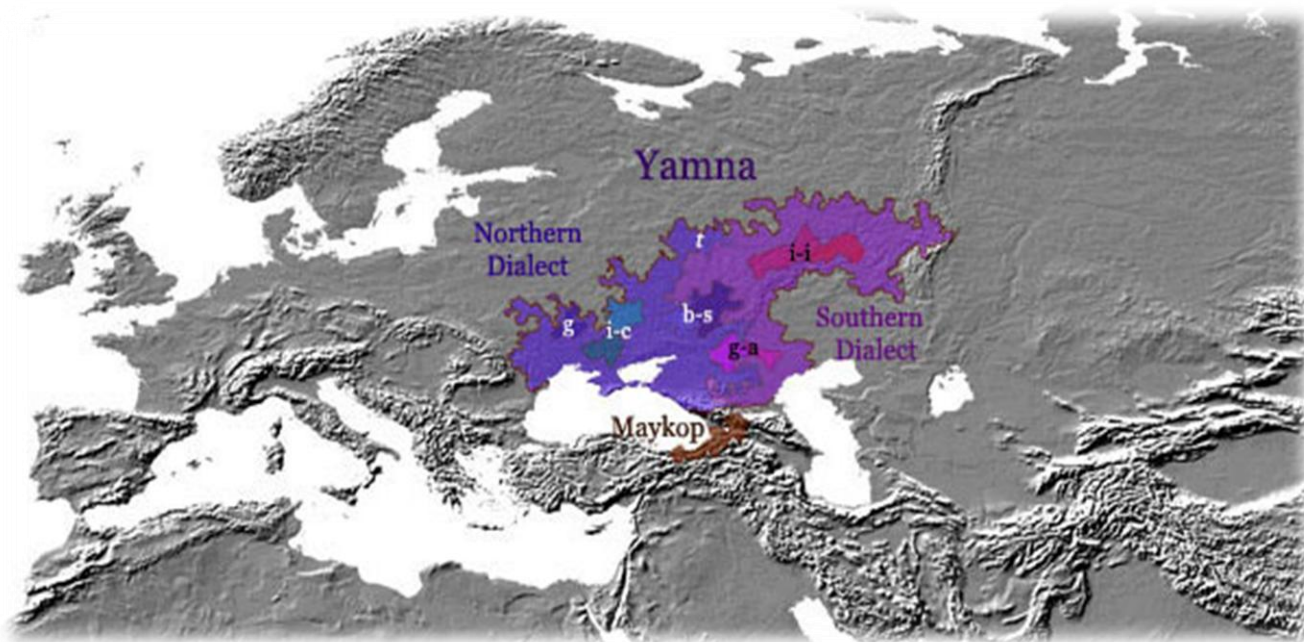


Figure 7. Yamna culture ca. 3000 B.C., probably the time when still a single Proto-Indo-European language was spoken. In two different colors, hypothetical locations of later Northern and Southern Dialects. Other hypothetical groupings are depicted according to their later linguistic and geographical development, i.e. **g**:Germanic, **i-c**:Italo-Celtic, **b-s**:Balto-Slavic, **t**:Tocharian, **g-a**:Graeco-Armenian, **i-i**:Indo-Iranian, among other death and unattested dialects which coexisted necessarily with them.

1.3.4. As far as we know, while speakers of southern dialects (like Proto-Greek, Proto-Indo-Iranian and probably Proto-Armenian) spread in different directions, some speakers of northern dialects remained still in loose contact in Europe, while others (like *Proto-Tocharians*) spread in Asia. Those northern Indo-European dialects of Europe were early Germanic, Celtic, Italic, and probably Balto-Slavic (usually considered transitional with IE IIIa) proto-dialects, as well as other not so well-known dialects like *Proto-Lusitanian*, *Proto-Sicel*, *Proto-Thracian* (maybe *Proto-Daco-Thracian*, for some within a wider *Proto-Graeco-Thracian* group), *pre-Proto-Albanian* (maybe *Proto-Illyrian*), etc.

NOTE. Languages like Venetic, Liburnian, Phrygian, Thracian, Macedonian, Illyrian, Messapic, Lusitanian, etc. are usually called '*fragmentary languages*' (sometimes also '*ruinous languages*'), as they are languages we have only fragments from.

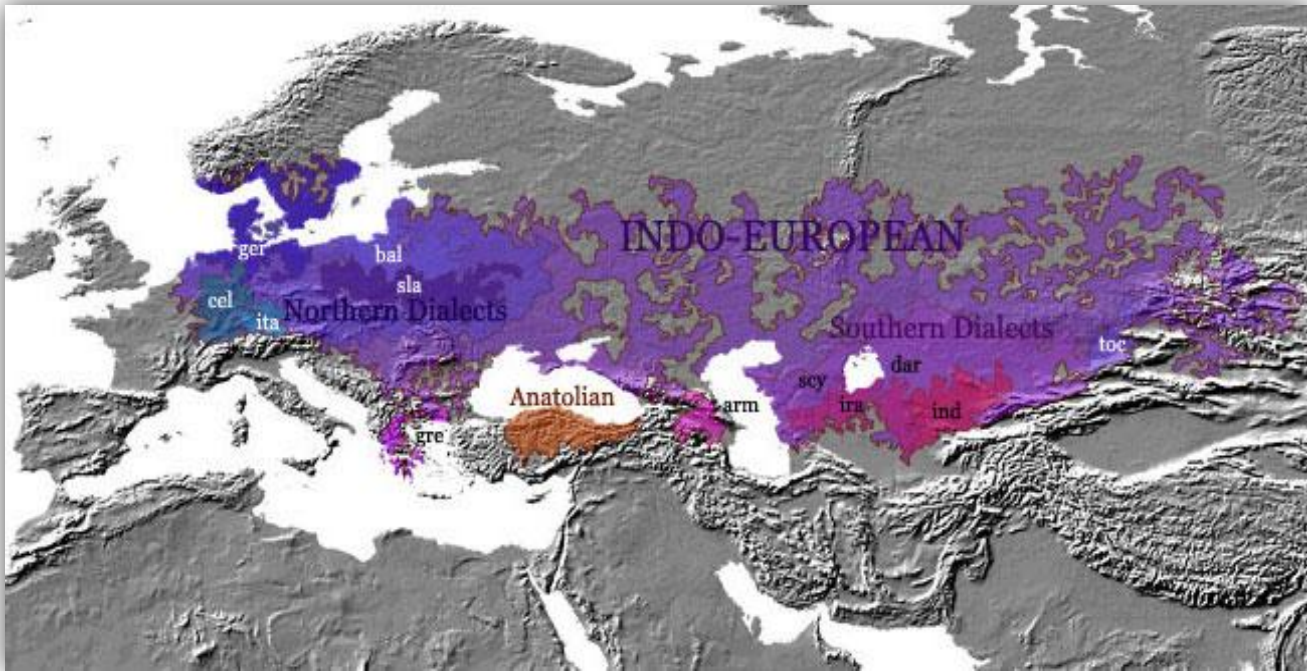


Figure 8. Spread of Late Proto-Indo-European ca. 2000 B.C. At that time, only the European northern dialects remained in contact, allowing the spread of linguistic developments, while the others evolved more or less independently. Anatolian dialects as Hittite and Luwian attested since 1900 B.C., and Proto-Greek Mycenaean dialect attested in 16th century B.C.

Other Indo-European dialects attested in Europe which remain unclassified are Paleo-Balkan languages like Thracian, Dacian, Illyrian (some group them into *Graeco-Thracian*, *Daco-Thracian* or *Thracio-Illyrian*), Paionian, Venetic, Messapian, Liburnian, Phrygian and maybe also Ancient Macedonian and Ligurian.

The European dialects have some common features, as a general reduction of the 8-case paradigm into a five- or six-case noun inflection system, the *-r* endings of the middle voice, as well as the lack of satemization. The southern dialects, in turn, show a generalized Augment in *é-*, a general Aorist formation and an 8-case system (also apparently in Proto-Greek).

NOTE. Balto-Slavic (and, to some extent, Italic) dialects, either because of their original situation within the PIE dialectal territories, or because they remained in contact with Southern Indo-European dialects after the first PIE split (e.g. through the Scythian or Iranian expansions) present features usually identified with Indo-Iranian, as an 8-case noun declension and phonetic satemization, and at the same time morphological features common to Germanic and Celtic dialects, as the verbal system.

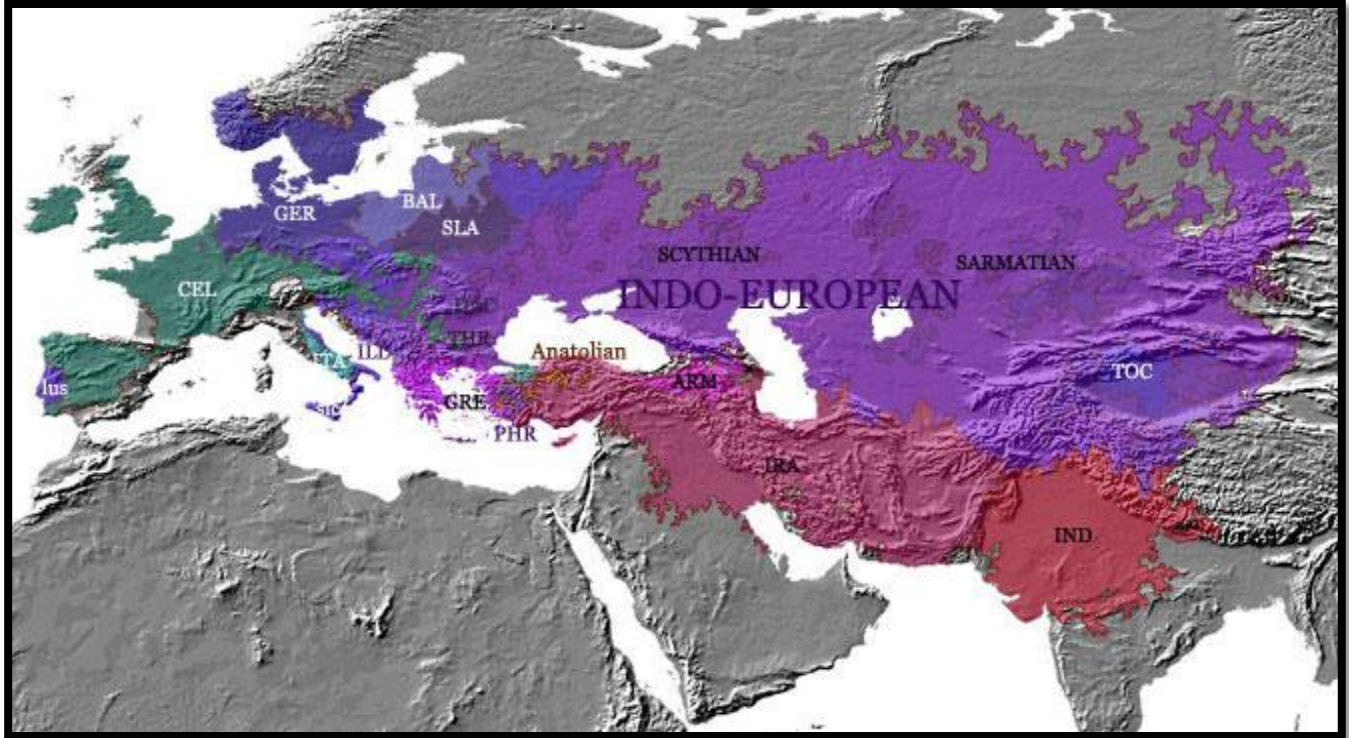


Figure 9. Eurasia ca. 500 B.C. The spread of Scythians allow renewed linguistic contact between Indo-Iranian and Slavic languages, whilst Armenian- and Greek-speaking communities are again in close contact with southern IE dialects, due to the Persian expansion. Italo-Celtic speakers spread and drive other northern dialects (as Lusitanian or Sicul) further south. Later Anatolian dialects, as Lycian, Lydian and Carian, are still spoken.

NOTE. The term *Indo-European* itself now current in English literature, was coined in 1813 by the British scholar Sir Thomas Young, although at that time, there was no consensus as to the naming of the recently discovered language family. Among the names suggested were *indo-germanique* (C. Malte-Brun, 1810), *Indoeuropean* (Th. Young, 1813), *japetisk* (Rasmus C. Rask, 1815), *indisch-teutsch* (F. Schmitthenner, 1826), *sanskritisch* (Wilhelm von Humboldt, 1827), *indokeltisch* (A. F. Pott, 1840), *arioeuropeo* (G. I. Ascoli, 1854), *Aryan* (F. M. Müller, 1861), *aryaque* (H. Chavée, 1867).

In English, *Indo-German* was used by J. C. Prichard in 1826 although he preferred *Indo-European*. In French, use of *indo-européen* was established by A. Pictet (1836). In German literature, *Indo-Europäisch* was used by Franz Bopp since 1835, while the term *Indo-Germanisch* had already been introduced by Julius von Klapproth in 1823, intending to include the northernmost and the southernmost of the family's branches, as it were as an abbreviation of the full listing of involved languages that had been common in earlier literature, opening the doors to ensuing fruitless discussions whether it should not be *Indo-Celtic*, or even *Tocharo-Celtic*.

1.4. THE PROTO-INDO-EUROPEAN *URHEIMAT* OR ‘HOMELAND’

1.4.1. The search for the *Urheimat* or ‘Homeland’ of the prehistoric community who spoke Early Proto-Indo-European has developed as an archaeological quest along with the linguistic research looking for the reconstruction of that proto-language.

1.4.2. The **Kurgan hypothesis** was introduced by Marija Gimbutas in 1956 in order to combine archaeology with linguistics in locating the origins of the Proto-Indo-Europeans. She named the set of cultures in question “Kurgan” after their distinctive burial mounds and traced their diffusion into Europe. According to her hypothesis (1970: “*Proto-Indoeuropean culture: the Kurgan culture during the 5th to the 3rd Millennium*



Figure 10. Photo of a Kurgan from the *Archaeology Magazine*.

B.C.”, *Indo-European and Indo-Europeans*, Philadelphia, 155-198), PIE speakers were probably located in the Pontic Steppe. This location combines the expansion of the Northern and Southern dialects, whilst agreeing at the same time with the four successive stages of the Kurgan cultures.

1.4.3. Gimbutas' original suggestion identifies four successive stages of the Kurgan culture and three successive “waves” of expansion.

1. **Kurgan I**, Dnieper/Volga region, earlier half of the 4th millennium BC. Apparently evolving from cultures of the Volga basin, subgroups include the Samara and Seroglazovo cultures.

2. **Kurgan II–III**, latter half of the 4th millennium BC. Includes the Sredny Stog culture and the Maykop culture of the northern Caucasus. Stone circles, early two-wheeled chariots, anthropomorphic stone stelae of deities.

3. **Kurgan IV** or Pit Grave culture, first half of the 3rd millennium BC, encompassing the entire steppe region from the Ural to Romania.

➤ **Wave 1**, predating Kurgan I, expansion from the lower Volga to the Dnieper, leading to coexistence of Kurgan I and the Cucuteni culture. Repercussions of the migrations extend as far as the Balkans and along the Danube to the Vinča and Lengyel cultures in Hungary.

➤ **Wave 2**, mid 4th millennium BC, originating in the Maykop culture and resulting in advances of “**kurganized**” hybrid cultures into northern Europe around 3000 BC – Globular Amphora culture, Baden culture, and ultimately Corded Ware culture. In the belief of Gimbutas, this corresponds to the first intrusion of IE dialects into western and northern Europe.

➤ **Wave 3**, 3000–2800 BC, expansion of the Pit Grave culture beyond the steppes, with the appearance of the characteristic pit graves as far as the areas of modern Romania, Bulgaria and eastern Hungary.

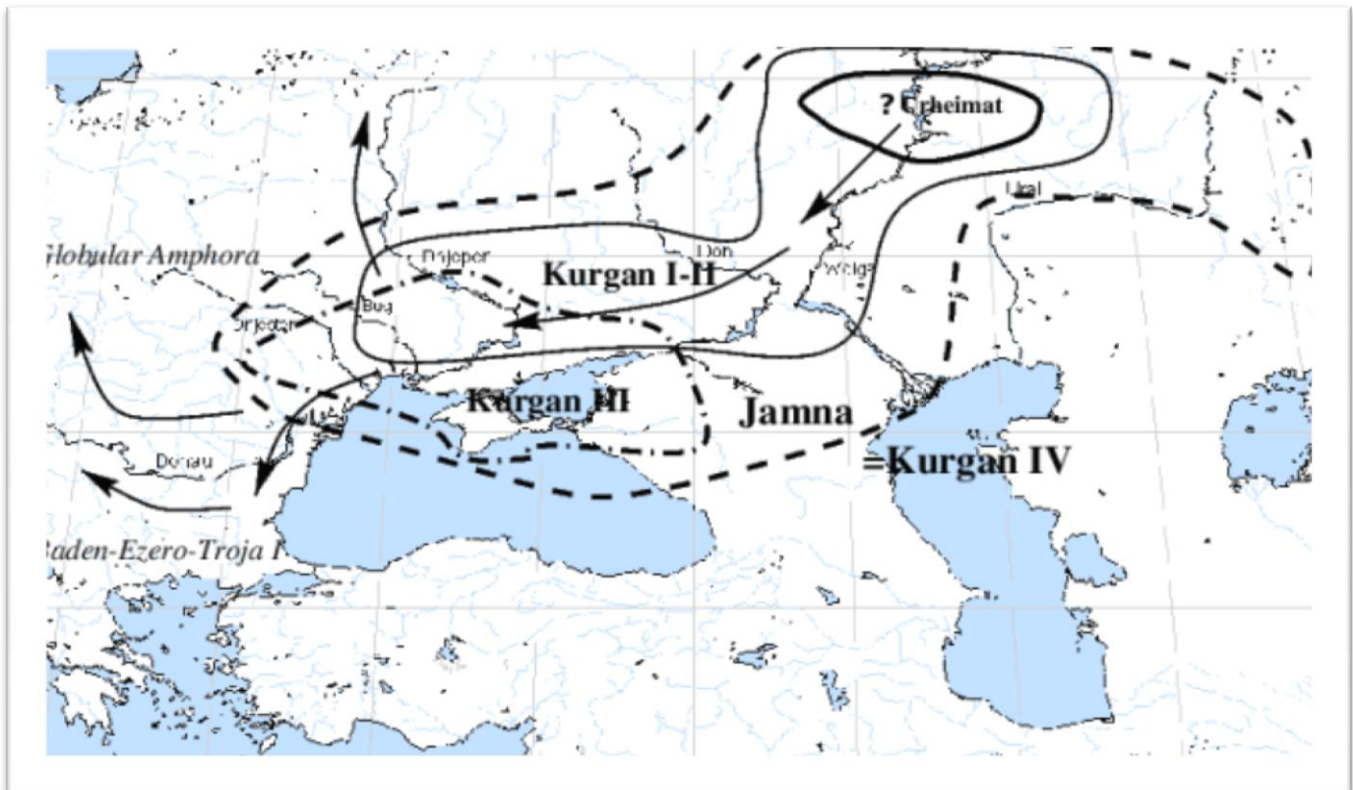


Figure 11. Hypothetical Homeland or Urheimat of the first PIE speakers, from 4,500 BC onwards. The Yamnaya or Jamna (Pit Grave) culture lasted from ca. 3,600 till 2,200. In this time the first wagons appeared. People were buried with their legs flexed, a position which remained typical for the Indo-Europeans for a long time. The burials were covered with a mound, a kurgan. During this period, from 3,600 till 3,000 IE II split up into IE III and Anatolian. From ca. 3,000 B.C on, IE III dialects began to differentiate and spread by 2,500 west- and southward (European Dialects, Armenian) and eastward (Indo-Iranian, Tocharian). By 2,000 the dialectal breach is complete.

1.4.3. The European or northwestern dialects, i.e. Celtic, Germanic, Italic, Baltic and Slavic, have developed together in the European Subcontinent but, because of the different migrations and settlements, they have undergone independent linguistic changes. Their original common location is usually traced back to some place to the East of the Rhine, to the North of the Alps and the Carpathian Mountains, to the South of Scandinavia and to the East of the Eastern European Lowlands or Russian Plain, not beyond Moscow.

This linguistic theory is usually mixed with archaeological findings:

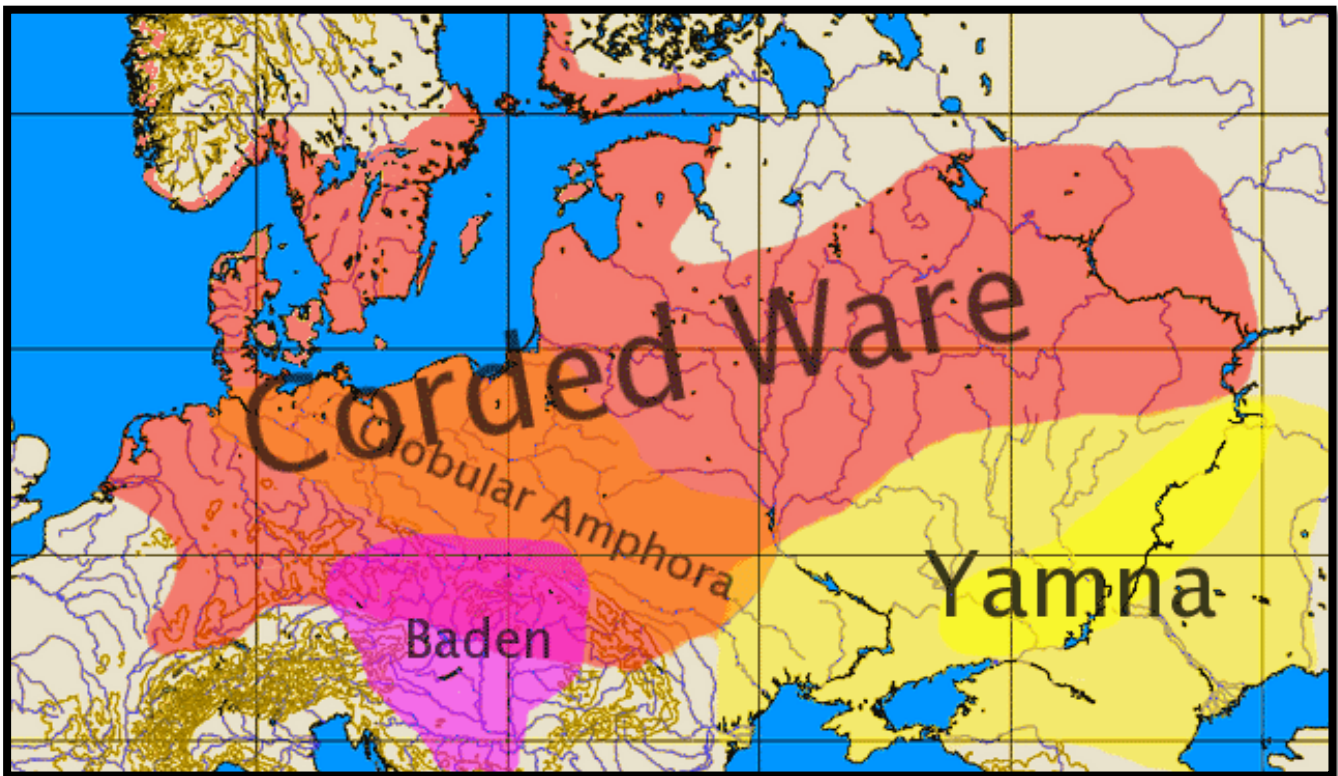


Figure 15. ca 2.000 B.C. The Corded Ware complex of cultures traditionally represents for many scholars the arrival of the first speakers of Northern Dialects in central Europe, coming from the Yamna culture. The complex dates from about 3.000-2.000. The Globular Amphorae culture may be slightly earlier, but the relation between these two cultures is unclear. Denmark and southern Scandinavia are supposed to have been the Germanic homeland, while present-day West Germany would have been the Celtic (and possibly Italic) homeland; the east zone, then, corresponds to the Balto-Slavic homeland. Their proto-languages certainly developed closely (if they weren't the same) until 2.000 B.C.

Kurgan Hypothesis & Proto-Indo-European reconstruction

ARCHAEOLOGY (Kurgan Hypothesis)	LINGUISTICS (Three-Stage Theory)
ca. 4500-4000. Sredny Stog, Dnieper-Donets and Sarama cultures, domestication of the horse.	Early PIE is spoken, probably somewhere in the Pontic-Caspian Steppe.
ca. 4000-3500. The Yamna culture, the kurgan builders, emerges in the steppe, and the Maykop culture in northern Caucasus.	Middle PIE or IE II split up in two different communities, the Proto-Anatolian and the Pre-IE III.
ca. 3500-3000. The Yamna culture is at its peak, with stone idols, two-wheeled proto-chariots, animal husbandry, permanent settlements and hillforts, subsisting on agriculture and fishing, along rivers. Contact of the Yamna culture with late Neolithic Europe cultures results in kurganized Globular Amphora and Baden cultures. The Maykop culture shows the earliest evidence of the beginning Bronze Age, and bronze weapons and artifacts are introduced.	Late Proto-Indo-European or IE III and Proto-Anatolian evolve in different communities. Anatolian is isolated south of the Caucasus, and have no more contacts with the linguistic innovations of IE III.
3000-2500. The Yamna culture extends over the entire Pontic steppe. The Corded Ware culture extends from the Rhine to the Volga, corresponding to the latest phase of Indo-European unity. Different cultures disintegrate, still in loose contact, enabling the spread of technology.	IE III disintegrates into various dialects corresponding to different cultures, at least a Southern and a Northern one. They remain still in contact, enabling the spread of phonetic (like the Satem isogloss) and morphological innovations, as well as early loan words.
2500-2000. The Bronze Age reaches Central Europe with the Beaker culture of Northern Indo-Europeans. Indo-Iranians settle north of the Caspian in the Sintashta-Petrovka and later the Andronovo culture.	The breakup of the southern IE dialects is complete. Proto-Greek spoken in the Balkans and a distinct Proto-Indo-Iranian dialect. Some northern dialects develop in Northern Europe, still in loose contact.
2000-1500. The chariot is invented, leading to the split and rapid spread of Iranians and other peoples from the Andronovo culture and the Bactria-Margiana Complex over much of Central Asia, Northern India, Iran and Eastern Anatolia. Greek Darg Ages and flourishing of the Hittite Empire. Pre-Celtics Unetice culture has an active metal industry.	Indo-Iranian splits up in two main dialects, Indo-Aryan and Iranian. European proto-dialects like Germanic, Celtic, Italic, Baltic and Slavic differentiate from each other. A Proto-Greek dialect, Mycenaean, is already written in Linear B script. Anatolian languages like Hittite and Luwian are also written.
1500-1000. The Nordic Bronze Age sees the rise of the Germanic Urnfield and the Celtic Hallstatt cultures in Central Europe, introducing the Iron Age. Italic peoples move to the Italian Peninsula. Rigveda is composed. The Hittite Kingdoms and the Mycenaean civilization decline.	Germanic, Celtic, Italic, Baltic and Slavic are already different proto-languages , developing in turn different dialects. Iranian and other related southern dialects expand through military conquest, and Indo-Aryan spreads in the form of its sacred language, Sanskrit.
1000-500. Northern Europe enters the Pre-Roman Iron Age. Early Indo-European Kingdoms and Empires in Eurasia. In Europe, Classical Antiquity begins with the flourishing of the Greek peoples. Foundation of Rome.	Celtic dialects spread over Europe. Osco-Umbrian and Latin-Faliscan attested in the Italian Peninsula. Greek and Old Italic alphabets appear. Late Anatolian dialects. Cimmerian, Scythian and Sarmatian in Asia, Paleo-Balkan languages in the Balkans.

1.5. OTHER LINGUISTIC AND ARCHAEOLOGICAL THEORIES

1.5.1. A common development of new theories about Indo-European has been to revise the Three-Stage assumption. It is actually not something new, but only the come back to more traditional views, by reinterpreting the new findings of the Hittite scripts, trying to insert the Anatolian features into the old, static PIE concept.

1.5.2. The most known new alternative theory concerning PIE is the **Glottalic theory**. It assumes that Proto-Indo-European was pronounced more or less like Armenian, i.e. instead of PIE **p, b, bh**, the pronunciation would have been ***p', *p, *b**, and the same with the other two voiceless-voiced-voiced aspirated series of consonants. The Indo-European *Urheimat* would have been then located in the surroundings of Anatolia, especially near Lake Urmia, in northern Iran, near present-day Armenia and Azerbaijan, hence the archaism of Anatolian dialects and the glottalics still found in Armenian.

NOTE. Such linguistic findings are supported by Th. Gamkredlize-V. Ivanov (1990: "*The early history of Indo-European languages*", *Scientiphic American*, where early Indo-European vocabulary deemed "of southern regions" is examined, and similarities with Semitic and Kartvelian languages are also brought to light. Also, the mainly archaeological findings of Colin Renfrew (1989: *The puzzle of Indoeuropean origins*, Cambridge-New York), supported by the archaism of Anatolian dialects, may indicate a possible origin of Early PIE speakers in Anatolia, which, after Renfrew's model, would have then migrated into southern Europe.

1.5.3. Other alternative theories concerning Proto-Indo-European are as follows:

I. The **European Homeland thesis** maintains that the common origin of the Indo-European languages lies in Europe. These thesis have usually a nationalistic flavour, more or less driven by Archeological or Linguistic theories.

NOTE. It has been traditionally located in 1) **Lithuania** and the surrounding areas, by R.G. Latham (1851) and Th. Poesche (1878: *Die Arier. Ein Beitrag zur historischen Anthropologie*, Jena); 2) **Scandinavia**, by K.Penka (1883: *Origines ariacae*, Viena); 3) **Central Europe**, by G. Kossinna (1902: "*Die Indogermanische Frage archäologisch beantwortet*", *Zeitschrift für Ethnologie*, 34, pp. 161-222), P.Giles (1922: *The Aryans*, New York), and by linguist/archaeologist G. Childe (1926: *The Aryans. A Study of Indo-European Origins*, London).

a. The *Old European* or **Alteuropäisch Theory** compares some old European vocabulary (especially river names), which would be older than the spread of Late PIE through Europe. It points out the possibility of an older, pre-IE III spread of IE, either of IE II or I or maybe their ancestor.

b. This is, in turn, related with the theories of a **Neolithic revolution** causing the peacefully spreading of an older Indo-European language into Europe from Asia Minor from around 7000 BC, with the advance of farming. Accordingly, more or less all of Neolithic Europe would have been Indo-European speaking, and the Northern IE III Dialects would have replaced older IE dialects, from IE II or Early Proto-Indo-European.

c. There is also a *Paleolithic Continuity Theory*, which derives Proto-Indo-European from the European Paleolithic cultures, with some research papers available online at the researchers' website, <http://www.continuitas.com/> .

NOTE. Such Paleolithic Continuity could in turn be connected with Frederik Kortlandt's Indo-Uralic and Altaic studies (<http://kortlandt.nl/publications/>) – although they could also be inserted in Gimbutas' early framework.

II. Another hypothesis, contrary to the European ones, also mainly driven today by a nationalistic view, traces back the origin of PIE to Vedic Sanskrit, postulating that it is very *pure*, and that the origin can thus be traced back to the Indus valley civilization of ca. 3000 BC.

NOTE. Such Pan-Sanskritism was common among early Indo-Europeanists, as Schlegel, Young, A. Pictet (1877: *Les origines indoeuropéens*, Paris) or Schmidt (who preferred Babylonia), but are now mainly supported by those who consider Sanskrit almost equal to Late Proto-Indo-European. For more on this, see S. Misra (1992: *The Aryan Problem: A Linguistic Approach*, Delhi), Elst's *Update on the Aryan Invasion Debate* (1999), followed up by S.G. Talageri's *The Rigveda: A Historical Analysis* (2000), both part of "Indigenous Indo-Aryan" viewpoint by N. Kazanas, the so-called "Out of India" theory, with a framework dating back to the times of the Indus Valley Civilization, deeming PIE simply a hypothesis (<http://www.omilosmeleton.gr/english/documents/SPIE.pdf>).

III. Finally, the Black Sea deluge theory dates the origins of the IE dialects expansion in the genesis of the Sea of Azov, ca. 5600 BC, which in turn would be related to the Bible Noah's flood, as it would have remained in oral tales until its writing down in the Hebrew *Tanakh*. This date is generally considered as rather early for the PIE spread.

NOTE. W.Ryan and W.Pitman published evidence that a massive flood through the Bosphorus occurred about 5600 BC, when the rising Mediterranean spilled over a rocky sill at the Bosphorus. The event flooded 155,000 km² of land and significantly expanded the Black Sea shoreline to the north and west. This has been connected with the fact that some Early Modern scholars based on Genesis 10:5 have assumed that the 'Japhetite' languages (instead of the 'Semitic' ones) are rather the direct descendants of the Adamic language, having separated before the confusion of tongues, by which also Hebrew was affected. That was claimed by *Blessed Anne Catherine Emmerich* (18th c.), who stated in her private revelations that most direct descendants of the *Adamic language* were Bactrian, Zend and Indian languages, related to her Low German dialect. It is claimed that Emmerich identified this way *Adamic language* as Early PIE.

1.6. RELATIONSHIP TO OTHER LANGUAGES

1.6.1. Many higher-level relationships between PIE and other language families have been proposed. But these speculative connections are highly controversial. Perhaps the most widely accepted proposal is of an Indo-Uralic family, encompassing PIE and Proto-Uralic. The evidence usually cited in favor of this is the proximity of the proposed Urheimaten of the two proto-languages, the typological similarity between the two languages, and a number of apparent shared morphemes.

NOTE. Other proposals, further back in time (and correspondingly less accepted), model PIE as a branch of Indo-Uralic with a Caucasian substratum; link PIE and Uralic with Altaic and certain other families in Asia, such as Korean, Japanese, Chukotko-Kamchatkan and Eskimo-Aleut (representative proposals are Nostratic and Joseph Greenberg's Eurasiatic); or link some or all of these to Afro-Asiatic, Dravidian, etc., and ultimately to a single Proto-World family (nowadays mostly associated with Merritt Ruhlen). Various proposals, with varying levels of skepticism, also exist that join some subset of the putative Eurasiatic language families and/or some of the Caucasian language families, such as Uralo-Siberian, Ural-Altaic (once widely accepted but now largely discredited), Proto-Pontic, and so on.

1.6.2. **Indo-Uralic** is a hypothetical language family consisting of Indo-European and Uralic (i.e. Finno-Ugric and Samoyedic). Most linguists still consider this theory speculative and its evidence insufficient to conclusively prove genetic affiliation.

1.6.3. Dutch linguist Frederik Kortlandt supports a model of Indo-Uralic in which the original Indo-Uralic speakers lived north of the Caspian Sea, and the Proto-Indo-European speakers began as a group that branched off westward from there to come into geographic proximity with the Northwest Caucasian languages, absorbing a Northwest Caucasian lexical blending before moving farther westward to a region north of the Black Sea where their language settled into canonical Proto-Indo-European.

1.6.4. The most common arguments in favour of a relationship between Indo-European and Uralic are based on seemingly common elements of morphology, such as the pronominal roots (**m-* for first person; **t-* for second person; **i-* for third person), case markings (accusative **-m*; ablative/partitive **-ta*), interrogative/relative pronouns (**kw-* 'who?, which?'; **j-* 'who, which' to signal relative clauses) and a common SOV word order. Other, less obvious correspondences are suggested, such as the Indo-European plural marker **-es* (or **-s* in the accusative plural **-m̥-s*) and its Uralic counterpart **-t*. This same word-final assibilation of **-t* to **-s* may also be present in Indo-European second-person singular **-s* in comparison with Uralic second-person singular **-t*. Compare, within Indo-European itself, **-s* second-person singular injunctive, **-si* second-person singular present indicative, **-tHa* second-person singular perfect, **-te* second-person plural present indicative, **tu* 'you' (singular) nominative, **tei* 'to you' (singular) enclitic pronoun. These forms suggest that the underlying second-person marker in Indo-European may be **t* and that the **u* found in forms such as **tu* was originally an affixal particle.

A second type of evidence advanced in favor of an Indo-Uralic family is lexical. Numerous words in Indo-European and Uralic resemble each other. The problem is to weed out words due to borrowing. Uralic languages have been in contact with a succession of Indo-European languages for millenia. As a result, many words have been borrowed between them, most often from Indo-European languages into Uralic ones.

Proto-Indo-European and Proto-Uralic side by side

Meaning	Proto-Indo-European	Proto-Uralic
<i>I, me</i>	* me 'me' [acc], * mene 'my' [gen]	* <i>mVnV 'I'</i>
<i>you</i> (sg)	* tu [nom], * twe [obj], * tewe 'your' [gen]	* <i>tun</i>
[demonstrative]	* so 'this, he/she' [animate nom]	* <i>ša</i> [3ps]
<i>who?</i> [animate interrogative pronoun]	* k^wi- 'who?, what?' * k^wo- 'who?, what?'	* <i>ken</i> 'who?' * <i>ku-</i> 'who?'
[relative pronoun]	* jo-	* <i>-ja</i> [nomen agentis]
[definite accusative]	* -m	* <i>-m</i>
[ablative/partitive]	* -od	* <i>-ta</i>
[dual]	* -h₁	* <i>-k</i>
[Nom./Acc. plural]	* -es [nom.pl], * -m̥-s [acc.pl]	* <i>-k</i>
[Obl. plural]	* -i [pronominal plural] (as in * we-i- 'we', * to-i- 'those')	* <i>-i</i>
[1ps]	* -m [1ps active]	* <i>-m</i>
[2ps]	* -s [2ps active]	* <i>-t</i>
[stative]	* -s- [aorist], * -es- [stative substantive], * -t [stative substantive]	* <i>-ta</i>
[negative]	* nei * ne	* <i>ei-</i> [negative verb]
<i>to give</i>	* deh₃-	* <i>toHi-</i>
<i>to moisten,</i> <i>water</i>	* wed- 'to wet', * wód_ḡ 'water'	* <i>weti</i> 'water'
<i>to assign,</i> <i>name</i>	nem- 'to assign, to allot', * h₁nom_ḡ 'name'	* <i>nimi</i> 'name'

1.7. INDO-EUROPEAN DIALECTS OF EUROPE

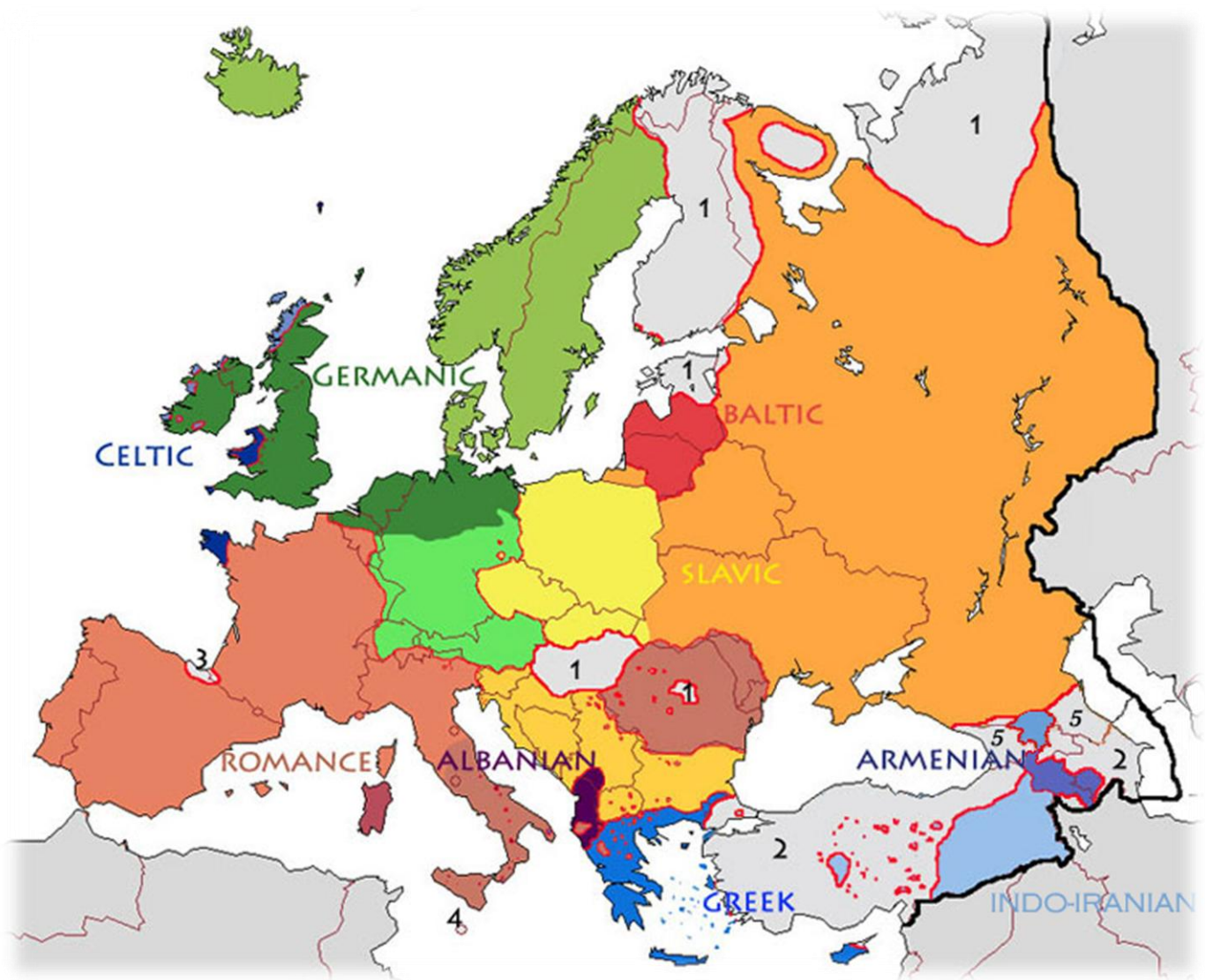


Figure 16. European languages. The **black line** divides the zones traditionally (or politically) considered inside the European subcontinent. Northern dialects are all but Greek and Kurdish (Iranian); Armenian is usually considered a Graeco-Aryan dialect, while Albanian is usually classified as a Northern one. Numbered inside the map, non-Indo-European languages: 1) Uralic languages; 2) Turkic languages; 3) Basque; 4) Maltese; 5) Caucasian languages.

SCHLEICHER'S FABLE: FROM PROTO-INDO-EUROPEAN TO MODERN ENGLISH

« *The Sheep and the Horses. A sheep that had no wool saw horses, one pulling a heavy wagon, one carrying a big load, and one carrying a man quickly. The sheep said to the horses: "My heart pains me, seeing a man driving horses". The horses said: "Listen, sheep, our hearts pain us when we see this: a man, the master, makes the wool of the sheep into a warm garment for himself. And the sheep has no wool". Having heard this, the sheep fled into the plain.* »

IE III, ca. 3000 BC: H₃ou̯is h₁ék̥uo(s)es-qe. H₃ou̯is, k^wes̥jo ul̥Hneh₂ ne h₁est, h₁ék̥uoms spekét, h₁óinom g^w̥h₃um wóghom wég^hontm̥, h₁óinom-k^we mégeh₂m b^hórom, h₁óinom-k^we d^hHgh^mónm̥ h₁oh₁ku b^hérontm̥. H₃owis nu h₁ék̥uob^hios u̯euk^wét: kerd h₂ég^hnutoi h₁moí h₁ék̥uoms h₂égontm̥ wiHrom wídnt̥ei. H₁ék̥uo(s)es tu u̯euk^wónt: Klúd^hi, h₃ówi! kerd h₂ég^hnutoi nsméi wídntb^hios: H₂ner, pótis, h₃ou̯iom-r̥ ul̥Hneh₂m̥ su̯ébhⁱ g^whermóm u̯éstrom k^wrneúti. Neg^hi h₃ou̯iom ul̥Hneh₂ h₁ésti. Tod kékluuos h₃ou̯is h₂égrom b^hugét.

IE IIIb, ca. 2.000 BC (as MIE, with Latin script): Ówis ékwōs-qe. Ówis, qésio w̥ñā ne est, ékwoms spekét, óinom (ghe) crum wóghom wég^hontm̥, óinom-qe mégām bhórom, óinom-qe dhghmónm̥ óku bhérontm̥. Ówis nu ékwobh(i)os wewqét: krd ághnutoi moí, ékwoms ágontm̥ wírom wídnt̥ei. Ékwōs tu wewqónt: Klúd^hi, ówi! krd ághnutoi nsméi wídntbh(i)os: anér, pótis, ówjom-r w̥ñām sébhi chermóm wéstrom qrnéuti. Ówjom-qe w̥ñā ne ésti. Tod kékluwos ówis ágrom bhugét.

IE IIIa, ca. 1.500 BC (Proto-Indo-Iranian dialect): Avis ak'vasas-ka. Avis, jasmin varnā na āst, dadark'a ak'vas, tam, garum vāgham vaghantam, tam, magham bhāram, tam manum āku bharantam. Avis ak'vabhjas avavakat; k'ard aghnutai mai vidanti manum ak'vas ag'antam. Ak'vāsas avavakant: k'rudhi avai, kard aghnutai vividvant-svas: manus patis varnām avisāns karnauti svabhjam gharmam vastram avibhjas-ka varnā na asti. Tat k'uk'ruvants avis ag'ram abhugat.

Proto-Italic, ca. 1.000 BC	Proto-Germanic, ca. 500 BC	Proto-Balto-Slavic, ca. 1 AD
Ouis ekuoi-kue	Awiz ehwaz-uh	Avis asvas(-ke)
ouis, kuesio ulana ne est,	awiz, hwesja wulno ne ist,	avis, kesjo vūlna ne est,
speket ekuos,	spehet ehwanz,	spek'et asvās,
oinum brum uogum ueguntum,	ainan krun wagan wegantun,	inam gūrō vezam vezantū,
oinum-kue megam forum,	ainan-uh mekon boran,	inam(-ke) még'am bóram,
oinum-kue humonum oku ferontum.	ainan-uh gumonun ahu berontun.	inam(-ke) zemenam jasu berantū.
Ouis nu ekuobus uokuet:	Awiz nu ehwamaz weuhet:	Avis nu asvamas vjauket:
kord áhnutor mihi uiduntei,	hert agnutai meke witantei,	sērd aznutē me vēdēti,
ekuos aguntum uirum.	ehwans akantun weran.	asvās azantū viram.
Ekuos uokuont: Kludi, oui!	Ehwaz weuhant: hludi, awi!	Asvas vjaukant: sludi, awi!
kord ahnutor nos uiduntbos:	kert aknutai uns wituntmaz:	sērd aznutē nas vēdūtmas:
ner, potis, ulanam ouium	mannaz, fothiz, wulnon awjan	māg, pat', vūlnam avjam
kurneuti sibi fermum uestrum.	hwurneuti sebi warman wistran.	karnjauti sebi g'armam vastram.
Ouium-kue ulana ne esti.	Awjan-uh wulno ne isti.	Avjam(-ke) vūlna ne esti.
Tod kekluuos ouis agrum fugit	That hehluwaz awiz akran buketh.	Tod sesluvas avis ak'ram buget.

1.7.1. NORTHERN INDO-EUROPEAN DIALECTS

A. GERMANIC

1.2.1. The **Germanic languages** form one of the branches of the Indo-European language family. The largest Germanic languages are English and German, with ca. 340 and some 120 million native speakers, respectively. Other significant languages include a number Low Germanic dialects (like Dutch) and the Scandinavian languages, Danish, Norwegian and Swedish.

Their common ancestor is **Proto-Germanic**, probably still spoken in the mid-1st millennium B.C. in Iron Age Northern Europe, since its separation from the Proto-Indo-European language around 2.000 BC. Germanic, and all its descendants, is characterized by a number of unique linguistic features, most famously the consonant change known as *Grimm's Law*. Early Germanic dialects enter history with the Germanic peoples who settled in northern Europe along the borders of the Roman Empire from the 2nd century.

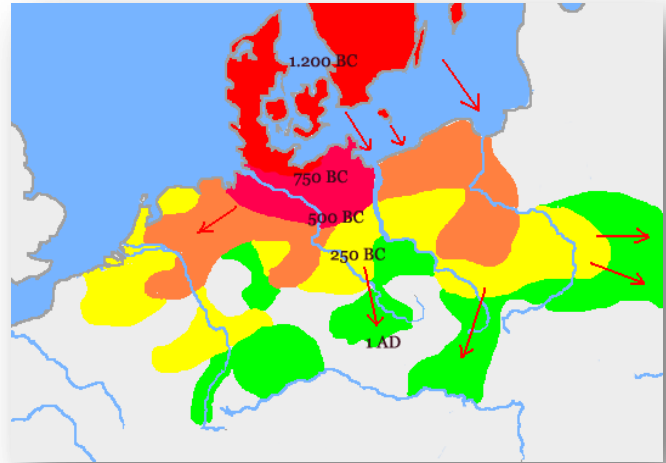


Figure 17. Expansion of Germanic tribes 1.200 B.C. – 1 A.D.

NOTE. **Grimm's law** (also known as the First Germanic Sound Shift) is a set of statements describing the inherited Proto-Indo-European stops as they developed in Proto-Germanic some time in the 1st millennium BC. It establishes a set of regular correspondences between early Germanic stops and fricatives and the stop consonants of certain other Indo-European languages (Grimm used mostly Latin and Greek for illustration). As it is presently formulated, Grimm's Law consists of three parts, which must be thought of as three consecutive phases in the sense of a chain shift:

- a. Proto-Indo-European voiceless stops change into voiceless fricatives.
- b. Proto-Indo-European voiced stops become voiceless.
- c. Proto-Indo-European voiced aspirated stops lose their aspiration and change into plain voiced stops.

The 'sound law' was discovered by Friedrich von Schlegel in 1806 and Rasmus Christian Rask in 1818, and later elaborated (i.e. extended to include standard German) in 1822 by Jacob Grimm in his book *Deutsche Grammatik*.

The earliest evidence of the Germanic branch is recorded from names in the 1st century by Tacitus, and in a single instance in the 2nd century BC, on the *Negau helmet*. From roughly the 2nd century AD, some speakers of early Germanic dialects developed the *Elder Futhark*. Early runic inscriptions are also largely limited to personal names, and difficult to interpret. The Gothic language was written in the

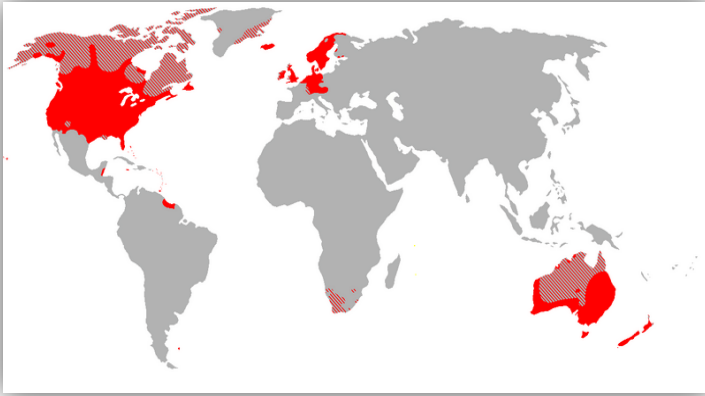


Figure 18. Spread of Germanic languages

Germanic languages use a variety of accent marks and extra letters, including umlaut, the ß (*Eszett*), IJ, Æ, Å, Ð, and Þ, from runes. Historic printed German is frequently set in blackletter typefaces.

Effects of the Grimm's Law in examples:

<i>IE-Gmc</i>	<i>Germanic (shifted) examples</i>	<i>Non-Germanic (unshifted)</i>
p → <i>f</i>	Eng. <i>foot</i> , Du. <i>voet</i> , Ger. <i>Fuß</i> , Goth. <i>fōtus</i> , Ice. <i>fótur</i> , Da. <i>fod</i> , Nor., Swe. <i>fot</i>	O.Gk. <i>πούς</i> (<i>pūs</i>), Lat. <i>pēs</i> , <i>pedis</i> , Skr. <i>pāda</i> , Russ. <i>pod</i> , Lith. <i>pėda</i>
t → <i>p</i>	Eng. <i>third</i> , O.H.G. <i>thritto</i> , Goth. <i>þridja</i> , Ice. <i>þriðji</i>	O.Gk. <i>τρίτος</i> (<i>tritōs</i>), Lat. <i>tertius</i> , Gae. <i>treas</i> , Skr. <i>treta</i> , Russ. <i>tretij</i> , Lith. <i>trys</i>
k → <i>h</i>	Eng. <i>hound</i> , Du. <i>hond</i> , Ger. <i>Hund</i> , Goth. <i>hunds</i> , Ice. <i>hundur</i> , Sca. <i>hund</i>	O.Gk. <i>κύων</i> (<i>kýōn</i>), Lat. <i>canis</i> , Gae. <i>cú</i> , Skr. <i>svan-</i> , Russ. <i>sobaka</i>
k^w → <i>hw</i>	Eng. <i>what</i> , Du. <i>wat</i> , Ger. <i>was</i> , Goth. <i>wa</i> , Da. <i>hvad</i> , Ice. <i>hvað</i>	Lat. <i>quod</i> , Gae. <i>ciod</i> , Skr. <i>ka-</i> , <i>kiṃ</i> , Russ. <i>ko-</i>
b → <i>p</i>	Eng. <i>peg</i>	Lat. <i>baculum</i>
d → <i>t</i>	Eng. <i>ten</i> , Du. <i>tien</i> , Goth. <i>taíhun</i> , Ice. <i>tíu</i> , Da., Nor.: <i>ti</i> , Swe. <i>tio</i>	Lat. <i>decem</i> , Gk. <i>δέκα</i> (<i>déka</i>), Gae. <i>deich</i> , Skr. <i>daśan</i> , Russ. <i>des'at'</i>
g → <i>k</i>	Eng. <i>cold</i> , Du. <i>koud</i> , Ger. <i>kalt</i>	Lat. <i>gelū</i>
g^w → <i>kw</i>	Eng. <i>quick</i> , Du. <i>kwiek</i> , Ger. <i>keck</i> , Goth. <i>qius</i> , O.N. <i>kvikr</i> , Swe. <i>kvick</i>	Lat. <i>vivus</i> , Gk. <i>βίος</i> (<i>bios</i>), Gae. <i>beò</i> , Lith. <i>gyvas</i>
b^h → <i>b</i>	Eng. <i>brother</i> , Du. <i>broeder</i> , Ger. <i>Bruder</i> , Goth. <i>broþar</i> , Sca. <i>broder</i>	Lat. <i>frāter</i> , O.Gk. <i>φρατήρ</i> (<i>phrātēr</i>), Skr. <i>bhrātā</i> , Lith. <i>brolis</i> , O.C.S. <i>bratru</i>
d^h → <i>d</i>	Eng. <i>door</i> , Fris. <i>doar</i> , Du. <i>deur</i> , Goth. <i>daúr</i> , Ice. <i>dyr</i> , Da., Nor. <i>dør</i> , Swe. <i>dörr</i>	O.Gk. <i>θύρα</i> (<i>thýra</i>), Skr. <i>dwār</i> , Russ. <i>dver'</i> , Lith. <i>durys</i>

g^h→g	Eng. <i>goose</i> , Fris. <i>goes</i> , Du. <i>gans</i> , Ger. <i>Gans</i> , Ice. <i>gæs</i> , Nor.,Swe. <i>gås</i>	Lat. <i>anser</i> < * <i>hanser</i> , O.Gk. <i>χῆν</i> (<i>khēn</i>), Skr. <i>hansa</i> , Russ. <i>gus'</i>
g^{wh}→gw	Eng. <i>wife</i> , O.E. <i>wif</i> , Du. <i>wijf</i> , O.H.G. <i>wib</i> , O.N. <i>vif</i> , Fae.: <i>vív</i> , Sca. <i>viv</i>	Tocharian B: <i>kwípe</i> , Tocharian A: <i>kip</i>

A known exception is that the voiceless stops did not become fricatives if they were preceded by IE **s**.

PIE	Germanic examples	Non-Germanic examples
sp	Eng. <i>spew</i> , Goth. <i>speiwan</i> , Du. <i>spuien</i> , Ger. <i>speien</i> , Swe. <i>spy</i>	Lat. <i>spuere</i>
st	Eng. <i>stand</i> , Du. <i>staan</i> , Ger. <i>stehen</i> , Ice. <i>standa</i> , Nor.,Swe. <i>stå</i>	Lat. <i>stāre</i> , Skr. <i>sta</i> Russian: <i>stat'</i>
sk	Eng. <i>short</i> , O.N. <i>skorta</i> , O.H.G. <i>scurz</i> , Du. <i>kort</i>	Skr. <i>krdhuh</i> , Lat. <i>curtus</i> , Lith. <i>skurdus</i>
sk^w	Eng. <i>scold</i> , O.N. <i>skáld</i> , Ice. <i>skáld</i> , Du. <i>Schelden</i>	Proto-Indo-European: <i>sk^wetlo</i>

Similarly, PIE **t** did not become a fricative if it was preceded by **p**, **k**, or **k^w**. This is sometimes treated separately under the Germanic *spirant law*:

Change	Germanic examples	Non-Germanic examples
pt→ft	Goth. <i>hliftus</i> “ <i>thief</i> ”	O.Gk. <i>κλέπτης</i> (<i>kleptēs</i>)
kt→ht	Eng. <i>eight</i> , Du. <i>acht</i> , Fris. <i>acht</i> , Ger. <i>acht</i> , Goth. <i>ahtáu</i> , Ice. <i>átta</i>	O.Gk. <i>οκτώ</i> (<i>oktō</i>), Lat. <i>octō</i> , Skr. <i>aṣṭan</i>
kwt→h(w)t	Eng. <i>night</i> , O.H.G. <i>naht</i> , Du.,Ger. <i>nacht</i> , Goth. <i>nahts</i> , Ice. <i>nótt</i>	Gk. <i>nuks</i> , <i>nukt-</i> , Lat. <i>nox</i> , <i>noct-</i> , Skr. <i>naktam</i> , Russ. <i>noch</i> , Lith. <i>naktis</i>

The Germanic “sound laws”, allow one to define the expected sound correspondences between Germanic and the other branches of the family, as well as for Proto-Indo-European. For example, Germanic (word-initial) *b-* corresponds regularly to Italic *f-*, Greek *p^{h-}*, Indo-Aryan *b^{h-}*, Balto-Slavic and Celtic *b-*, etc., while Germanic **f-*

corresponds to Latin, Greek, Sanskrit, Slavic and Baltic *p-* and to zero (no initial consonant) in Celtic. The former set goes back to PIE [**b^h**] (reflected in Sanskrit and modified in various ways elsewhere), and the latter set to an

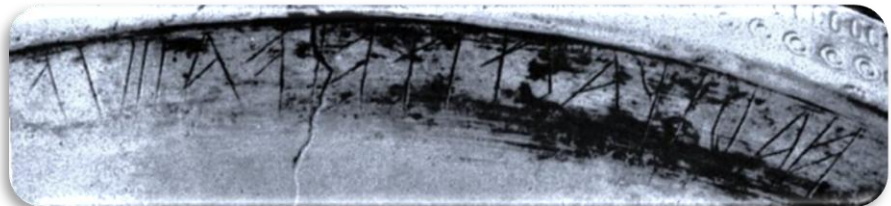


Figure 19 The Negau helmet (found in Negova, Slovenia), ca. 400 BC, contains the earliest attested Germanic inscription (read from right to left). It reads **harikastiteiva**\\ip, translated as “Harigast the priest”, and it was added probably ca. 200 BC.

original PIE [**p**] – shifted in Germanic, lost in Celtic, but preserved in the other groups mentioned here.

B. ROMANCE

The **Romance languages**, a major branch of the Indo-European language family, comprise all languages that descended from Latin, the language of the Roman Empire. Romance languages have some 800 million native speakers worldwide, mainly in the Americas, Europe, and Africa, as well as in many smaller regions scattered through the world. The

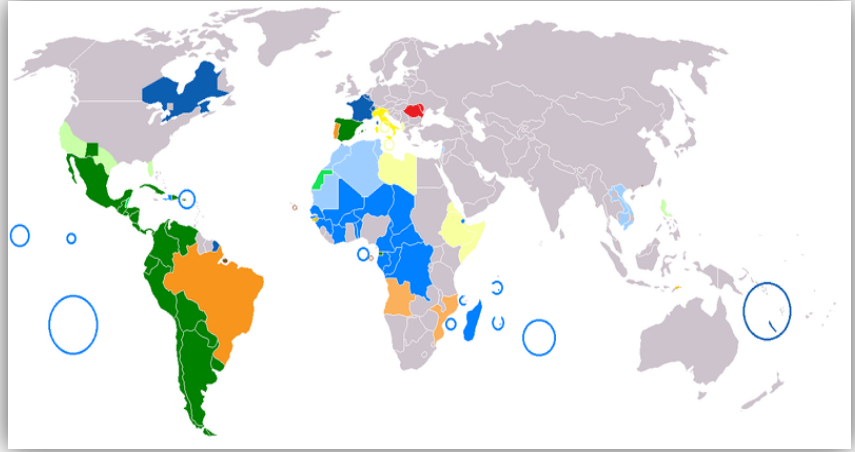


Figure 20. Regions where Romance languages are spoken, either as mother tongue or as second language.

largest languages are Spanish and Portuguese, with about 400 and 200 million mother tongue speakers respectively, most of them outside Europe. Within Europe, French (with 80 million) and Italian (70 million) are the largest ones. All Romance languages descend from Vulgar Latin, the language of soldiers, settlers, and slaves of the Roman Empire, which was substantially different from the Classical Latin of the Roman *literati*. Between 200 BC and 100 AD, the expansion of the Empire, coupled with administrative and educational policies of Rome, made Vulgar Latin the dominant native language over a wide area spanning from the Iberian Peninsula to the Western coast of the Black Sea. During the Empire's decadence and after its collapse and fragmentation in the 5th century, Vulgar Latin evolved independently within each local area, and eventually diverged into dozens of distinct languages. The oversea empires established by Spain, Portugal and France after the 15th century then spread Romance to

the other continents — to such an extent that about 2/3 of all Romance speakers are now outside Europe.

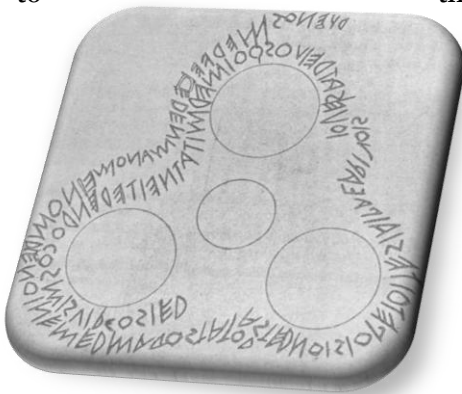


Figure 21. The 'Duenos' (Lat. 'buenus') Inscription in Old Latin, ca. 6th century BC.

Latin is usually classified, along with Faliscan, as another Italic dialect. The Italic speakers were not native to Italy, but migrated into the Italian Peninsula in the course of the 2nd millennium BC, and were apparently related to the Celtic tribes that roamed over a large part of Western Europe at the time. Archaeologically, the Apennine culture of inhumations enters the Italian Peninsula from ca. 1350 BC, east to west; the Iron Age reaches Italy from ca. 1100 BC, with the Villanovan culture (cremating), intruding north to

south. Before the Italic arrival, Italy was populated primarily by non-Indo-European groups (perhaps including the Etruscans). The first settlement on the Palatine hill dates to ca. 750 BC, settlements on the Quirinal to 720 BC, both related to the Founding of Rome.

The ancient Venetic language, as revealed by its inscriptions (including complete sentences), was also closely related to the Italic languages and is sometimes even classified as Italic. However, since it also shares similarities with other Western Indo-European branches (particularly Germanic), some linguists prefer to consider it an independent Indo-European language.

Italic is usually divided into:

❖ **Sabellic**, including:

- **Oscan**, spoken in south-central Italy.
- **Umbrian** group:
 - **Umbrian**
 - **Volscian**
 - **Aequian**
 - **Marsian**,
 - **South Picene**

❖ **Latino-Faliscan**, including:

- **Faliscan**, which was spoken in the area around *Falerii Veteres* (modern Civita Castellana) north of the city of Rome and possibly Sardinia
- **Latin**, which was spoken in west-central Italy. The Roman conquests eventually spread it throughout the Roman Empire and beyond.



Figure 22. Iron Age Italy. In central Italy, Italic languages. In southern and north-western Italy, other Indo-European languages. Venetic, Sicanian and Sicel were possibly also languages of the IE family.

Phonetic changes from PIE to Latin: **b^h** > *f*, **d^h** > *f*, **g^h** > *h/f*, **g^w** > *v/g*, **k^w** > *kw (qu)/k (c)*, **p** > *p/ qu*.



Figure 23. The Masiliana tablet abecedarium, ca. 700 BC, read right to left: ABGDEVZHΘIKLMN[Ε]OPŚQRSTUXΦΨ.

The Italic languages are first attested in writing from Umbrian and Faliscan inscriptions dating to the 7th century BC. The alphabets used are based on the Old Italic alphabet, which is itself based on the Greek alphabet. The Italic languages themselves show minor influence from the Etruscan and somewhat more from the Ancient Greek languages.

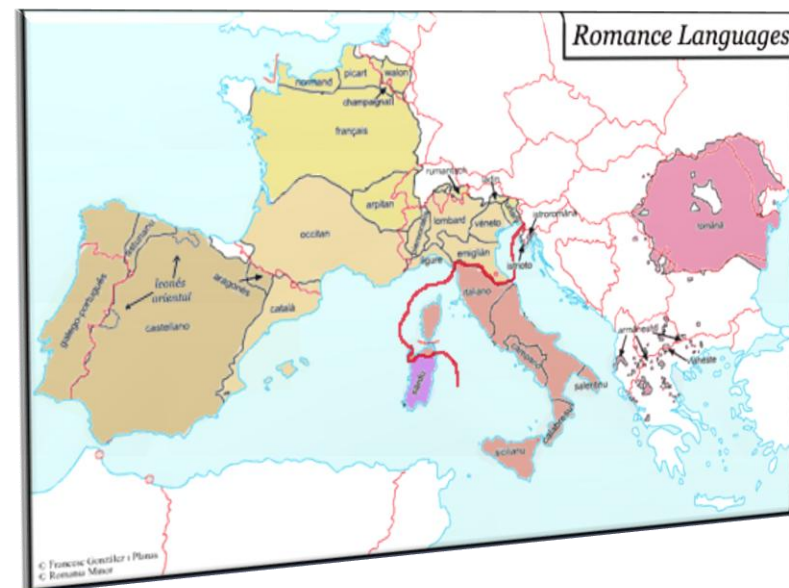
Oscan had much in common with Latin, though there are also some differences, and many common word-groups in Latin were represented by different forms; as, Latin *uolo, uelle, uolui*, and other such forms from PIE **wel**, *will*, were represented by words derived from **gher**, *desire*, cf. Oscan *herest*, “he wants, desires” as opposed to Latin *uult* (id.). Latin *locus*, “place” was absent and represented by *slaagid*.

In phonology, Oscan also shows a different evolution, as Oscan 'p' instead of Latin 'qu' (cf. Osc. *pis*, Lat. *quis*); 'b' instead of Latin 'v'; medial 'f' in contrast to Latin 'b' or 'd' (cf. Osc. *mefiai*, Lat. *mediae*), etc.

Up to 8 cases are found; apart from the 6 cases of Classic Latin (i.e. N-V-A-G-D-Ab), there was a Locative (cf. Lat. *proximae viciniae, domi, carthagini*, Osc. *aasai* ‘in *ārā*’ etc.) and an Instrumental (cf. Columna Rostrata Lat. *pugnandod, marid, naualid*, etc, Osc. *cadeis amnud*, ‘*inimicitiae causae*’, *preiuatud* ‘*prūātō*’, etc.). About forms different from original Genitives and Datives, compare Genitive (Lapis Satricanus:) *popliosio valesiosio* (the type in *-ī* is also very old,



Figure 24. Forum inscription in Latin, written boustrophedon



Segomaros -i), and Dative (Praeneste Fibula:) *numasioi*, (Lucius Cornelius Scipio Epitaph:) *quoiei*.

As Rome extended its political dominion over the whole of the Italian Peninsula, so too did Latin become dominant over the other Italic languages, which ceased to be spoken perhaps sometime in the 1st century AD.

Figure 25. Romance Languages Today. The Red line divides Western from Eastern (and Insular) Romance.

C. SLAVIC

The **Slavic languages** (also called **Slavonic** languages), a group of closely related languages of the Slavic peoples and a subgroup of the Indo-European language family, have speakers in most of Eastern Europe, in much of the Balkans, in parts of Central Europe, and in the northern part of Asia. The largest languages are Russian and Polish, with 165 and some 47 million speakers, respectively. The oldest Slavic literary language was Old Church Slavonic, which later evolved into Church Slavonic.



Figure 26. Distribution of Slavic languages in Europe now and in the past (in stripes).

There is much debate whether pre-Proto-Slavic branched off directly from Proto-Indo-European, or whether it passed through a **Proto-Balto-Slavic** stage which split apart before 1000BC.



Figure 27. Historical distribution of the Slavic languages. The larger shaded area is the Prague-Penkov-Kolochin complex of cultures of the sixth to seventh centuries, likely corresponding to the spread of Slavic-speaking tribes of the time. The smaller shaded area indicates the core area of Slavic river names.

NOTE. For example the Freising monuments show a language which contains some phonetic and lexical elements peculiar to Slovenian dialects (e.g. rhotacism, the word *krilatec*).

In the second half of the ninth century, the dialect spoken north of Thessaloniki became the basis for the first written Slavic language, created by the brothers Cyril and Methodius who translated portions of the Bible and other church books. The language they recorded is known as Old Church Slavonic. Old Church Slavonic is not identical to Proto-Slavic, having been recorded at least two centuries after the breakup of Proto-Slavic, and it shows features that clearly distinguish it from Proto-Slavic. However, it is still reasonably close, and the mutual intelligibility between Old Church Slavonic and other Slavic dialects of those days was proved by Cyril's and Methodius' mission to Great Moravia and Pannonia. There, their early South Slavic dialect used for the translations was clearly understandable to the local population which spoke an early West Slavic dialect.

As part of the preparation for the mission, the Glagolitic alphabet was created in 862 and the most important prayers and liturgical books, including the Aprakos Evangeliar – a Gospel Book lectionary containing only feast-day and Sunday readings – , the Psalter, and Acts of the Apostles, were translated. The language and the alphabet were taught at the Great Moravian Academy (O.C.S. *Velkomoravské učilište*) and were used for government and religious documents and books. In 885, the use of the Old Church Slavonic in Great Moravia was prohibited by the Pope in favour of Latin. Students of the two apostles, who were expelled from Great Moravia in 886, brought the Glagolitic alphabet and the Old

The original homeland of the speakers of Proto-Slavic remains controversial too. The most ancient recognizably Slavic hydronyms (river names) are to be found in northern and western Ukraine and southern Belarus. It has also been noted that Proto-Slavic seemingly lacked a maritime vocabulary.

The Proto-Slavic language existed approximately to the middle of the first millennium AD. By the 7th century, it had broken apart into large dialectal zones. Linguistic differentiation received impetus from the dispersion of the Slavic peoples over a large territory – which in Central Europe exceeded the current extent of Slavic-speaking territories. Written documents of the 9th, 10th & 11th centuries already show some local linguistic features.

Church Slavonic language to the Bulgarian Empire, where it was taught and Cyrillic alphabet developed in the Preslav Literary School.

Vowel changes from PIE to Proto-Slavic:

- i_1 < PIE \bar{i} , $e\bar{i}$;
- i_2 < reduced $*ai$ ($*\bar{a}i$ / $*ui$) < PIE ai , oi ;
- \bar{b} < $*i$ < PIE i ;
- e < PIE e ;
- \bar{e} < PIE en , em ;
- \bar{e}_1 < PIE $*\bar{e}$,
- \bar{e}_2 < $*ai$ < PIE ai , oi ;
- a < $*\bar{a}$ < PIE \bar{a} , \bar{o} ;
- o < $*a$ < PIE a , o , $*\bar{a}$;
- \bar{o} < $*an$, $*am$ < PIE an , on , am , om ;
- \bar{c} < $*u$ < PIE u ;
- y < PIE \bar{u} ;
- u < $*au$ < PIE au , ou .

NOTE 1. Apart from this simplified equivalences, other evolutions appear:

- The vowels i_2 , \bar{e}_2 developed later than i_1 , \bar{e}_1 . In Late Proto-Slavic there were no differences in pronunciation between i_1 and i_2 as well as between \bar{e}_1 and \bar{e}_2 . They had caused, however, different changes of preceding velars, see below.
- Late Proto-Slavic yers \bar{b} , \bar{c} < earlier i , u developed also from reduced PIE e , o respectively. The reduction was probably a morphologic process rather than phonetic.
- We can observe similar reduction of $*\bar{a}$ into $*\bar{u}$ (and finally y) in some endings, especially in closed syllables.
- The development of the Sla. i_2 was also a morphologic phenomenon, originating only in some endings.
- Another source of the Proto-Slavic y is $*\bar{o}$ in Germanic loanwords – the borrowings took place when Proto-Slavic no longer had \bar{o} in native words, as PIE \bar{o} had already changed into $*\bar{a}$.
- PIE $*\bar{a}$ disappeared without traces when in a non-initial syllable.
- PIE eu probably developed into $*jau$ in Early Proto-Slavic (or: during the Balto-Slavic epoch), and eventually into Proto-Slavic $*ju$.
- According to some authors, PIE long diphthongs $\bar{e}\bar{i}$, $\bar{a}\bar{i}$, $\bar{o}\bar{i}$, $\bar{e}\bar{u}$, $\bar{a}\bar{u}$, $\bar{o}\bar{u}$ had twofold development in Early Proto-Slavic, namely they shortened in endings into simple $*ei$, $*ai$, $*oi$, $*eu$, $*au$, $*ou$ but they lost their second element elsewhere and changed into $*\bar{e}$, $*\bar{a}$, $*\bar{o}$ with further development like above.

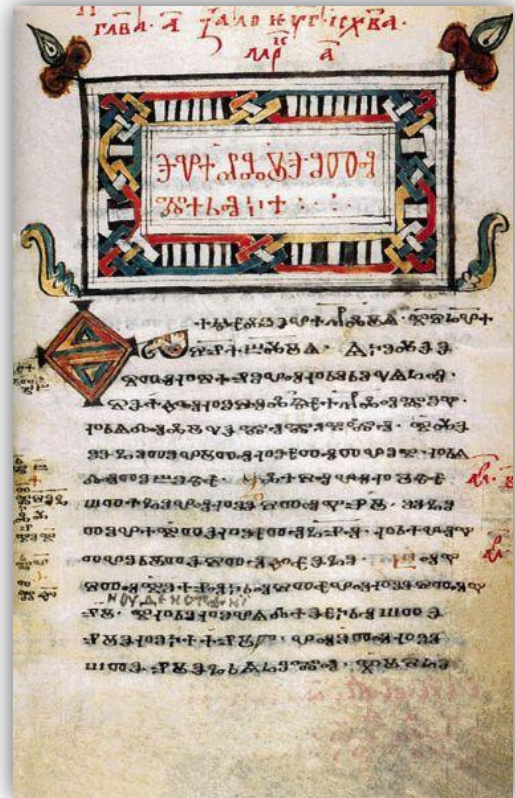


Figure 28. A page from the 10th-11th century Codex Zographensis found in the Zograf Monastery in 1843. It is written in Old Church Slavonic, in the Glagolitic alphabet designed by brothers St Cyril and St Methodius.

NOTE 2. Other vocalic changes from Proto-Slavic include *jo, *jъ, *jy changed into *je, *jь, *ji; *o, *ъ, *y also changed into *e, *ь, *i after *c, *ѣ, *s' which developed as the result of the 3rd palatalization; *e, *ě changed into *o, *a after *č, *ѣ, *š, *ž in some contexts or words; a similar change of *ě into *a after *j seems to have occurred in Proto-Slavic but next it can have been modified by analogy.

On the origin of Proto-Slavic consonants, the following relationships are regularly found:

- *p* < PIE *p*;
- *b* < PIE *b*, *b^h*;
- *t* < PIE *t*;
- *d* < PIE *d*, *d^h*;
- *k* < PIE *k*, *k^w*;
 - *s* < PIE **k^s*;
- *g* < PIE *g*, *g^h*, *g^w*, *g^{wh}*;
 - *z* < PIE **g^j*, **g^{jh}*;
- *s* < PIE *s*;
 - *z* < PIE *s* [*z*] before a voiced consonant;
 - *x* < PIE *s* before a vowel when after *r*, *u*, *k*, *i*, probably also after *l*;
- *m* < PIE *m*;
- *n* < PIE *n*;
- *l* < PIE *l*;
- *r* < PIE *r*;
- *v* < PIE *w*;
- *j* < PIE *j*.

In some words the Proto-Slavic *x* developed from other PIE phonemes, like *kH*, *ks*, *sk*.

About the common changes of Slavic dialects, compare:

1) In the 1st palatalization,

- *k, *g, *x > *č, *ѣ, *š before *i1, *ě1, *e, *e, *ь;
- next ѣ changed into ž everywhere except after z;
- *kt, *gt > *tj before *i1, *ě1, *e, *e, *ь (there are only examples for *kti).



Figure 29. Page from the Spiridon Psalter in Church Slavonic, a language derived from Old Church Slavonic by adapting pronunciation and orthography, and replacing some old and obscure words and expressions by their vernacular counterparts.

2) In the 2nd palatalization (which apparently didn't occur in old northern Russian dialects)

- *k, *g, *x > *c, *z, *s' before *i₂, *ě₂;
- *s' mixed with s or š in individual Slavic dialects;
- *z simplified into z, except Polish;
- also *kv, *gv, *xv > *cv, *zv, *s'v before *i₂, *ě₂ in some dialects (not in West Slavic and probably not in East Slavic – Russian examples may be of South Slavic origin);

3) The third palatalization

- *k, *g, *x > *c, *z, *s' after front vowels (*i, *b, *ě, *e, *e) and *br (= *r'), before a vowel;
- it was progressive contrary to the 1st and the 2nd palatalization;
- it occurred inconsistently, only in certain words, and sometimes it was limited to some Proto-Slavic dialects;

sometimes a palatalized form and a non-palatalized one existed side-by-side even within the same dialect (e.g. O.C.S. *sikъ* || *sicъ* 'such');

In fact, no examples are known for the 3rd palatalization after *ě, *e, and (few) examples after *r' are limited to Old Church Slavonic.

In Consonants + **j**

- *sj, *zj > *š, *ž;
- *stj, *zdj > *šč, *žž;
- *kj, *gj, *xj > *č, *ž, *š (next *ž > *ž);
- *skj, *zgj > *šč, *žž;
- *tj, *dj had been preserved and developed variously in individual Slavic dialects;
- *rj, *lj, *nj were preserved until the end of Proto-Slavic, next developed into palatalized *r', *l', *n';
- *pj, *bj, *vj, *mj had been preserved until the end of the Proto-Slavic epoch, next developed into *p', *b', *v', *m' in most Slavic dialects, except Western Slavic.

D. BALTIC



Figure 30. Distribution of Baltic languages today and in the past (in stripes)

The **Baltic languages** are a group of related languages belonging to the Indo-European language family and spoken mainly in areas extending east and southeast of the Baltic Sea in Northern Europe.

The language group is sometimes divided into two sub-groups: Western Baltic, containing only extinct languages as Prussian or Galindan, and Eastern Baltic, containing both extinct and the two living languages in the group, Lithuanian and Latvian – including literary Latvian and Latgalian. While related, the Lithuanian, the Latvian, and particularly the Old Prussian vocabularies differ substantially from each other and are not mutually intelligible. The now extinct Old Prussian language has been considered the most archaic of the Baltic languages.

Baltic and Slavic share more close similarities, phonological, lexical, and morpho-syntactic, than any other language groups within the Indo-European language family. Many linguists, following the lead of such notable Indo-Europeanists as August Schleicher and Oswald Szemerényi, take these to indicate that the two groups separated from a common ancestor, the **Proto-Balto-Slavic** language, only well after the breakup of Indo-European.

The first evidence was that many words are common in their form and meaning to Baltic and Slavic, as “run” (cf. Lith. *bėgu*, O.Pruss. *bīgtwei*, Sla. *běgŏ*, Russ. *begu*, Pol. *biegnę*), “tilia” (cf. Lith. *liepa*, Ltv. *liepa*, O.Pruss. *līpa*, Sla. *lipa*, Russ. *lipa*, Pol. *lipa*), etc.

NOTE. The amount of shared words might be explained either by existence of common Balto-Slavic language in the past or by their close geographical, political and cultural contact throughout history.

Until Meillet's *Dialectes indo-européens* of 1908, Balto-Slavic unity was undisputed among linguists – as he notes himself at the beginning of the *Le Balto-Slave* chapter, “*L'unité linguistique balto-slave est l'une de celles que personne ne conteste*” (“Balto-Slavic linguistic unity is one of those that no one contests”). Meillet's critique of Balto-Slavic confined itself to the seven characteristics listed by Karl Brugmann in 1903, attempting to show that no single one of these is sufficient to prove genetic unity.

Szemerényi in his 1957 re-examination of Meillet's results concludes that the Balts and Slavs did, in fact, share a “*period of common language and life*”, and were probably separated due to the incursion of Germanic tribes along the Vistula and the Dnepr roughly at the beginning of the Common Era. Szemerényi notes fourteen points that he judges cannot be ascribed to chance or parallel innovation:

- phonological palatalization
- the development of *i* and *u* before PIE resonants
- ruki Sound law (v.i.)
- accentual innovations
- the definite adjective
- participle inflection in *-yo-*
- the genitive singular of thematic stems in *-ā(t)-*
- the comparative formation
- the oblique 1st singular *men-*, 1st plural *nōsom*
- *tos/tā* for PIE *so/sā* pronoun
- the agreement of the irregular athematic verb (Lithuanian *dúoti*, Slavic *datъ*)
- the preterite in *ē/ā*
- verbs in Baltic *-áuju*, Sla. *-uję*
- the strong correspondence of vocabulary not observed between any other pair of branches of the Indo-European languages.
- lengthening of a short vowel before a voiced plosive (Winter)



Figure 31 Baltic Tribes c. 1200 AD.

NOTE. ‘Ruki’ is the term for a sound law which is followed especially in Balto-Slavic and Indo-Iranian dialects. The name of the term comes from the sounds which cause the phonetic change, i.e. PIE *s* > *š* / *r, u, K, i* (it associates with a Slavic word which means ‘hands’ or ‘arms’). A sibilant [s] is retracted to [ʃ] after *i, u, r*, and after velars (i.e. *k* which may have developed from earlier *k, g, gh*). Due to the character of the retraction, it was probably an apical sibilant (as in Spanish), rather than the dorsal of English. The first phase (*s* > *š*) seems to be universal, the later retroflexion (in Sanskrit and probably in Proto-Slavic as well) is due to levelling of the sibilant system, and so is the third phase - the retraction to velar [x] in Slavic and also in some Middle Indian languages, with parallels in e.g. Spanish. This rule was first formulated for the Indo-European by Holger Pedersen, and it is known sometimes as the “*Pedersen law*”.

E. CELTIC

The **Celtic languages** are the languages descended from Proto-Celtic, or “Common Celtic”, a dialect of Proto-Indo-European.

During the 1st millennium BC, especially between the 5th and 2nd centuries BC they were spoken across Europe, from the southwest of the Iberian Peninsula and the North Sea, up the Rhine and down the Danube to the Black Sea and the Upper Balkan Peninsula, and into Asia Minor (Galatia). Today, Celtic languages are now limited to a few enclaves in the British Isles and on the peninsula of Brittany in France.

The distinction of Celtic into different sub-families probably occurred about 1000 BC. The early Celts are commonly associated with the archaeological Urnfield culture, the La Tène culture, and the Hallstatt culture.

Scholarly handling of the Celtic languages has been rather argumentative owing to lack of primary source data. Some scholars distinguish Continental and Insular Celtic, arguing that the differences between the Goidelic and Brythonic languages arose after these split off from the Continental Celtic languages. Other scholars distinguish P-Celtic from Q-Celtic, putting most of the Continental Celtic languages in the former group – except for Celtiberian, which is Q-Celtic.

There are two competing schemata of categorization. One scheme, argued for by Schmidt (1988) among others, links Gaulish with Brythonic in a **P-Celtic** node, leaving Goidelic as **Q-Celtic**. The difference between P and Q languages is the treatment of PIE *k^w*, which became **p* in the P-Celtic languages but **k* in Goidelic. An example is the Proto-Celtic verbal root **k^wrin-* “to buy”, which became *pryn-* in Welsh but *cren-* in Old Irish.

The other scheme links Goidelic and Brythonic together as an Insular Celtic branch, while Gaulish and Celtiberian are referred to as Continental Celtic. According to this theory, the ‘P-Celtic’ sound change of [k^w] to [p] occurred independently or areally. The proponents of the Insular Celtic hypothesis point to other shared innovations among Insular Celtic languages, including inflected prepositions, VSO word order, and the lenition of intervocalic [m] to [β], a nasalized voiced bilabial fricative (an extremely rare

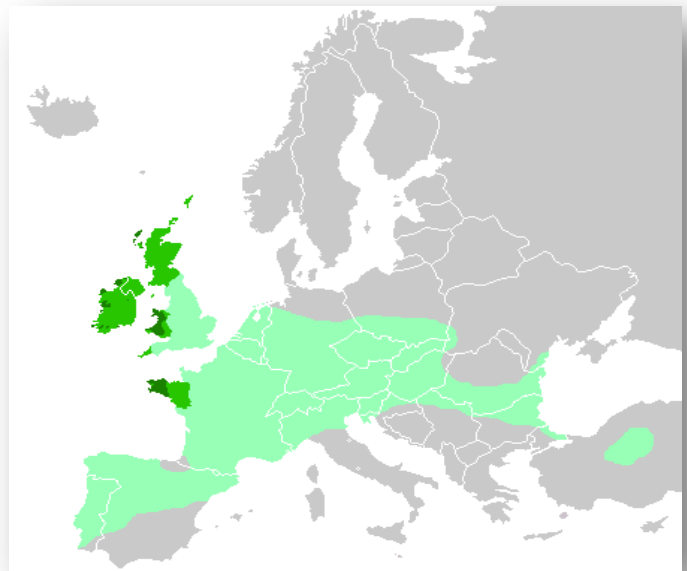


Figure 32. Distribution of Celtic languages in Europe, at its greatest expansion in 500 B.C. in **lighter color**, the so-called ‘Celtic Nations’ in **darker color**, and today’s Celtic-speaking populations in the **darkest color**.

sound), etc. There is, however, no assumption that the Continental Celtic languages descend from a common “Proto-Continental Celtic” ancestor. Rather, the Insular/Continental schemata usually consider Celtiberian the first branch to split from Proto-Celtic, and the remaining group would later have split into Gaulish and Insular Celtic. Known PIE evolutions into Proto-Celtic:

- **p** > Ø in initial and intervocalic positions
- **l̥** > /li/
- **r̥** > /ri/
- **g^{wh}** > /g/
- **g^w** > /b/
- **ō** > /ā/, /ū/

NOTE. Later evolution of Celtic languages: **ē** > /ī/; Thematic genitive ***ōd**/***ī**; Aspirated Voiced > Voiced; Specialized Passive in *-r*.

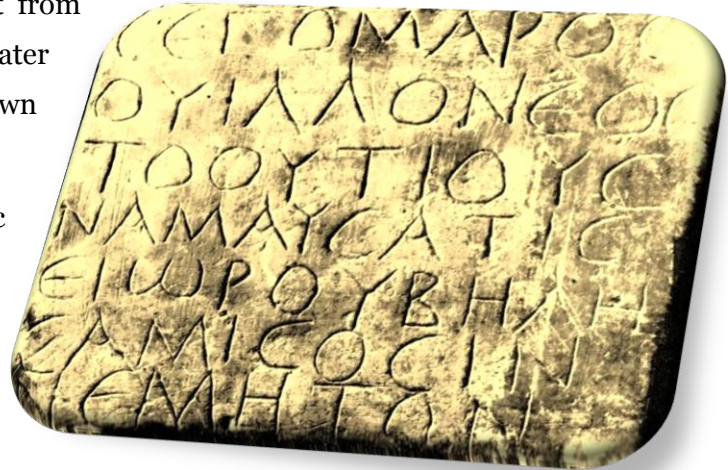


Figure 33. Inscription *CEΓOMAPOC OYIΛAONEOC TOOYTIOYC NAMAYCATIC EIΩPOY BHAH CAMI COCIN NEMHTON*, translated as “Segomaros, son of Uillo, toutious (tribe leader) of Namausos, dedicated this sanctuary to Belesama”.

Italo-Celtic refers to the hypothesis that Italic and Celtic dialects are descended from a common ancestor, Proto-Italo-Celtic, at a stage post-dating Proto-Indo-European. Since both Proto-Celtic and Proto-Italic date to the early Iron Age (say, the centuries on either side of 1000 BC), a probable time frame for the assumed period of language contact would be the late Bronze Age, the early to mid 2nd millennium BC. Such grouping is supported among others by Meillet (1890), and Kortlandt (2007).

One argument for Italo-Celtic was the thematic Genitive in *i* (*dominus, domini*). Both in Italic (*Popliosio Valesiosio*, Lapis Satricanus) and in Celtic (Leponitic, Celtiberian *-o*), however, traces of the *-osyo* Genitive of Proto-Indo-European have been discovered, so that the spread of the *i*-Genitive could have occurred in the two groups independently, or by areal diffusion. The community of *-ī* in Italic and Celtic may be then attributable to early contact, rather than to an original unity. The *i*-Genitive has been compared to the so-called Cvi formation in Sanskrit, but that too is probably a comparatively late development. The phenomenon is probably related to the Indo-European feminine long *i* stems and the Luwian *i*-mutation.

Another argument was the *ā*-subjunctive. Both Italic and Celtic have a subjunctive descended from an earlier optative in *-ā-*. Such an optative is not known from other languages, but the suffix occurs in Balto-Slavic and Tocharian past tense formations, and possibly in Hittite *-ahh-*.

Both Celtic and Italic have collapsed the PIE Aorist and Perfect into a single past tense.

F. FRAGMENTARY DIALECTS

MESSAPIAN

Messapian (also known as *Messapic*) is an extinct Indo-European language of south-eastern Italy, once spoken in the regions of Apulia and Calabria. It was spoken by the three Iapygian tribes of the region: the Messapians, the Daunii and the Peucetii. The language, a centum dialect, has been preserved in about 260 inscriptions dating from the 6th to the 1st century BC.

There is a hypothesis that Messapian was an Illyrian language. The Illyrian languages were spoken mainly on the other side of the Adriatic Sea. The link between Messapian and Illyrian is based mostly on personal names found on tomb inscriptions and on classical references, since hardly any traces of the Illyrian language are left.

The Messapian language became extinct after the Roman Empire conquered the region and assimilated the inhabitants.

Some phonetic characteristics of the language may be regarded as quite certain:

- the change of PIE short **-o-** to **-a-**, as in the last syllable of the genitive *kalatoras*.
- of final **-m** to **-n**, as in *aran*.
- of **-ni-** to **-nn-**, as in the Messapian praenomen *Dazohonnes* vs. the Illyrian praenomen *Dazonius*; the Messapian genitive *Dazohonnihi* vs. Illyrian genitive *Dasonii*, etc.
- of **-ti-** to **-tth-**, as in the Messapian praenomen *Dazetthes* vs. Illyrian *Dazetius*; the Messapian genitive *Dazetthihi* vs. the Illyrian genitive *Dazetii*; from a *Dazet-* stem common in Illyrian and Messapian.
- of **-si-** to **-ss-**, as in Messapian *Vallasso* for *Vallasio*, a derivative from the shorter name *Valla*.
- the loss of final **-d**, as in *tepise*, and probably of final **-t**, as in *-des*, perhaps meaning “set”, from PIE **dhe-**, “set, put”.
- the change of voiced aspirates in Proto-Indo-European to plain voiced consonants: PIE **dh-** or **dh-** to **d-** or **-d-**, as Mes. *anda* (< PIE **en-dha-** < PIE **en-**, “in”, compare Gk. *entha*), and PIE **bh-** or **-bh-** to **b-** or **-b-**, as Mes. *beran* (< PIE **bher-**, “to bear”).
- **-au-** before (at least some) consonants becomes **-ā-**: *Bāsta*, from *Bausta*
- the form *penkaheh* – which Torp very probably identifies with the Oscan stem *pompaio* – a derivative of the Proto-Indo-European numeral **penqe-**, “five”.

If this last identification be correct it would show, that in Messapian (just as in Venetic and Ligurian) the original labiovelars (**k^w**, **g^w**, **g^{wh}**) were retained as gutturals and not converted into labials. The change of *o* to *a* is exceedingly interesting, being associated with the northern branches of Indo-

European such as Gothic, Albanian and Lithuanian, and not appearing in any other southern dialect hitherto known. The Greek *Aphrodite* appears in the form *Aprodita* (Dat. Sg., *fem.*).

The use of double consonants which has been already pointed out in the Messapian inscriptions has been very acutely connected by Deecke with the tradition that the same practice was introduced at Rome by the poet Ennius who came from the Messapian town Rudiae (Festus, p. 293 M).

VENETIC

Venetic is an Indo-European language that was spoken in ancient times in the Veneto region of Italy, between the Po River delta and the southern fringe of the Alps.

The language is attested by over 300 short inscriptions dating between the 6th century BC and 1st century. Its speakers are identified with the ancient people called *Veneti* by the Romans and *Enetoi* by the Greek. It became extinct around the 1st century when the local inhabitants were assimilated into the Roman sphere.

Venetic was a centum dialect. The inscriptions use a variety of the Northern Italic alphabet, similar to the Old Italic alphabet.

The exact relationship of Venetic to other Indo-European languages is still being investigated, but the majority of scholars agree that Venetic, aside from Liburnian, was closest to the Italic languages. Venetic may also have been related to the Illyrian languages, though the theory that Illyrian and Venetic were closely related is debated by current scholarship.

Some important parallels with the Germanic languages have also been noted, especially in pronominal forms:

Ven. *ego*, “I”, acc. *me*go, “me”; Goth. *ik*, acc. *mik*; Lat. *ego*, acc. *me*.

Ven. *sselboisselboi*, “to oneself”; O.H.G. *selb selbo*; Lat. *sibi ipsi*.

Venetic had about six or even seven noun cases and four conjugations (similar to Latin). About 60 words are known, but some were borrowed from Latin (*liber.tos.* < *libertus*) or Etruscan. Many of them show a clear Indo-European origin, such as Ven. *vhraterei* < PIE *bhraterei*, “to the brother”.

In Venetic, PIE stops **bh**, **dh** and **gh** developed to /f/, /f/ and /h/, respectively, in word-initial position (as in Latin and Osco-Umbrian), but to /b/, /d/ and /g/, respectively, in word-internal intervocalic position, as in Latin. For Venetic, at least the developments of **bh** and **dh** are clearly attested. Faliscan and Osco-Umbrian preserve internal /f/, /f/ and /h/.

There are also indications of the developments of PIE **g^w-** > **w-**, PIE **k^w** > ***kv** and PIE ***g^{wh}-** > **f-** in Venetic, all of which are parallel to Latin, as well as the regressive assimilation of PIE sequence **p...k^w...** > **k^w...k^w...**, a feature also found in Italic and Celtic (Lejeune 1974).

LIGURIAN

The **Ligurian language** was spoken in pre-Roman times and into the Roman era by an ancient people of north-western Italy and south-eastern France known as the Ligures. Very little is known about this language (mainly place names and personal names remain) which is generally believed to have been Indo-European; it appears to have adopted significantly from other Indo-European languages, primarily Celtic (Gaulish) and Italic (Latin).

Strabo states “*As for the Alps... Many tribes (éthnê) occupy these mountains, all Celtic (Keltikà) except the Ligurians; but while these Ligurians belong to a different people (hetero-ethneis), still they are similar to the Celts in their modes of life (bíois).*”

LIBURNIAN

The **Liburnian language** is an extinct language which was spoken by the ancient Liburnians, who occupied Liburnia in classical times. The Liburnian language is reckoned as an Indo-European language, usually classified within the Centum group. It appears to have been on the same Indo-European branch as the Venetic language; indeed, the Liburnian tongue may well have been a Venetic dialect.

No writings in Liburnian are known however. The grouping of Liburnian with Venetic is based on the Liburnian onomastics. In particular, Liburnian anthroponyms show strong Venetic affinities, with many common or similar names and a number of common roots, such as *Vols-*, *Volt-*, and *Host-* (<PIE **ghos-ti-**, “*stranger, guest, host*”). Liburnian and Venetic names also share suffixes in common, such as *-icus* and *-ocus*.

These features set Liburnian and Venetic apart from the Illyrian onomastic province, though this does not preclude the possibility that Venetic-Liburnian and Illyrian may have been closely related, belonging to the same Indo-European branch. In fact, a number of linguists argue that this is the case, based on similar phonetic features and names in common between Venetic-Liburnian on the one hand and Illyrian on the other.

The Liburnians were conquered by the Romans in 35 BC. The Liburnian language eventually was replaced by Latin, undergoing language death probably very early in the Common era.

LUSITANIAN

Lusitanian (so named after the Lusitani or Lusitanians) was a paleo-Iberian Indo-European language known by only five inscriptions and numerous toponyms and theonyms. The language was spoken before the Roman conquest of Lusitania, in the territory inhabited by Lusitanian tribes, from Douro to the Tagus rivers in the Iberian Peninsula.

The Lusitanians were the most numerous people in the western area of the Iberian peninsula, and there are those who consider that they came from the Alps; others believe the Lusitanians were a native Iberian tribe. In any event, it is known that they were established in the area before the 6th century BC.

Lusitanian appears to have been an Indo-European language which was quite different from the languages spoken in the centre of the Iberian Peninsula. It would be more archaic than the Celtiberian language.

The affiliation of the Lusitanian language is still in debate. There are those who endorse that it is a Celtic language. This Celtic theory is largely based upon the historical fact that the only Indo-European tribes that are known to have existed in Portugal at that time were Celtic tribes. The apparent Celtic character of most of the lexicon —anthroponyms and toponyms — may also support a Celtic affiliation.

There is a substantial problem in the Celtic theory however: the preservation of initial /p/, as in Lusitanian *pater* or *porcom*, meaning “father” and “pig”, respectively. The Celtic languages had lost that initial /p/ in their evolution; compare Lat. *pater*, Gaul. *ater*, and Lat. *porcum*, O.Ir. *orc*. However, the presence of this /p/ does not necessarily preclude the possibility of Lusitanian being Celtic, because it could have split off from Proto-Celtic before the loss of /p/, or when /p/ had become /ϕ/ (before shifting to /h/ and then being lost); the letter *p* could have been used to represent either sound.

A second theory, defended by Francisco Villar and Rosa Pedrero, relates Lusitanian with the Italic languages. The theory is based on parallels in the names of deities, as Lat. *Consus*, Lus. *Cossue*, Lat. *Seia*, Lus. *Segia*, or Marrucinian *Iovia*, Lus. *Iovea(i)*, etc. and other lexical items, as Umb. *gomia*, Lus. *comaiam*, with some other grammatical elements.

Inscriptions have been found in Spain in Arroyo de la Luz (Cáceres), and in Portugal in Cabeço das Fragas (Guarda) and in Moledo (Viseu).

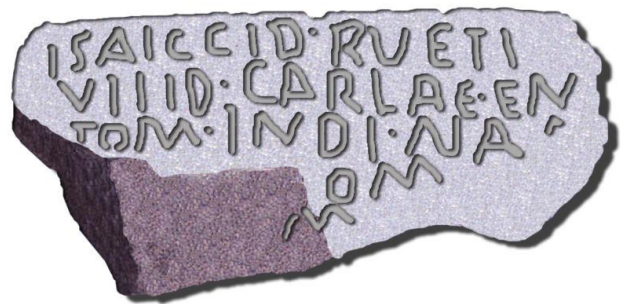


Figure 34. Arroyo de la Luz (Cáceres)
Inscription: ISAICCID. RVETI. PVPPID. CARLAE.
EN ETOM. INDI. NA(.) (....) CE. IOM. M

G. NORTHERN INDO-EUROPEAN IN ASIA: TOCHARIAN

Tocharian or **Tokharian** is one of the most obscure branches of the group of Indo-European languages. The name of the language is taken from people known to the Greek historians (Ptolemy VI, 11, 6) as the Tocharians (Greek Τόχαροι, “*Tokharoi*”). These are sometimes identified with the Yuezhi and the Kushans, while the term *Tokharistan* usually refers to 1st millennium Bactria. A Turkic text refers to the Turfanian language (Tocharian A) as *twqry*. Interpretation is difficult, but F. W. K. Müller has associated this with the name of the Bactrian *Tokharoi*. In Tocharian, the language is referred to as *arish-käna* and the Tocharians as *arya*.

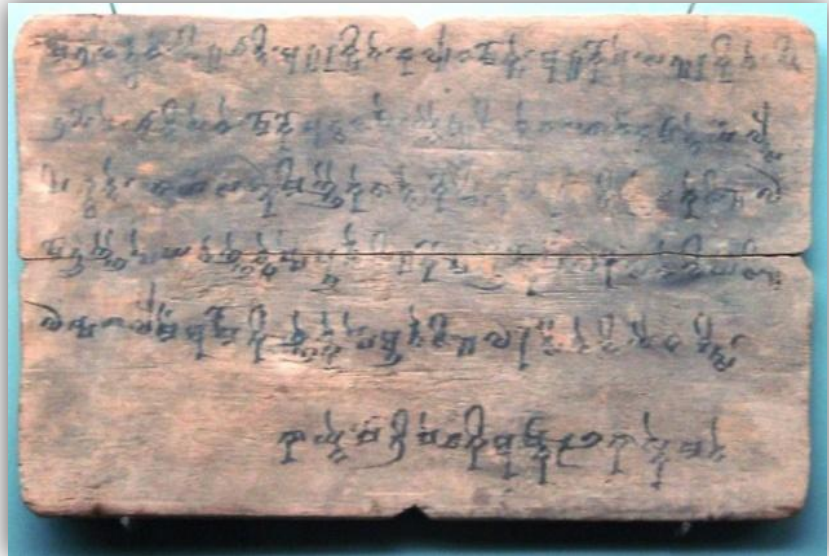


Figure 35. Wooden plate with inscriptions in Tocharian. Kucha, China, 5th-8th century.

Tocharian consisted of two languages; **Tocharian A** (Turfanian, Arsi, or East Tocharian) and **Tocharian B** (Kuchean or West Tocharian). These languages were spoken roughly from the 6th to 9th century centuries; before they became extinct, their speakers were absorbed into the expanding Uyghur tribes. Both languages were once spoken in the Tarim Basin in Central Asia, now the Xinjiang Autonomous Region of China.

Tocharian is documented in manuscript fragments, mostly from the 8th century (with a few earlier ones) that were written on palm leaves, wooden tablets and Chinese paper, preserved by the extremely dry climate of the Tarim Basin. Samples of the language have been discovered at sites in Kucha and Karasahr, including many mural inscriptions.

Tocharian A and B are not intercomprehensible. Properly speaking, based on the tentative interpretation of *twqry* as related to *Tokharoi*, only Tocharian A may be referred to as *Tocharian*, while Tocharian B could be called *Kuchean* (its native name may have been *kušĩññe*), but since their grammars are usually treated together in scholarly works, the terms A and B have proven useful. The common Proto-Tocharian language must precede the attested languages by several centuries, probably dating to the 1st millennium BC.

1.7.2. SOUTHERN INDO-EUROPEAN DIALECTS

A. GREEK

Greek (Gk. Ελληνικά, “*Hellenic*”) is an Indo-European branch with a documented history of 3,500 years. Today, Modern Greek is spoken by 15 million people in Greece, Cyprus, the former Yugoslavia, particularly the former Yugoslav Republic of Macedonia, Bulgaria, Albania and Turkey.

Greek has been written in the Greek alphabet, the first true alphabet, since the 9th century B.C. and before that, in Linear B and the Cypriot syllabaries. Greek literature has a long and rich tradition.



Figure 36. Location of Ancient Greek dialects by 400 BC.

Greek has been spoken in the Balkan Peninsula since the 2nd millennium BC. The earliest evidence of this is found in the Linear B tablets dating from 1500 BC. The later Greek alphabet is unrelated to Linear B, and was derived from the Phoenician alphabet; with minor modifications, it is still used today.

Mycenaean is the most ancient attested form of the Greek branch, spoken on mainland Greece and on Crete in the 16th to 11th centuries BC, before the Dorian invasion. It is preserved in inscriptions in Linear B, a script invented on Crete before the 14th century BC. Most instances of these inscriptions are on clay tablets found in Knossos and in Pylos. The language is named after Mycenae, the first of the palaces to be excavated.

The tablets remained long undeciphered, and every conceivable language was suggested for them, until Michael Ventris deciphered the script in 1952 and proved the language to be an early form of Greek or closely related to the Greek branch of Indo-European.

The texts on the tablets are mostly lists and inventories. No prose narrative survives, much less myth or poetry. Still, much may be glimpsed from these records about the people who produced them, and about the Mycenaean period at the eve of the so-called Greek Dark Ages.

Unlike later varieties of Greek, Mycenaean Greek probably had seven grammatical cases, the nominative, the genitive, the accusative, the dative, the instrumental, the locative, and the vocative. The instrumental and the locative however gradually fell out of use.

NOTE. For the Locative in *-ei*, compare *di-da-ka-re*, ‘*didaskalei*’, *e-pi-ko-e*, ‘*Epikóhei*’, etc (in Greek there are syntactic compounds like *puloi-genēs*, ‘born in Pylos’); also, for remains of an Ablative case in *-ōd*, compare (months’ names) *ka-ra-e-ri-jo-me-no*, *wo-de-wi-jo-me-no*, etc.

Proto-Greek, a Centum dialect within the southern IE dialectal group (very close to Mycenaean), does appear to have been affected by the general trend of palatalization characteristic of the Satem group, evidenced for example by the (post-Mycenaean) change of labiovelars into dentals before *e* (e.g. *k^we* > *te* “and”).

The primary sound changes from PIE to Proto-Greek include

- Aspiration of /s/ -> /h/ intervocalic
- De-voicing of voiced aspirates.
- Dissimilation of aspirates (Grassmann's law), possibly post-Mycenaean.
- word-initial *j-* (not *Hj-*) is strengthened to *dj-* (later ζ-)

The loss of prevocalic **s* was not completed entirely, famously evidenced by *sus* “sow”, *dasus* “dense”; *sun* “with” is another example, sometimes considered contaminated with PIE *kom* (Latin *cum*, Proto-Greek **kon*) to Homeric / Old Attic *ksun*, although probably consequence of Gk. psi-substrate (Villar).

Sound changes between Proto-Greek and Mycenaean include:

- Loss of final stop consonants; final /m/ -> /n/.
- Syllabic /m/ and /n/ -> /am/, /an/ before resonants; otherwise /a/.
- Vocalization of laryngeals between vowels and initially before consonants to /e/, /a/, /o/ from *h*₁, *h*₂, *h*₃ respectively.

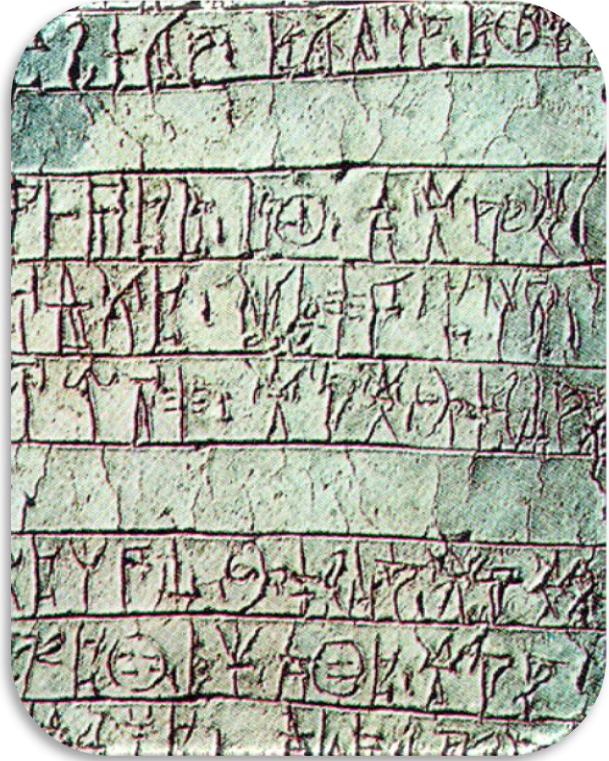


Figure 37 Linear B has roughly 200 signs, divided into syllabic signs with phonetic values and logograms (or ideograms) with semantic values

- The sequence CRHC (C = consonant, R = resonant, H = laryngeal) becomes CRēC, CRāC, CRōC from H = *h₁, *h₂, *h₃, respectively.
- The sequence CRHV (C = consonant, R = resonant, H = laryngeal, V = vowel) becomes CaRV.
- loss of s in consonant clusters, with supplementary lengthening, *esmi* -> *ēmi*
- creation of secondary s from clusters, *ntia* -> *nsa*. Assibilation *ti* -> *si* only in southern dialects.

The PIE dative, instrumental and locative cases are syncretized into a single dative case. Some desinences are innovated, as e.g. dative plural *-si* from locative plural *-su*.

Nominative plural *-oi*, *-ai* replaces late PIE *-ōs*, *-ās*.

The superlative on *-tatos* (PIE *-tm-to-s*) becomes productive.

The peculiar oblique stem *gunaik-* “women”, attested from the Thebes tablets is probably Proto-Greek; it appears, at least as *gunai-* also in Armenian.

The pronouns *houtos*, *ekeinos* and *autos* are created. Use of *ho*, *hā*, *ton* as articles is post-Mycenaean.

An isogloss between Greek and the closely related Phrygian is the absence of *r*-endings in the Middle in Greek, apparently already lost in Proto-Greek.

Proto-Greek inherited the augment, a prefix *é-* to verbal forms expressing past tense. This feature it shares only with Indo-Iranian and Phrygian (and to some extent, Armenian), lending support to a Southern or Graeco-Aryan Dialect.

The first person middle verbal desinences *-mai*, *-mān* replace *-ai*, *-a*. The third singular *pherei* is an analogical innovation, replacing expected Doric **phereti*, Ionic **pheresi* (from PIE *bhéréti*).

The future tense is created, including a future passive, as well as an aorist passive.

The suffix *-ka-* is attached to some perfects and aorists.

Infinitives in *-ehen*, *-enai* and *-men* are created.

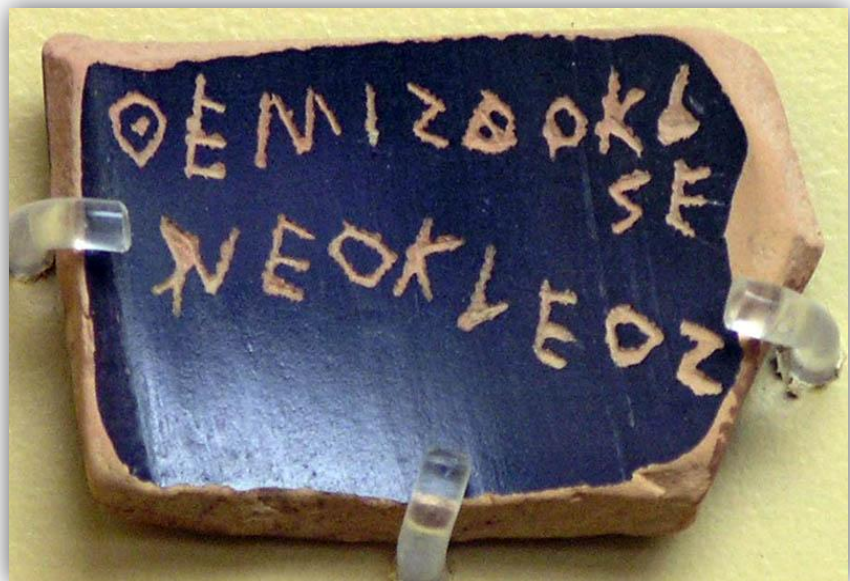


Figure 38. A ballot voting for Themistocles, son of Neocles, under the Athenian Democracy, ca. 470 BC.

B. ARMENIAN



Figure 39. Distribution of Armenian speakers in the 20th Century.

Armenian is an Indo-European language spoken in the Armenian Republic and also used by Armenians in the Diaspora. It constitutes an independent branch of the Indo-European language family.

Armenian is regarded as a close relative of Phrygian. From the modern languages Greek seems to be the most closely related to Armenian, sharing major isoglosses with it. Some linguists have proposed that the linguistic ancestors of the Armenians and Greeks were either identical or in a close contact relation.

The earliest testimony of the Armenian language dates to the 5th century AD, the Bible translation of Mesrob Mashtots. The earlier history of the language is unclear and the subject of much speculation. It is clear that Armenian is an Indo-European language, but its development is opaque. The Graeco-Armenian hypothesis proposes a close relationship to the Greek language, putting both in the larger context of Paleo-Balkans languages – notably including Phrygian, which is widely accepted as an Indo-European language particularly close to Greek, and sometimes Ancient Macedonian –, consistent with Herodotus' recording of the Armenians as descending from colonists of the Phrygians.

In any case, Armenian has many layers of loanwords, and shows traces of long language contact with Hurro-Urartian, Greek and Iranian.

The Proto-Armenian sound-laws are varied and eccentric, such as **dw-* yielding *erk-*, and in many cases still uncertain.

PIE voiceless stops are aspirated in Proto-Armenian, a circumstance that gave rise to the Glottalic theory, which postulates that this aspiration may have been sub-phonematic already in PIE. In certain contexts, these aspirated stops are further reduced to *w*, *h* or zero in Armenian (as IE **pods**, supposed PIE **pots*, into Armenian *otn*, Greek *pous* “foot”; PIE *treis*, Armenian *erek*, Greek *treis* “three”).

The reconstruction of Proto-Armenian being very uncertain, there is no general consensus on the date range when it might have been alive. If Herodotus is correct in deriving Armenians from Phrygian stock, the Armenian-Phrygian split would probably date to between roughly the 12th and 7th centuries

BC, but the individual sound-laws leading to Proto-Armenian may have occurred at any time preceding the 5th century AD. The various layers of Persian and Greek loanwords were likely acquired over the course of centuries, during Urartian (pre-6th century BC) Achaemenid (6th to 4th c. BC; Old Persian), Hellenistic (4th to 2nd c. BC Koine Greek) and Parthian (2nd c. BC to 3rd c. AD; Middle Persian) times.

The Armenians according to Diakonoff, are then an amalgam of the Hurrian (and Urartians), Luvians and the Proto-Armenian Mushki who carried their IE language eastwards across Anatolia. After arriving in its historical territory, Proto-Armenian would appear to have undergone massive influence on part the languages it eventually replaced. Armenian phonology, for instance, appears to have been greatly affected by Urartian, which may suggest a long period of bilingualism.

Grammatically, early forms of Armenian had much in common with classical Greek and Latin, but the modern language (like Modern Greek) has undergone many transformations. Interestingly enough, it shares with Italic dialects the secondary IE suffix *-tio(n)*, extended from *-ti*, cf. Arm թյուն (*t'youn*).



Figure 40 Armenian manuscript, ca. 5th-6th AD

C. INDO-IRANIAN

The **Indo-Iranian language** group constitutes the easternmost extant branch of the Indo-European family of languages. It consists of four language groups: the Indo-Aryan, Iranian, Nuristani, and Dardic – sometimes classified within the Indic subgroup. The term **Aryan languages** is also traditionally used to refer to the Indo-Iranian languages.

The contemporary Indo-Iranian languages form the largest sub-branch of Indo-European, with more than one billion speakers in total, stretching from Europe (Romani) and the Caucasus (Ossetian) to East India (Bengali and Assamese). A 2005 estimate counts a total of 308 varieties, the largest in terms of native speakers being Hindustani (Hindi and Urdu, ca. 540 million), Bengali (ca. 200 million), Punjabi (ca. 100 million), Marathi and Persian (ca. 70 million each), Gujarati (ca. 45 million), Pashto (40 million), Oriya (ca. 30 million), Kurdish and Sindhi (ca. 20 million each).

The speakers of the Proto-Indo-Iranian language, the Proto-Indo-Iranians, are usually associated with the late 3rd millennium BC Sintashta-Petrovka culture of Central Asia. Their expansion is believed to have been connected with the invention of the chariot.

The main change separating Proto-Indo-Iranian from Late PIE, apart from the satemization, is the collapse of the ablauting vowels *e*,

o, *a* into a single vowel, Ind.-Ira. **a* (but see Brugmann’s law in Appendix II). Grassmann’s law, Bartholomae’s law, and the Ruki sound law were also complete in Proto-Indo-Iranian. Among the sound changes from Proto-Indo-Iranian to Indo-Aryan is the loss of the voiced sibilant **z*, among those to Iranian is the de-aspiration of the PIE voiced aspirates.



Figure 41. Current distribution of Indo-Iranian dialects in Asia.

Proto-Indo-Iranian	Old Iranian	Vedic Sanskrit
<i>*açva</i> (“horse”)	Av., O.Pers. <i>aspa</i>	<i>aśva</i>
<i>*bhag-</i>	O.Pers. <i>baj-</i> (<i>bāji</i> ; “tribute”)	<i>bhag-</i> (<i>bhaga</i>)
<i>*bhrātr-</i> (“brother”)	O.Pers. <i>brātar</i>	<i>bhrātṛ</i>
<i>*bhūmī</i> (“earth”, “land”)	O.Pers. <i>būmi</i>	<i>bhūmī</i>
<i>*martya</i> (“mortal”, “man”)	O.Pers. <i>martya</i>	<i>martya</i>
<i>*māsa</i> (“moon”)	O.Pers. <i>māha</i>	<i>māsa</i>
<i>*vāsara</i> (“early”)	O.Pers. <i>vāhara</i> (“spring”)	<i>vāsara</i> (“morning”)
<i>*arta</i> (“truth”)	Av. <i>aša</i> , O.Pers. <i>arta</i>	<i>ṛta</i>
<i>*draugh-</i> (“falsehood”)	Av. <i>druj</i> , O.Pers. <i>draug-</i>	<i>druh-</i>
<i>*sauma</i> “pressed (juice)”	Av. <i>haoma</i>	<i>soma</i>

I. IRANIAN KURDISH

The **Kurdish language** (*Kurdî* in Kurdish) is spoken in the region loosely called Kurdistan, including Kurdish populations in parts of Iran, Iraq, Syria and Turkey. Kurdish is an official language in Iraq while it is banned in Syria. The number of speakers in Turkey is deemed to be more than 15 million.

The original language of the people in the area of Kurdistan was Hurrian, a non-IE language belonging to the Caucasian family. This older language was replaced by an Iranian dialect around 850 BC, with the arrival of the Medes. Nevertheless, Hurrian influence on Kurdish is still evident in its ergative grammatical structure and in its toponyms.



Figure 42. Current distribution of Kurdish-speaking population in the Near East.

OSSETIC

Ossetic or **Ossetian** (Ossetic *Ирон æвзаг*, *Iron ævzhağ* or *Иронау*, *Ironau*) is an Iranian language spoken in Ossetia, a region on the slopes of the Caucasus Mountains, on the borders of the Russian Federation and Georgia.

The Russian area is known as *North Ossetia-Alania*, while the area in Georgia is called *South Ossetia* or *Samachablo*. Ossetian speakers number about 700.000, sixty percent of whom live in Alania, and twenty percent in South Ossetia

Ossetian, together with Kurdish, Tati and Talyshi, is one of the main Iranian languages with a sizeable community of speakers in the Caucasus. It is descended from Alanic, the language of the Alans, medieval tribes emerging from the earlier Sarmatians. It is believed to be the only surviving descendant of a Sarmatian language. The closest genetically related language is the Yaghnobi language of Tajikistan, the only other living member of the Northeastern Iranian branch. Ossetic has a plural formed by the suffix *-ta*, a feature it shares with Yaghnobi, Sarmatian and the now-extinct Sogdian; this is taken as evidence of a formerly wide-ranging Iranian-language dialect continuum on the Central Asian steppe. The Greek-derived names of ancient Iranian tribes in fact reflect this special plural, e.g. Saromatae (Σαρομάται) and Masagetæ (Μασαγέται).

II. INDO-ARYAN

ROMANY LANGUAGES

Romany (or Romani) is the term used for the Indo-European languages of the European Roma and Sinti. These Indo-Aryan languages should not be confused with either Romanian or Romansh, both of which are Romance languages.

The **Roma** people, often referred to as Gypsies, are an ethnic group who live primarily in Europe. They are believed to be descended from nomadic peoples from northwestern India and Pakistan who began a Diaspora from the eastern end of the Iranian Plateau into Europe and North Africa about 1.000 years ago. **Sinte** or Sinti is the name some communities of the nomadic people usually called Gypsies in English prefer for themselves. This includes communities known in German and Dutch as *Zigeuner* and in Italian as *Zingari*. They are closely related to, and are usually considered to be a subgroup of, the Roma people. Roma and Sinte do not form a majority in any state.

Today's dialects of Romany are differentiated by the vocabulary accumulated since their departure from Anatolia, as well as through divergent phonemic evolutions and grammatical features. Many Roma no longer speak the language or speak various new contact languages from the local language with the addition of Romany vocabulary.

There are independent groups currently working toward standardizing the language, including groups in Romania, Serbia, Montenegro, the United States, and Sweden. A standardized form of Romani is used in Serbia, and in Serbia's autonomous province of Vojvodina Romani is one of the officially recognized languages of minorities having its own radio stations and news broadcasts.

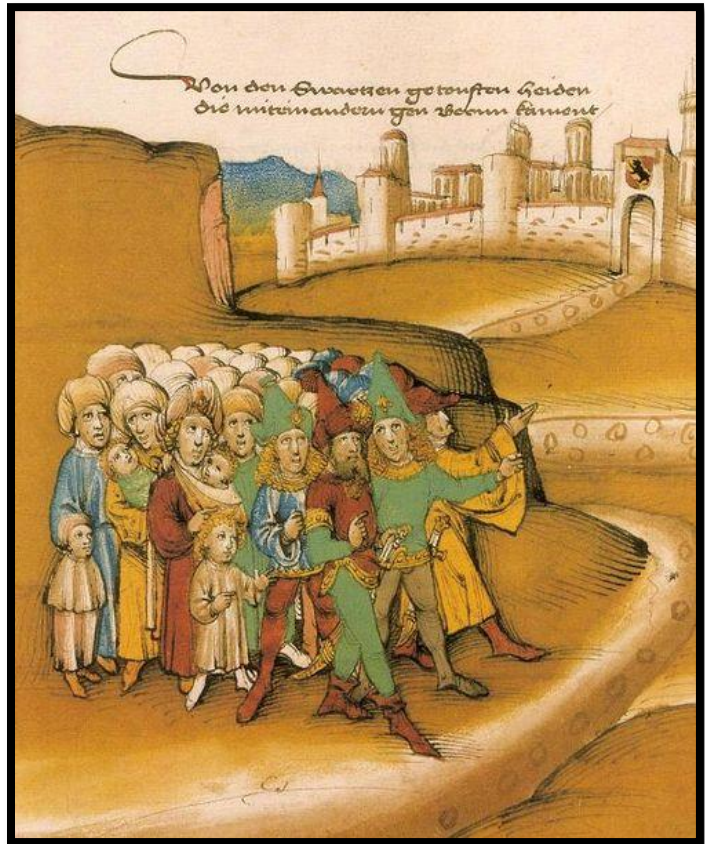


Figure 43. First arrival of the Roma outside Berne in the 15th century, described by the chronicler as *getoufte heiden* "baptized heathens" and drawn with dark skin and wearing Saracen-style clothing and weapons (Spiezer Schilling, p. 749).

A long-standing common categorization was a division between the *Vlax* (from *Vlach*) from *non-Vlax* dialects. *Vlax* are those Roma who lived many centuries in the territory of Romania. The main distinction between the two groups is the degree to which their vocabulary is borrowed from Romanian. *Vlax*-speaking groups include the great number of speakers, between half and two-thirds of all Romani speakers. Bernard Gillad Smith first made this distinction, and coined the term *Vlax* in 1915 in the book *The Report on the Gypsy tribes of North East Bulgaria*. Subsequently, other groups of dialects were recognized, primarily based on geographical and vocabulary criteria, including:

- Balkan Romani: in Albania, Bulgaria, Greece, Macedonia, Moldova, Montenegro, Serbia, Romania, Turkey and Ukraine.
- Romani of Wales.
- Romani of Finland.
- Sinte: in Austria, Croatia, the Czech Republic, France, Germany, Italy, the Netherlands, Poland, Serbia, Montenegro, Slovenia, and Switzerland.
- Carpathian Romani: in the Czech Republic, Poland (particularly in the south), Slovakia, Hungary, Romania, and Ukraine.
- Baltic Romani: in Estonia, Latvia, Lithuania, Poland, Belarus, Ukraine and Russia.
- Turkish dialects:
 - Rumeli (Thrace) dialect (Thrace, Uskudar, a district on the Anatolian side of the Bosphorus): most loanwords are from Greek.
 - Anatolian dialect. Most loanwords are from Turkish, Kurdish and Persian.
 - Posha dialect, Armenian Gypsies from eastern Anatolia mostly nomads although some have settled in the region of Van, Turkey. The Kurds call them *Mytryp* (settled ones).

Some Roma have developed Creole languages or mixed languages, including:

- *Caló* or Iberian-Romani, which uses the Romani lexicon and Spanish grammar (the *Calé*).
- Romungro.
- Lomavren or Armenian-Romani.
- Angloromani or English-Romani.
- Scandoromani (Norwegian-Traveller Romani or Swedish-Traveller Romani).
- Romano-Greek or Greek-Romani.
- Romano-Serbian or Serbian-Romani.
- Boyash, a dialect of Romanian with Hungarian and Romani loanwords.
- Sinti-Manouche-Sinti (Romani with German grammar).

1.7.3. OTHER INDO-EUROPEAN DIALECTS OF EUROPE

A. ALBANIAN

Albanian (*gjuha shqipe*) is a language spoken by over 8 million people primarily in Albania, Kosovo, and the Former Yugoslav Republic of Macedonia, but also by smaller numbers of ethnic Albanians in other parts of the Balkans, along the eastern coast of Italy and in Sicily, as well other emigrant groups. The language forms its own distinct branch of the Indo-European languages.

The Albanian language has no living close relatives among the modern languages. There is no scholarly consensus over its origin and dialectal classification. Some scholars maintain that it derives from the Illyrian language, and others claim that it derives from Thracian.

While it is considered established that the Albanians originated in the Balkans, the exact location from which they spread out is hard to pinpoint. Despite varied claims, the Albanians probably came from farther north and inland than would suggest the present borders of Albania, with a homeland concentrated in the mountains.

Given the overwhelming amount of shepherding and mountaineering vocabulary as well as the extensive influence of Latin, it is more likely the Albanians come from north of the Jireček line, on the Latin-speaking side, perhaps in part from the late Roman province of *Dardania* from the western Balkans. However, archaeology has more convincingly pointed to the early Byzantine province of *Praevitana* (modern northern Albania) which shows an area where a primarily shepherding, transhumance population of Illyrians retained their culture.

The period in which Proto-Albanian and Latin interacted was protracted and drawn out over six centuries, 1st c. AD to 6th or 7th c. AD. This is born out into roughly three layers of borrowings, the largest number belonging to the second layer. The first, with the fewest borrowings, was a time of less important interaction. The final period, probably preceding the Slavic or Germanic invasions, also has a notably smaller amount of borrowings. Each layer is characterized by a different treatment of most vowels, the first layer having several that follow the evolution of Early Proto-Albanian into Albanian; later layers reflect vowel changes endemic to Late Latin and presumably Proto-Romance. Other



Figure 44. Albanian language and its dialects Ghëg, Tosk (also Arbëreshë and Arvanitika)

formative changes include the syncretism of several noun case endings, especially in the plural, as well as a large scale palatalization.

A brief period followed, between 7th c. AD and 9th c. AD, that was marked by heavy borrowings from Southern Slavic, some of which predate the “*o-a*” shift common to the modern forms of this language group. Starting in the latter 9th c. AD, a period followed of protracted contact with the Proto-Romanians, or Vlachs, though lexical borrowing seems to have been mostly one sided – from Albanian into Romanian. Such a borrowing indicates that the Romanians migrated from an area where the majority was Slavic (i.e. Middle Bulgarian) to an area with a majority of Albanian speakers, i.e. Dardania, where Vlachs are recorded in the 10th c. AD. This fact places the Albanians at a rather early date in the Western or Central Balkans, most likely in the region of Kosovo and Northern Albania.

References to the existence of Albanian as a distinct language survive from the 1300s, but without recording any specific words. The oldest surviving documents written in Albanian are the *Formula e Pagëzimit* (Baptismal formula), *Un'te paghesont' pr'emenit t'Atit e t'Birit e t'Spirit Senit*, “*I baptize thee in the name of the Father, and the Son, and the Holy Spirit*”, recorded by Pal Engjelli, Bishop of Durres in 1462 in the Gheg dialect, and some New Testament verses from that period.

B. PALEO-BALKAN LANGUAGES

PHRYGIAN

The **Phrygian language** was the Indo-European language spoken by the Phrygians, a people that settled in Asia Minor during the Bronze Age.

Phrygian is attested by two corpora, one, Paleo-Phrygian, from around 800 BC and later, and another after a period of several centuries, Neo-Phrygian, from around the beginning of the Common Era. The Palaeo-Phrygian corpus is further divided (geographically) into inscriptions of **Midas-city**, Gordion, Central, Bithynia, Pteria, Tyana, Daskyleion, Bayindir, and “*various*” (*documents divers*). The **Mysian** inscriptions show a language classified as a separate Phrygian

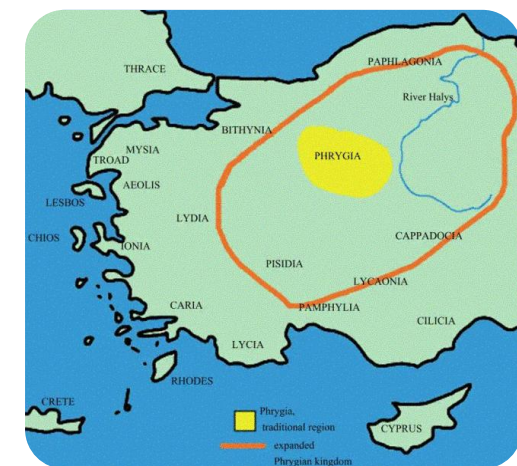


Figure 45. Traditional Phrygian region and expanded Kingdom.

dialect, written in an alphabet with an additional letter, the “*Mysian s*”. We can reconstruct some words with the help of some inscriptions written with a script similar to the Greek one.

The language survived probably into the sixth century AD, when it was replaced by Greek.

Ancient historians and myths sometimes did associate Phrygian with Thracian and maybe even Armenian, on grounds of classical sources. Herodotus recorded the Macedonian account that Phrygians emigrated into Asia Minor from Thrace (7.73). Later in the text (7.73), Herodotus states that the Armenians were colonists of the Phrygians, still considered the same in the time of Xerxes I. The earliest mention of Phrygian in Greek sources, in the *Homeric Hymn to Aphrodite*, depicts it as different from Trojan: in the hymn, Aphrodite, disguising herself as a mortal to seduce the Trojan prince Anchises, tells him

“*Otreus of famous name is my father, if so be you have heard of him, and he reigns over all Phrygia rich in fortresses. But I know your speech well beside my own, for a Trojan nurse brought me up at home*”. Of Trojan, unfortunately, nothing is known.

Its structure, what can be recovered from it, was typically Indo-European, with nouns declined for case (at least four), gender (three) and number (singular and plural), while the verbs are conjugated for tense, voice, mood, person and number. No single word is attested in all its inflectional forms.

Many words in Phrygian are very similar to the reconstructed Proto-Indo-European forms. Phrygian seems to exhibit an augment, like Greek and Armenian, c.f. *eberet*, probably corresponding to PIE **é-bher-e-t* (Greek *epheret*).

A sizable body of Phrygian words are theoretically known; however, the meaning and etymologies and even correct forms of many Phrygian words (mostly extracted from inscriptions) are still being debated.

A famous Phrygian word is *bekos*, meaning “*bread*”. According to Herodotus (*Histories* 2.9) Pharaoh Psammetichus I wanted to establish the original language. For this purpose, he ordered two children to be reared by a shepherd, forbidding him to let them hear a single word, and charging him to report the children's first utterance. After two years, the shepherd reported that on entering their chamber, the children came up to him, extending their hands, calling *bekos*. Upon enquiry, the pharaoh discovered that this was the Phrygian word for “*wheat bread*”, after which the Egyptians conceded that the Phrygian nation was older than theirs. The word *bekos* is also attested several times in Palaeo-Phrygian inscriptions on funerary stelae. It was suggested that it is cognate to English *bake*, from PIE **bheh₃g*; cf. Greek *phōgō*, “*to roast*”, Latin *focus*, “*fireplace*”, Armenian *bosor*, “*red*”, and *bots* “*flame*”, Irish *goba* “*smith*”, and so on.



Figure 46. Phrygian inscription in Midas City.

Bedu according to Clement of Alexandria's *Stromata*, quoting one Neanthus of Cyzicus means “water” (PIE **wed*). The Macedonians are said to have worshiped a god called *Bedu*, which they interpreted as “air”. The god appears also in Orphic ritual.

Other Phrygian words include:

- *anar*, 'husband', from PIE **ner-* 'man'; cf. Gk. *anēr* (ανήρ) “man, husband”, O.Ind. *nara*, *nr*, Av. *nā/nar-*, Osc. *ner-um*, Lat. *Nero*, Welsh *ner*, Alb. *njери* “man, person”.
- *attagos*, 'goat'; cf. Gk. *tragos* (τράγος) “goat”, Ger. *Ziege* “goat”, Alb. *dhi* “she-goat”.
- *balaios*, 'large, fast', from PIE **bel-* 'strong'; cognate to Gk. *belteros* (βέλτερος) “better”, Rus. *bol'shói* “large, great”, Welsh *balch* “proud”.
- *belte*, 'swamp', from PIE **b^hel-*, 'to gleam'; cf. Gk. *baltos* (βάλτος) “swamp”, Alb. *baltë*, “silt, mud”, Bulg. *blato* (O.Bulg. *balta*) “swamp”, Lith. *baltas* “white”, Russ. *bledny*, Bulg. *bleden* “pale”.
- *brater*, 'brother', from PIE **b^hrater-*, 'brother';
- *daket*, 'does, causes', PIE **d^he-k-*, 'to set, put';
- *germe*, 'warm', PIE **g^{wh}er-*, 'warm'; cf. Gk. *thermos* (θερμός) “warm”, Pers. *gar-me* “warm”, Arm. *ǰerm* “warm”, Alb. *zjarm* “warm”.
- *kakon*, 'harm, ill', PIE **kaka-*, 'harm'; cf. Gk. *kakós* (κακός) “bad”, Alb. *keq* “bad, evil”, Lith. *keñti* “to be evil”.
- *knoumane*, 'grave', maybe from PIE **knu-*, 'to scratch'; cf. Gk. *knaō* (κνάω) “to scratch”, Alb. *krromë* “scurf, scabies”, O.H.G. *hnuo* “notch, groove”, *nuoen* “to smooth out with a scraper”, Lith. *knisti* “to dig”.
- *manka*, 'stela'.
- *mater*, 'mother', from PIE **mater-*, 'mother';
- *meka*, 'great', from PIE **meg-*, 'great';
- *zamelon*, 'slave', PIE **d^hg^hom-*, 'earth'; cf. Gk. *chamelos* (χαμηλός) “adj. on the ground, low”, Sr.-Cr. *zèmlja* and Bul. *zèmya/zèmlishte* “earth/land”, Lat. *humilis* “low”.

THRACIAN

Excluding Dacian, whose status as a Thracian language is disputed, Thracian was spoken in substantial numbers in what is now southern Bulgaria, parts of Serbia, the Republic of Macedonia, Northern Greece – especially prior to Ancient Macedonian expansion –, throughout Thrace (including European Turkey) and in parts of Bithynia (North-Western Asiatic Turkey).

As an extinct language with only a few short inscriptions attributed to it (v.i.), there is little known about the Thracian language, but a number of features are agreed upon. A number of probable Thracian

words are found in inscriptions – most of them written with Greek script – on buildings, coins, and other artifacts.

Thracian words in the Ancient Greek lexicon are also proposed. Greek lexical elements may derive from Thracian, such as *balios*, “dappled” (< PIE **bhel-*, “to shine”, Pokorny also cites Illyrian as a possible source), *bounos*, “hill, mound”, etc.

Most of the Thracians were eventually Hellenized – in the province of Thrace – or Romanized – in Moesia, Dacia, etc. –, with the last remnants surviving in remote areas until the 5th century.

DACIAN

The **Dacian language** was an Indo-European language spoken by the ancient people of Dacia. It is often considered to have been a northern variant of the Thracian language or closely related to it.

There are almost no written documents in Dacian. Dacian used to be one of the major languages of South-Eastern Europe, stretching from what is now Eastern Hungary to the Black Sea shore. Based on archaeological findings, the origins of the Dacian culture are believed to be in Moldavia, being identified as an evolution of the Iron Age Basarabi culture.

It is unclear exactly when the Dacian language became extinct, or even whether it has a living descendant. The initial Roman conquest of part of Dacia did not put an end to the language, as Free Dacian tribes such as the Carpi may have continued to speak Dacian in Moldavia and adjacent regions as late as the 6th or 7th century AD, still capable of leaving some influences in the forming Slavic languages.

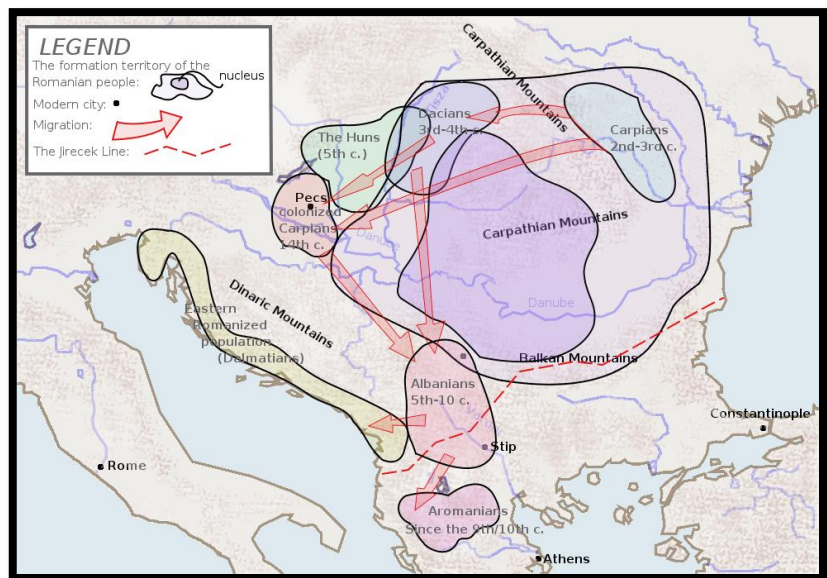


Figure 47. Theoretical scenario: the Albanians as a migrant Dacian people

- According to one hypothesis, a branch of Dacian continued as the Albanian language (Hasdeu, 1901);
- Another hypothesis considers Albanian to be a Daco-Moesian Dialect that split off from Dacian before 300 BC and that Dacian itself became extinct;

The argument for this early split (before 300 BC) is the following: inherited Albanian words (e.g. Alb. *motër* 'sister' < Late PIE *māter* 'mother') shows the transformation Late PIE *ā* > Alb. /o/, but all the Latin loans in Albanian having an /a:/ shows Lat. /a:/ > Alb. /a/. This indicates that the transformation P-Alb. /a:/ > P-Alb. /o/ happened and ended before the Roman arrival in the Balkans. On the other hand, Romanian substratum words shared with Albanian show a Romanian /a/ that correspond to an Albanian /o/ when both sounds source is an original common /a:/ (*mazāre/modhull*<**mādzula* 'pea'; *raṭā/rosë*<**rātja*: 'duck') indicating that when these words have had the same Common form in Pre-Romanian and Proto-Albanian the transformation P-Alb. /a:/ > P-Alb. /o/ had not started yet. The correlation between these two facts indicates that the split between Pre-Romanian (the Dacians that were later Romanized) and Proto-Albanian happened before the Roman arrival in the Balkans.

ILLYRIAN

The **Illyrian languages** are a group of Indo-European languages that were spoken in the western part of the Balkans in former times by ethnic groups identified as *Illyrians*: Delmatae, Pannoni, Illyrioi, Autariates, Taulanti. The Illyrian languages are generally, but not unanimously, reckoned as centum dialects.

Some sound-changes and other language features are deduced from what remains of the Illyrian languages, but because no writings in Illyrian are known, there is not sufficient evidence to clarify its place within the Indo-European language family aside from its probable centum nature. Because of the uncertainty, most sources provisionally place Illyrian on its own branch of Indo-European, though its relation to other languages, ancient and modern, continues to be studied and debated.

Today, the main source of authoritative information about the Illyrian language consists of a handful of Illyrian words cited in classical sources, and numerous examples of Illyrian anthroponyms, ethnonyms, toponyms and hydronyms.

A grouping of Illyrian with the Messapian language has been proposed for about a century, but remains an unproven hypothesis. The theory is based on classical sources, archaeology, as well as onomastic considerations. Messapian material culture bears a number of similarities to Illyrian material culture. Some Messapian anthroponyms have close Illyrian equivalents.

A relation to the Venetic language and Liburnian language, once spoken in northeastern Italy and Liburnia respectively, is also proposed.

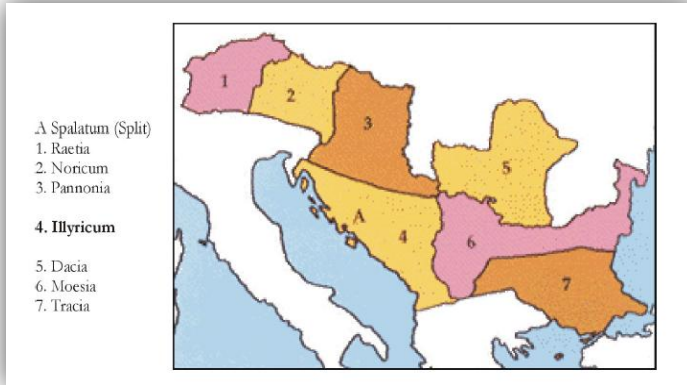


Figure 48. Territories where the different Paleo-Balkan languages were spoken.

A grouping of Illyrian with the Thracian and Dacian language in a “Thraco-Illyrian” group or branch, an idea popular in the first half of the 20th century, is now generally rejected due to a lack of sustaining evidence, and due to what may be evidence to the contrary.

A hypothesis that the modern Albanian language is a surviving Illyrian language remains very controversial among linguists. The identification of Illyrian as a centum language is widely but not unanimously accepted, although it is generally admitted that from what remains of the language, centum examples appear to greatly outnumber Satem examples. One of the few Satem examples in Illyrian appears to be *Osseriates*, probably from PIE **eghero-*, “lake”. Only a few Illyrian items have been linked to Albanian, and these remain tentative or inconclusive for the purpose of determining a close relation.

Only a few Illyrian words are cited in Classical sources by Roman or Greek writers, but these glosses, provided with translations, provide a core vocabulary. Only four identified with an ethnonym *Illyrii* or *Illurioi*; others must be identified by indirect means:

- *brisa*, “husk of grapes”; cf. Alb. *bërsi*.
- *mantía*, “bramble bush”; cf. Alb. (Tosk) *mën* “mulberry bush”, (Gheg) *mandë*.
- *oseriates*, “lakes”; akin to O.C.S. *ozero* (Sr.-Cr. *jezero*), Lith. *ẽžeras*, O.Pruss. *assaran*, Gk. *Akéroun* “river in the underworld”.
- *rhinos*, “fog, cloud”; cf. O.Alb. *ren*, mod. Alb. *re* “cloud”.
- *sabaia*, *sabaium*, *sabaius*, “a type of beer”; akin to Eng *sap*, Lat. *sapere* “to taste”, Skr. *sabar* “sap, juice, nektar”, Av. *višāpa* “having poisonous juices”, Arm. *ham*, Greek *apalós* “tender, delicate”, O.C.S. *sveptŭ* “bee’s honey”.
- Lat. *sibina*, *sibyna*, *sybina*; Gk. *σιβυνη*, *σιβυνης*, *συβινη*, *ζιβυνη*: “a hunting spear”, “a spear”, “pike”; an Illyrian word according to Festius, citing Ennius; is compared to Gk. *συβηνη*, “flute case”, found in Aristophanes’ *Thesmophoriazusai*; the word appears in the context of a barbarian speaking. Akin to Persian *zōpîn*, Armenian *savîn* “spit”.
- *tertigio*, “merchant”; O.C.S. *trǫgŭ* (Sr.-Cr. *trg*), Lith. *tirgus* (Alb. *treg* “market” is a borrowing from archaic Slavic **trŭgŭ*)

Some additional words have been extracted from toponyms, hydronyms, anthroponyms, etc.:

- *lougeon*, “a pool”; cf. Alb. *lag* “to wet, soak, bathe, wash” (< PA **lauga*), *lëgatë* “pool” (< PA. **leugatâ*), *lakshte* “dew” (< PA **laugista*); akin to Lith. *liúgas* “marsh”, O. Sla. *lužá* “pool”
- *teuta* < from the Illyrian personal name *Teuta* < PIE **teuta-*, “people”
- *Bosona*, “running water” (Possible origin of the name “Bosnia”, *Bosna* in Bosnian)

PAIONIAN

The **Paionian language** is the poorly attested language of the ancient Paionians, whose kingdom once stretched north of Macedon into Dardania and in earlier times into southwestern Thrace.

Several Paionian words are known from classical sources:

- *monapos*, *monaiapos*, a wild bull.
- *tilôn*, a species of fish once found in Lake Prasias (Republic of Macedonia).
- *paprax*, a species of fish once found in Lake Prasias; masc. acc. pl. *paprakas*,

A number of anthroponyms (some known only from Paionian coinage) are attested, several toponyms (Bylazora, Astibos) and a few theonyms (*Dryalus*, *Dyalus*, the Paionian Dionysus), as well as:

- *Pontos*, affluent of the Strumica River, perhaps from **ponktos*, “wet” (cf. Ger. *feucht*, “wet”);
- *Stoboi* (nowadays Gradsko), name of a city, from **stob(h)* (cf. O.Pruss. *stabis* “rock”, O.C.S. *stoboru*, “pillar”, O.Eng. *stapol*, “post”, O.Gk. *stobos*, “scolding, bad language”);
- *Dóberos*, other Paionian city, from **dheubh-* “deep” (cf. Lith. *dubùs*, Eng. *deep*);
- *Agrianes*, name of a tribe, from **agro-* “field” (cf. Lat. *ager*, Gk. *agros*, Eng. *acre*).

Classical sources usually considered the Paionians distinct from Thracians or Illyrians, comprising their own ethnicity and language. Athenaeus seemingly connected the Paionian tongue to the Mysian language, itself barely attested. If correct, this could mean that Paionian was an Anatolian language.

On the other hand, the Paionians were sometimes regarded as descendants of Phrygians, which may put Paionian on the same linguistic branch as the Phrygian language.

Modern linguists are uncertain on the classification of Paionian, due to the extreme scarcity of materials we have on this language. However, it seems that Paionian was an independent IE dialect. It shows a/o distinctiveness and does not appear to have undergone Satemization. The Indo-European voiced aspirates **bh**, **dh**, etc., became plain voiced consonants, /b/, /d/, etc., just like in Illyrian, Thracian, Macedonian and Phrygian (but unlike Greek).

ANCIENT MACEDONIAN

The **Ancient Macedonian** language was the tongue of the Ancient Macedonians. It was spoken in Macedon during the 1st millennium BC. Marginalized from the 5th century BC, it was gradually replaced by the common Greek dialect of the Hellenistic Era. It was probably spoken predominantly in the inland regions away from the coast. It is as yet undetermined whether the language was a dialect of Greek, a sibling language to Greek, or an Indo-European language which is a close cousin to Greek and also related to Thracian and Phrygian languages.

Knowledge of the language is very limited because there are no surviving texts that are indisputably written in the language, though a body of authentic Macedonian words has been assembled from ancient sources, mainly from coin inscriptions, and from the 5th century lexicon of Hesychius of Alexandria, amounting to about 150 words and 200 proper names. Most of these are confidently identifiable as Greek, but some of them are not easily reconciled with standard Greek phonology. The 6,000 surviving Macedonian inscriptions are in the Greek Attic dialect.

The Pella curse tablet, a text written in a distinct Doric Greek idiom, found in Pella in 1986, dated to between mid to early 4th century BC, has been forwarded as an argument that the Ancient Macedonian language was a dialect of North-Western Greek. Before the discovery it was proposed that the Macedonian dialect was an early form of Greek, spoken alongside Doric proper at that time.

NOTE. Olivier Masson thinks that “in contrast with earlier views which made of it an Aeolic dialect (O.Hoffmann compared Thessalian) we must by now think of a link with North-West Greek (Locrian, Aetolian, Phocidian, Epirote). This view is supported by the recent discovery at Pella of a curse tablet which may well be the first ‘Macedonian’ text attested (...); the text includes an adverb “opoka” which is not Thessalian.” Also, James L. O’Neil states that the “curse tablet from Pella shows word forms which are clearly Doric, but a different form of Doric from any of the west Greek dialects of areas adjoining Macedon. Three other, very brief, fourth century inscriptions are also indubitably Doric. These show that a Doric dialect was spoken in Macedon, as we would expect from the West Greek forms of Greek names found in Macedon. And yet later Macedonian inscriptions are in Koine avoiding both Doric forms and the Macedonian voicing of consonants. The native Macedonian dialect had become unsuitable for written documents.”

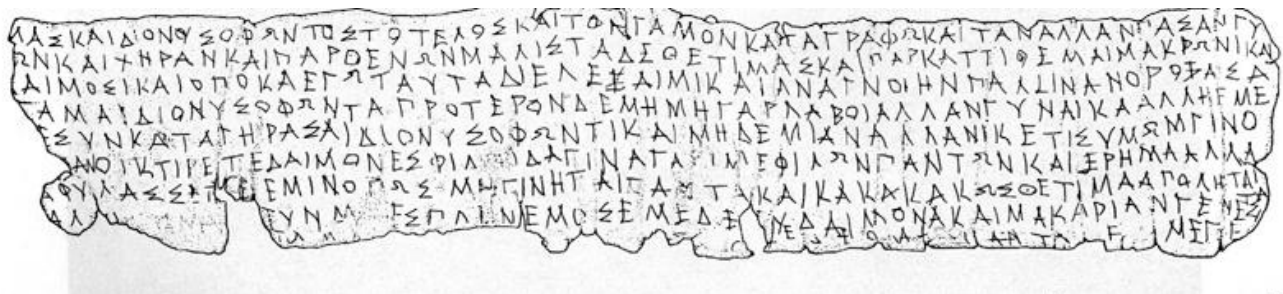


Figure 49. The Pella katadesmos, is a katadesmos (a curse, or magic spell) inscribed on a lead scroll, probably dating to between 380 and 350 BC. It was found in Pella in 1986.

From the few words that survive, a notable sound-law may be ascertained, that PIE voiced aspirates appear as voiced stops, written **β, γ, δ** in contrast to Greek dialects, which unvoiced them to **φ, χ, θ**.

- Mac. δανός *danós* ('death', from PIE **d^henh₂-* 'to leave'), compare Attic θάνατος *thánatos*.
- Mac. ἀβροῦτες *abrou̯tes* or ἀβροῦτες *abrou̯wes* as opposed to Attic ὄφρῦς *ophrús* for 'eyebrows'.
- Mac. Βερενίκη *Bereníkē* versus Attic Φερενίκη *Phereníkē*, 'bearing victory' *ἄδραια *adraia* ('bright weather'), compare Attic αἰθρία *aithría*, from PIE **h₂aid^h-*.
- βάσκιοι *báskioi* ('fascies'), from PIE **b^hasko*.
- According to Hdt. 7.73 (ca. 440 BC), the Macedonians claimed that the *Phryges* were called *Brygoi* before they migrated from Thrace to Anatolia ca. 1200 BC.
- μάγειρος *mágeiros* ('butcher') was a loan from Doric into Attic. Vittore Pisani has suggested an ultimately Macedonian origin, cognate to μάχαιρα *mákhaira* ('knife', <PIE **mag^h-*, 'to fight').

The same treatment is known from other Paleo-Balkan languages, e.g. Phrygian *bekos*, "bread", Illyrian *bagaron*, "warm", but Gk. φῶγω (*phōgō*), "roast", all from IE **b^heh₃g-*. Since these languages are all known via the Greek alphabet, which has no signs for voiced aspirates, it is unclear whether deaspiration had really taken place, or whether β, δ, γ were just picked as the closest matches to express voiced aspirates.

If γοτάν (*gotán*), "pig", is related to IE **g^wou* ('cattle'), this would indicate that the labiovelars were either intact, or merged with the velars, unlike the usual Gk. βοῦς (*boús*). Such deviations, however, are not unknown in Greek dialects; compare Doric Spartan γλεπ- (*glep-*) for common Greek βλεπ- (*blep-*), as well as Doric γλάχων (*gláchōn*) and Ionic γλήχων (*glēchōn*) for common Greek βλήχων (*blēchōn*).

A number of examples suggest that voiced velar stops were devoiced, especially word-initially; as in κánaδοι (*kánadoi*, from PIE **genu-*), "jaws"; κόμβους (*kómbous*, from PIE **gombh-*), "molars"; within words, as in ἀρκόν (*arkón*) vs. Attic ἀργός (*argós*); the Macedonian toponym *Akesamenai*, from the Pierian name *Akesamenos* – if *Akesa-* is cognate to Greek *agassomai*, *agamai*, "to astonish"; cf. the Thracian name *Agassamenos*.

In Aristophanes' *The Birds*, the form κεβλήπυρις (*keblēpyris*), "red-cap bird", shows a voiced stop instead of a standard Greek unvoiced aspirate, i.e. Macedonian κεβ(α)λή (*kebalē*) vs. Greek κεφαλή (*kephalē*), "head".

 1.7.4. ANATOLIAN LANGUAGES

The **Anatolian languages** are a group of extinct Indo-European languages, which were spoken in Asia Minor, the best attested of them being the Hittite language.

The Anatolian branch is generally considered the earliest to split off the Proto-Indo-European language, from a stage referred to either as Middle PIE (also IE II) or “Indo-Hittite”, typically a date in the mid-4th millennium BC is assumed. In a Kurgan framework, there are two possibilities of how early Anatolian speakers could have reached Anatolia: from the north via the Caucasus, and from the west, via the Balkans.

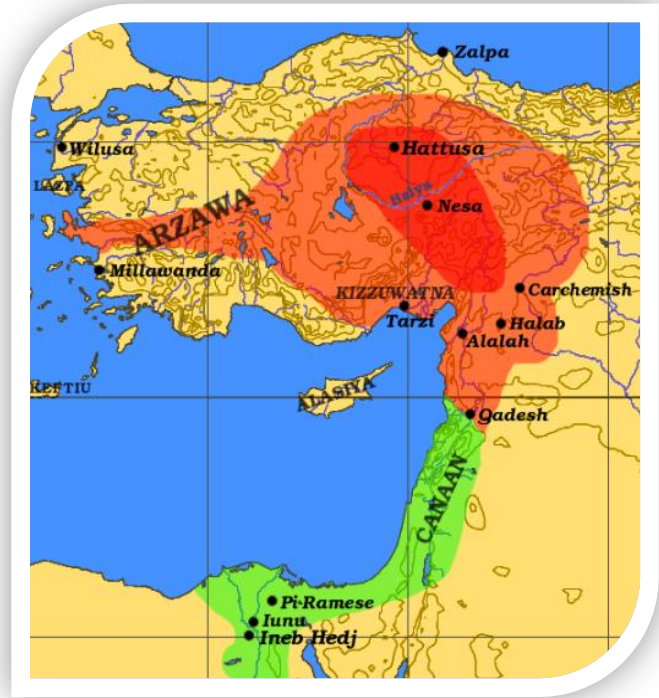


Figure 50. Maximal extent of the Hittite Empire ca. 1300 BC is shown in **dark color**, the Egyptian sphere of influence in **light color**. The approximate extent of the Hittite Old Kingdom under Hantili I (ca. 1590 BC) in **darkest**.

Attested dialects of the Anatolian branch are:

- **Hittite** (*nesili*), attested from ca. 1900 BC to 1100 BC, official language of the Hittite Empire.
- **Luwian** (*luwili*), close relative of Hittite spoken in adjoining regions, sometimes under Hittite control .
 - Cuneiform Luwian, glosses and short passages in Hittite texts written in Cuneiform script.
 - Hieroglyphic Luwian, written in Anatolian hieroglyphs on seals and in rock inscriptions.
- **Palaic**, spoken in north-central Anatolia, extinct around the 13th century BC, known only fragmentarily from quoted prayers in Hittite texts.
- **Lycian**, spoken in Lycia in the Iron Age, a descendant of Luwian, extinct in ca. the 1st century BC, fragmentary language.
- **Lydian**, spoken in Lydia, extinct in ca. the 1st century BC, fragmentary.
- **Carian**, spoken in Caria, fragmentarily attested from graffiti by Carian mercenaries in Egypt from ca. the 7th century BC, extinct ca. in the 3rd century BC.
- **Pisidian** and **Sidetic** (Pamphylian), fragmentary.
- **Milyan**, known from a single inscription.

There were likely other languages of the family that have left no written records, such as the languages of Mysia, Cappadocia and Paphlagonia.

Anatolia was heavily Hellenized following the conquests of Alexander the Great, and it is generally thought that by the 1st century BC the native languages of the area were extinct.

Hittite proper is known from cuneiform tablets and inscriptions erected by the Hittite kings. The script known as “Hieroglyphic Hittite” has now been shown to have been used for writing the closely related Luwian language, rather than Hittite proper. The later languages Lycian and Lydian are also attested in Hittite territory. Palaic, also spoken in Hittite territory, is attested only in ritual texts quoted in Hittite documents.

In the Hittite and Luwian languages there are many loan words, particularly religious vocabulary, from the non-Indo-European Hurrian and Hattic languages. Hattic was the language of the Hattians, the local inhabitants of the land of Hatti before they were absorbed or displaced by the Hittite invasions. Sacred and magical Hittite texts were often written in Hattic, Hurrian, and Akkadian, even after Hittite became the norm for other writings.

The Hittite language has traditionally been stratified into Old Hittite (OH), Middle Hittite (MH) and New or Neo-Hittite (NH), corresponding to the Old, Middle and New Kingdoms of the Hittite Empire, ca. 1750–1500 BC, 1500–1430 BC and 1430–1180 BC, respectively. These stages are differentiated partly on linguistic and partly on paleographic grounds.

Hittite was written in an adapted form of Old Assyrian cuneiform orthography. Owing to the predominantly syllabic nature of the script, it is difficult to ascertain the precise phonetic qualities of a portion of the Hittite sound inventory.

Hittite preserves some very archaic features lost in other Indo-European languages. For example, Hittite has retained two of three laryngeals, word-initial h_2 and h_3 . These sounds, whose existence had been hypothesized by Ferdinand de Saussure on the basis of vowel quality in other Indo-European languages in 1879, were not preserved as separate sounds in any attested Indo-European language until the discovery of Hittite. In Hittite, this phoneme is written as *h*.

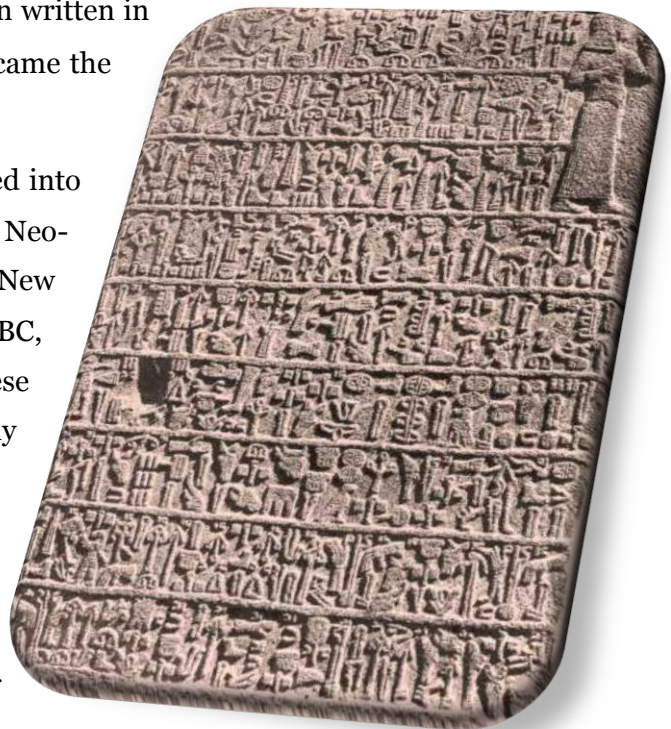


Figure 51. Hittite pictographic writing was directly derived from Old Assyrian cuneiform.

Hittite, as well as most other Anatolian languages, differs in this respect from any other Indo-European language, and the discovery of laryngeals in Hittite was a remarkable confirmation of Saussure's hypothesis.

The preservation of the laryngeals, and the lack of any evidence that Hittite shared grammatical features possessed by the other early Indo-European languages, has led some philologists to believe that the Anatolian languages split from the rest of Proto-Indo-European much earlier than the other divisions of the proto-language. In Indo-European linguistics, the term **Indo-Hittite** (also **Indo-Anatolian**) refers to the hypothesis that the Anatolian languages may have split off the Proto-Indo-European language considerably earlier than the separation of the remaining Indo-European languages. The majority of scholars continue to reconstruct a single Proto-Indo-European, but all believe that Anatolian was the first branch of Indo-European to leave the fold.

NOTE. The term is somewhat imprecise, as the prefix *Indo-* does not refer to the Indo-Aryan branch in particular, but is iconic for *Indo-European* (as in *Indo-Uralic*), and the *-Hittite* part refers to the Anatolian language family as a whole.

As the oldest attested Indo-European languages, Hittite is interesting largely because it *lacks* several grammatical features exhibited by other “old” Indo-European languages such as Sanskrit and Greek.

The Hittite nominal system consists of the following cases: Nominative, Vocative, Accusative, Genitive, Allative, Dative-Locative, Instrumental and Ablative. However, the recorded history attests to fewer cases in the plural than in the singular, and later stages of the language indicate a loss of certain cases in the singular as well. It has two grammatical genders, common and neuter, and two grammatical numbers, singular and plural.

Hittite verbs are inflected according to two general verbal classes, the *mi*-conjugation and the *hi*-conjugation. There are two voices (active and mediopassive), two moods (indicative and imperative), and two tenses (present and preterite). Additionally, the verbal system displays two infinitive forms, one verbal substantive, a supine, and a participle. Rose (2006) lists 132 *hi*-verbs and interprets the *hi/mi* oppositions as vestiges of a system of grammatical voice, i.e. “centripetal voice” vs. “centrifugal voice”.



Figure 52. Broken door jamb inscribed in raised Hittite hieroglyphs, c. 900 BC; in the British Museum.

1.8. ‘EUROPAIOM’ OR ‘SINDHUEUROPAIOM’

1.8.1. Modern Indo-European, for which we use the neutral name **Dínghūs** (also dialectally extended in **-ā**, Ita.-Cel., Ger. **dínghwā**), “*the language*”, is therefore a set of grammatical rules – including its writing system, noun declension, verbal conjugation and syntax –, designed to systematize the reconstructed Late Proto-Indo-European language, to adapt it to modern communication needs. As PIE was spoken by a prehistoric society, no genuine sample texts are available, and thus comparative linguistics – in spite of its 200 years’ history – is not in the position to reconstruct exactly their formal language (the one used by learned people), but only approximately how the spoken, vulgar language was like, i.e. the language that evolved into the different attested Indo-European dialects and languages.

NOTE. Reconstructed languages like Modern Hebrew, Modern Cornish, Modern Coptic or Modern Indo-European may be revived in their communities without being as *easy*, as *logical*, as *neutral* or as *philosophical* as the million artificial languages that exist today, and whose main aim is to be supposedly ‘*better*’, or ‘*easier*’, or ‘*more neutral*’ than other artificial or natural languages they want to substitute. Whatever the sociological, psychological, political or practical reasons behind the success of such ‘*difficult*’ and ‘*non-neutral*’ languages instead of ‘universal’ ones, what is certain is that if somebody learns Hebrew, Cornish, Coptic or Indo-European (or Latin, German, Swahili, Chinese, etc.) whatever the changes in the morphology, syntax or vocabulary that could follow (because of, say, ‘*better*’ or ‘*purser*’ or ‘*easier*’ language systems recommended by their language regulators), the language learnt will still be the same, and the effort made won’t be lost in any possible case.

1.8.2. We deemed it worth it to use the Proto-Indo-European reconstruction for the revival of a complete modern language system, because of the obvious need of a common language within the EU, to substitute the current deficient linguistic policy. This language system, called *European* or *European language* (**Eurōpáiom**), is mainly based on the features of the European or northwestern dialects, whose speakers – as we have already seen – remained in loose contact for some centuries after the first PIE migrations, and have influenced each other in the last millenia within the European subcontinent.

NOTE. As Indo-Europeanist López-Menchero puts it, “there are three Indo-European languages which must be clearly distinguished: 1) The Proto-Indo-European language, spoken by a prehistoric people, the so-called Proto-Indo-Europeans, some millennia ago; 2) The reconstructed Proto-Indo-European language, which is that being reconstructed by IE scholars using the linguistic, archaeological and historical data available, and which is imperfect by nature, based on more or less certain hypothesis and schools; and 3) The Modern Indo-European language system(s) which, being based on the later, and trying to come near to the former, is neither one nor the other, but a modern language systematized and used in the modern word”. We should add that, unlike artificial languages, Indo-European may not be substituted by different languages, although – unlike already systematized languages like Classic Latin or English – it could be changed by other dialectal, older or newer versions of it, as e.g. ‘*Graeco-Aryan*’, i.e. a version mainly based on the Southern Dialect, or ‘*Indo-Hittite*’, a version using laryngeals, not separating feminines from the animates, and so on.

NOTE 2. A Modern PIE is probably the best option as an International Auxiliary Language too, because a) French, German, Spanish, and other natural and artificial languages proposed to substitute English dominance, are only supported by their small cultural or social communities, while the communities of IE speakers make up the majority of the world’s population, being thus the most ‘democratic’ choice for a language spoken within international organizations and between the different existing nations; and b) only a major change in the political arena could make a language different than English succeed as a spoken IAL; if the European Union makes Modern Indo-European its national language, it would be worth it for the rest of the world to learn it as second language and use it as the international language instead of English.

1.8.5. Words to complete the MIE vocabulary (in case that no common PIE form is found) are to be taken from present-day IE languages. Loan words – from Greek and Latin, like *philosophy*, *hypothesis*, *aqueduct*, etc. –, as well as modern Indo-European borrowings – from English, like *software*, from French, like *ambassador*, from Spanish, like *armadillo*, from German, like *Kindergarten*, from Italian, like *casino*, from Russian, like *icon*, from Hindi, like *pajamas*, etc. –, should be used in a *pure IE form* when possible. They are all Indo-European dialectal words, whose original meaning is easily understood if translated; as, e.g. Greek loan *photo* could appear in Modern Indo-European either as **phótos** [‘p’o-tos] or [‘fo-tos], a loan word, or as **bháwtos** [‘b^hau-tos], a loan translation of Gk. “bright”, IE **bháuesos**, from genitive **bhauesós**, from PIE verb **bhā**, to shine, which gives in Greek *phosphorus* and *phot*. The second, translated word, should be preferred.² See §2.9.4, point 4.

1.8.6. A comparison with Modern Hebrew seems adequate, as it is one successful precedent of an old, reconstructed language becoming the living language of a whole nation.

HEBREW REVIVAL	INDO-EUROPEAN REVIVAL
<i>ca. 3000 BC: Proto-Aramaic, Proto-Ugaritic, and other Canaanite languages spoken.</i>	<i>ca. 3000 BC: Middle Proto-Indo-European dialects, Pre-IE III and Pre-Proto-Anatolia, spoken. ca. 2.500 BC: Late PIE spoken.</i>
<i>ca. 1000 BC: The first written evidence of distinctive Hebrew, the Gezer calendar.</i>	<i>ca. 1600 BC: first written evidence, Hittite and Luwian tablets (Anatolian). ca. 1500 BC: Linear B tablets in Mycenaean Greek.</i>
<i>Orally transmitted Tanakh, composed between 1000 and 500 BC.</i>	<i>Orally transmitted Rigveda, in Vedic Sanskrit, (similar to older Indo-Iranian), composed in parts, from 1500 to 500 BC. Orally transmitted Zoroastrian works in Avestan (Iranian dialect), from 1000 to 700 BC. Homeric works dated from ca. 700 BC. Italic inscriptions, 700-500 BC.</i>
<i>Destruction of Jerusalem by the Babylonians under Nebuchadnezzar II, in 586 BC. The Hebrew language is then replaced by Aramaic in Israel under the Persian Empire. Destruction of Jerusalem and Expulsion of Jews by the Romans in 70 AD.</i>	<i>Italics, Celts, Germanics, Baltics and Slavs are organized mainly in tribes and clans. Expansion of the great Old Civilizations, such as the Persians, the Greeks and the Romans. Behistun Inscription, Celtic inscriptions ca 500 BC; Negau Helmet in Germanic, ca. 200 BC.</i>

<i>70-1950 AD. Jews in the Diaspora develop different dialects with strong Hebrew influence, with basis mainly on Indo-European (Yiddish, Judeo-Spanish, Judeo-Italian, etc.), as well as Semitic languages (Judeo-Aramaic, Judeo-Arab, etc.)</i>	<i>Expansion of the renowned Antique, Mediaeval and Modern IE civilizations, such as the Byzantines, the Franks, the Persians, the Spanish and Portuguese, the Polish and Lithuanians, the French, the Austro-Hungarians and Germans and the English among others.</i>
<i>1880 AD. Eliezer Ben-Yehuda begins the construction of a modern Hebrew language for Israel based on Old Hebrew.</i>	<i>1820 AD. Bopp begins the reconstruction of the common ancestor of the Indo-European languages, the Proto-Indo-European language.</i>
<i>19th century. Jews speaking different Indo-European and Semitic languages settle in Israel. They use different <i>linguae francae</i> to communicate, such as Turkish, Arab, French or English.</i>	<i>1949-1992. European countries form an International European Community, the EEC. 1992-2007: A Supranational entity, the European Union, substitutes the EEC. There are 23+3 official languages</i>
<i>1922 AD. Hebrew is named official language of Palestine, along with English and Arabic. From that moment on, modern Hebrew becomes more and more the official national language of the Israelis. The settlers' native languages are still spoken within their communities and families.</i>	<i>Present. New steps are made to develop a national entity, a confederation- or federation-like state. The EU Constitution and the linguistic policy are two of the most important issues to be solved before that common goal can be achieved. More than 97% of the EU populations has an Indo-European language as mother tongue.</i>

NOTE. Even though it is clear that our proposal is different from the Hebrew language revival, we think that: a) Where Jews had only some formal writings, with limited vocabulary, of a language already dead five centuries before they were expelled from Israel, Indo-European has hundreds of living dialects and other very old dead dialects attested. Thus, even if we had tablets of PIE written in some dialectal predominant formal IE language (say, from pre-Proto-Indo-Iranian), the current PIE reconstruction would probably still be used as the main source for PIE revival today. b) The common culture and religion was possibly the basis for the Hebrew language revival in Israel. Proto-Indo-European, whilst the mother tongue of some prehistoric tribe with a common culture and religion, spread into different peoples, with different cultures and religions. There was never a concept of “*Indo-European community*” after the migrations. But today Indo-European is the language spoken by the majority of the population – in the world and especially within Europe –, and it is therefore possible to use it as a *natural* and *culturally* (also “*religiously*”) neutral language, what may be a significant advantage of IE.

1.7.7. The noun **Eurōpaíos** comes from adjective **eurōpaiós**, from special genitive **europai** of Old Greek Εὐρώπη (*Eurōpē*), Εὐρώπα (*Eurōpā*), both forms alternating already in the oldest Greek, and both coming from the same PIE feminine ending **ā** (see § 4.9.3). The Greek ending **-ai-o-** (see § 4.7.8 for more on this special genitive in **-ai**) turns into Latin **-ae-u-**, and so *Europaes*. The forms **Eurōpā** and **Eurōpaiós** are, then, the ‘correct’ ones in MIE, as they are the original Classic forms – other dialectal variants, as **Eurōpās**, **Eurōpaís**, **Eurōpaikós**, **Eurōpaiskós**, etc. could be also used.

NOTE 1. For Homer, *Eurōpē* was a mythological queen of Crete – abducted by Zeus in bull form when still a Phoenician princess –, and not a geographical designation. Later *Europa* stood for mainland Greece, and by 500 B.C. its meaning had been extended to lands to the north. The name *Europe* is possibly derived from the Greek words εὐρύς (*eurús*, “*broad*”, from IE **h₁urhu-*) and ὤψ (*ops*, “*face*”, from IE **h₃ek^w-*), thus maybe

reconstructable as MIE *Ūróqā* – *broad* having been an epithet of Earth in PIE religion. Others suggest it is based on a Semitic word cognate with Akkadian *erebu*, “*sunset*” (cf. Arabic *maghreb*, Hebrew *ma'ariv*), as from the Middle Eastern vantage point, the sun does set over Europe. Likewise, *Asia* is sometimes thought to have derived from a Semitic word such as the Akkadian *asu*, meaning “*sunrise*”, and is the land to the east from a Middle Eastern perspective, thus maybe MIE *Eróbā*. In Greek mythology Ἔρεβος (*Erebos*, “*deep blackness/darkness or shadow*”) was the son of Chaos, the personification of darkness and shadow, which filled in all the corners and crannies of the world. The word is probably from IE **h₁regʷos* (cf. O.N. *rækk*, Goth. *riqis*, Skr. *rajani*, Toch. *orkām*), although possibly also a loan from Semitic, cf. Hebrew *erebh* and Akkadian *erebu*, etc.

NOTE 2. ‘*Europe*’ is a common evolution of Latin a-endings in French; as in ‘*Amerique*’ for *America*, ‘*Belgique*’ for *Belgica*, ‘*Italie*’ for *Italia*, etc. Eng. *Europe* is thus a French loan word, as may be seen from the other continents’ names: *Asia* (not **Asy*), *Africa* (not **Afrik*), *Australia* (not **Australy*), and *America* (not **Amerik*).

NOTE 3. Only Modern Greek maintains the form Ευρώπη (*Európi*) for the subcontinent, but still with adjective ευρωπαϊκό (*europaikó*), with the same old irregular a-declension and IE ethnic ending *-iko-*. In Latin there were two forms: *Europa*, *Europaeus*, and lesser used *Europe*, *Europensis*. The later is usually seen in scientific terms.

NOTE 4. For adj. “*European*”, compare derivatives from O.Gk. *eurōpai-ós* (< IE *eurōp-ai-ós*), also in Lat. *europaé-us* -> M.Lat. *europé-us*, in turn giving It., Spa. *uropeo*, Pt., Cat. *uropeu*; from Late Latin base *europé-* (< IE *eurōp-ái-*) are extended **europe-is*, as Du. *europées*; from extended **europe-anos* are Rom. *europene*, or Fr. *européen* (into Eng. *european*); extended **europe-iskos* gives common Germanic and Slavic forms (cf. Ger. *Europäisch*, Fris. *europesk*, Sca. *uropeisk*, Pl. *uropejski*, common Sla. *evropsk-*, etc.); other extended forms are Ir. *Eorpai-gh*, Lith. *europo-s*, Ltv. *eiropa-s*, etc. For *European* as a noun, compare, from **europé-anos*, Du., Fris. *europaan*, from **europé-eros*, Ger. *Europäer*, from ethnic **-ikos*, cf. Sla. *evropejk-*, Mod.Gk. *europai-kó*, etc.

The regular genitive of the word **Európā** in Modern Indo-European is **Európās**, following the first declension. The name of the European language system is **Európaiom**, inanimate, because in the oldest IE dialects attested, those which had an independent name for languages used the neuter, cf. Gk. n.pl. ελληνικά (*ellēniká*), Skr. n.sg. संस्कृतम् (*saṃskṛtam*), also in Tacitus Lat. *uōcābulum latīnum*.

In other languages, however, the language name is an adjective which defines the noun “*language*”, and therefore its gender follows the general rule of concordance; cf. Lat. f. *latīna lingua*, or the Slavic examples³; hence MIE **eurōpaiá dǵhūs** or **eurōpaiá dǵhwā**, *European language*.

1.7.8. **Sindhueurópaiom** (n.) means *Indo-European (language)*. The term comes from Greek Ἰνδός (*ḥIndos*), *Indus river*, from Old Persian *Hinduš* - listed as a conquered territory by Darius I in the Persepolis terrace inscription.

NOTE. The Persian term (with an aspirated initial [s]) is cognate to *Sindhu*, the Sanskrit name of the Indus river, but also meaning *river* generically in Indo-Aryan (cf. O.Ind. *Saptasindhu*, “[*region of the*] *seven rivers*”). The Persians, using the word *Hindu* for *Sindhu*, referred to the people who lived near the Sindhu River as *Hindus*, and their religion later became known as *Hinduism*. The words for their language and region, *Hindī* or *Hindustani* and *Hindustan*, come from the words *Hindu* and *Hindustan*, “*India*” or “*Indian region*” (referring to the Indian subcontinent as a whole, see **stā**) and the adjectival suffix *-ī*, meaning therefore originally “*Indian*”.

2. LETTERS AND SOUNDS

2.1 THE ALPHABETS OF MODERN INDO-EUROPEAN

2.1.1. Unlike other languages reconstructed in the past, Indo-European doesn't have an old writing system to be revived with. Indo-European dialects have adopted different alphabets during the last millennia, and all of them should be usable today – although the main alphabet for today's European Union is clearly the Latin one.

2.1.2. This is a summary table of Proto-Indo-European phonemes and their regular corresponding letters in MIE alphabets: Greek, Latin, Cyrillic, Perso-Arabic and (alphasyllabary) Devanāgarī.

A. VOWELS AND VOCALIC ALLOPHONES

<i>Phoneme</i>	<i>Greek</i>	<i>Latin</i>	<i>Persian</i>	<i>Armenian</i>	<i>Cyrillic</i>	<i>Devan.</i>
[a]	Α α	A a		Ա ա	А а	अ
[e]	Ε ε	E e		Ե ե	Е е	ए
[o]	Ο ο	O o		Ո ո	О о	ओ
[a:]	Ἄ ἄ	Ā ā	ا	Ա ա	Ā ā	आ
[e:]	Η η	Ē ē		Է է	Ē ē	ऐ
[o:]	Ω ω	Ō ō		Ո ո	Ō ō	औ

[i]	Ι ι	I i		Ի ի	И и	इ
[i:]	Ἴ Ἴ	Ī ī	ی	Ի ի	Й й	ई
[u]	Υ υ	U u		Ի ի	У у	उ
[u:]	Ū ū	Ū ū	و	Ի ի	Ū ū	ऊ

[r]	Ρ ρ	R r	ر	Ր ր	Р р	ऋ (ऀ)
[l]	Λ λ	L l	ل	Լ լ	Л л	ऌ (ँ)
[m]	Μ μ	M m	م	Մ մ	М м	म
[n]	Ν ν	N n	ن	Ն ն	Н н	ण

B. CONSONANTS AND CONSONANTAL SOUNDS

<i>Phoneme</i>	<i>Greek</i>	<i>Latin</i>	<i>Persian</i>	<i>Armenian</i>	<i>Kyryllik</i>	<i>Devan.</i>
[p]	Π π	P p	پ	Պ պ	П п	प
[b]	Μπ μπ	B b	ب	Բ բ	Б б	ब
[b ^h]	Β β	Bh bh	بع	Բհ բհ	Бь бь	भ
[t]	Τ τ	T t	ت / ط	Տ տ	Т т	त
[d]	Ντ ντ	D d	د	Դ դ	Д д	द
[d ^h]	Δ δ	Dh dh	ذ	Դհ դհ	Дь дь	ध
[k]	Κ κ	K k	ک	Կ կ	К к	क
[g]	Γ γ	G g	گ	Գ գ	Г г	ग
[g ^h]	Γ γ	Gh gh	گع	Գհ գհ	Гь гь	घ
[k ^w]	Κ κ (Ϟ ϟ)	Q q	ق	Ք թ	К' к'	क
[g ^w]	Γ κ γ κ	C c	غ	Ղ ղ	Г' г'	ग
[g ^{wh}]	Γ χ γ χ	Ch ch	غع	Ղհ ղհ	Гь' гь'	घ

[j]	Ι ι	J j, I i	ی / ژ	ԅ j, Ի ի	Й й (J j), И и	य
[u]	Υ υ (Ϝ ϝ)	W w, U u	و	Է u	У у	व
[r]	Ρ ρ	R r	ر	Ր ρ	Р р	र
[l]	Λ λ	L l	ل	Լ լ	Л л	ल
[m]	Μ μ	M m	م	Մ մ	М м	म
[n]	Ν ν	N n	ن	Ն ն	Н н	न
[s]	Σ σ Ϛ	S s	س	Ս ս	С с	स

2.1.2. The Latin Alphabet used for Modern Indo-European is similar to the English, which is in turn borrowed from the Late Latin *abecedarium*. We also consider some digraphs part of the alphabet, as they represent original Proto-Indo-European sounds, in contrast to those digraphs used mainly for transcriptions of loan words.

NOTE 1. The Latin alphabet was borrowed in very early times from a Greek alphabet and did not at first contain the letter G. The letters Y and Z were introduced still later, about 50 BC

NOTE 2. The names of the consonants in Indo-European are as follows - **B, be** (pronounced *bay*); **Bh, bhe** (*bhay*); **C, ce** (*gway*); **Ch, che** (*g^{wh}ay*); **D, de** (*day*); **Dh, dhe** (*d^hay*); **F, ef**; **G, ge** (*gay*); **Gh, ghe** (*g^hay*); **H, ha**; **K, ka**; **L, el**; **M, em**; **N, en**; **P, pe**; **Q, qu**; **R, er**; **S, es**; **T, te**; **V, ve**; **W, wa**; **X, xa** (*cha*); **Z, zet**.

2.1.3. The Latin character **C** originally meant [g], a value always retained in the abbreviations *C.* (for *Gaius*) and *Cn.* (for *Gnaeus*). That was probably due to Etruscan influence, which copied it from Greek **Γ**, *Gamma*, just as later Cyrillic **Г**, *Ge*.

NOTE 1. In early Latin **C** came also to be used for [k], and **K** disappeared except before in a few words, as *Kal.* (*Kalendae*), *Karthago*. Thus there was no distinction in writing between the sounds [g] and [k]. This defect was later remedied by forming (from **C**, the original [g]-letter) a new character **G**. **Y** and **Z** were introduced from the Greek about 50 B.C., and occur mainly in loan words in Modern Indo-European.

NOTE 2. In Modern Indo-European, **C** is used (taking its oldest value) to represent the Indo-European labiovelar [g^w] in PIE words, while keeping its different European values – [k], [ts], [ce], [tch], etc. – when writing proper names in the different modern IE languages.

2.1.4. The Latin [u] sound developed into Romance [v]; therefore **V** no longer adequately represented [u] and the Latin alphabet had to develop an alternative letter. Modern Indo-European uses **V** mainly for loan words, representing [v], while **W** is left for the consonantal sound [u].

NOTE. **V** originally denoted the vowel sound [u] (*oo*), and **F** stood for the sound of consonant [u] (from Gk. ϕ, digamma). When **F** acquired the value of our [f], **V** came to be used for consonant [u] as well as for the vowel [u].

2.1.5. The consonant cluster [ks] was in Ancient Greece written as Chi 'X' (Western Greek) or Xi 'Ξ' (Eastern Greek). In the end, Chi was standardized as [kh] ([x] in modern Greek), while Xi represented [ks]. In MIE, the **X** stands for [x], as in the Greek and Cyrillic alphabets, and not as in English.

NOTE. The Etruscans took over **X** from Old Western Greek, therefore it stood for [ks] in Etruscan and then in Latin, and also in most languages which today use an alphabet derived from the Roman, including English.

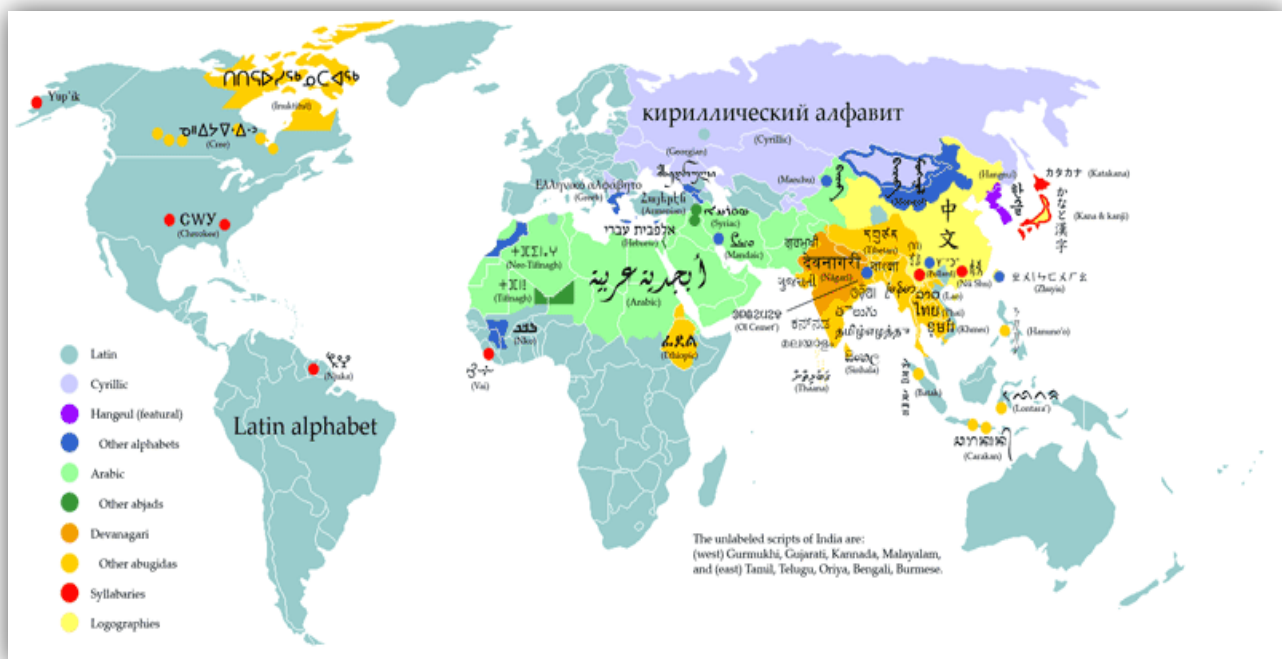


Figure 53. Writing systems of the world today.

2.2. Classification of Sounds

2.2.1. The Vowels are **a, e, i, o, u**, and **ā, ē, ī, ō, ū**. The other letters are Consonants. The proper Indo-European Diphthongs are **ei, oi, ai, ēi, ōi, āi**, and **eu, ou, au, ēu, ōu, āu**. In these diphthongs both vowel sounds are heard, one following the other in the same syllable.

2.2.2. Consonants are either voiced (sonant) or voiceless (surd). Voiced consonants are pronounced with vocal cords vibration, as opposed to voiceless consonants, where the vocal cords are relaxed.

a. The voiced consonants are **b, bh, d, dh, g, gh, c, ch, l, r, m, n, z**, and **j, w**.

b. The voiceless consonants are **p, t, k, q, f, h, s, x**.

c. The digraphs **bh, dh, gh** and **ch** represent the proper Indo-European voiced aspirates, whereas **ph, th**, and **kh** are voiceless aspirates, mostly confined to foreign words, usually from Greek. They are equivalent to *p+h, t+h, k+h*, i.e. to the corresponding mutes with a following breath, as in English *loop-hole, hot-house, block-house*.

d. The consonants **r, l, m, n**, and the semivowels **j** and **w**, can function both as consonants and vowels, i.e. they can serve as syllabic border or center. There is a clear difference between the vocalic allophones of the semivowels and the sonants, though: the first, **i** and **u**, are very stable as syllabic center, while **r, l, m, n** aren't, as they cannot be pronounced more opened. Hence the big differences in their evolution, depending on the individual dialects.

2.2.3. The Mutes are also classified as follows:

<i>Labials</i>	p, b, bh
<i>Dentals</i>	t, d, dh
<i>Velars</i>	k, g, gh; q, c, ch

2.2.4. The Liquids are **l, r**. These sounds are voiced. The group **rh** represents the aspirated [r], mainly in words of Greek origin. Other groups include **rr**, the alveolar trill, and its aspirated counterpart **rrh**. There is also **lj**, the palatal lateral approximant.

2.2.5. The Nasals are **m, n**. These are voiced. The pair **nj** represents the palatal nasal (similar to the [n] sound in English *onion* or *canyon*).

2.2.6. The Fricatives are **s, h**. These are voiceless, but for the *s* before voiced consonants, where it is usually voiced. It is also possible to write – mainly for loan words – voiceless and voiced pairs: labiodentals, **f** and **v**; dentals, **th** and **dh**; post-alveolar **sh** and **zh**. And also the alveolar voiced **z**, and the dorsal voiceless **x**.

2.2.7. The Semivowels are found written as **i, j** and **u, w**. These are voiced.

NOTE. The semivowels are usually written with **i** and **u** when using the Latin alphabet. Only Proto-Indo-European roots and their derivatives have **j** and **w**; as in **wíqos**, *wolf*, **wérdhom**, *verb*, **jugóm**, *yoke*, or **tréjes**, *three*. When there is a consonantal sound before a sonant, it is always written **j** or **w**; as in **néwn** [‘ne- $\text{u}\text{̥}$], *nine*. For more on this, see § 2.9.4.

2.2.8. There are also some other frequent compounds, such as **ks**, **ts**, **dz**, **tsh**, **dzh**, ...

<i>Phonet. System</i>	<i>Labials</i>	<i>Coronals</i>	<i>*Palatovelars</i>	<i>Velars</i>	<i>Labiovelars</i>	<i>*Laryngeals</i>
<i>Voiceless</i>	p	t	*kʲ	k	k^w	
<i>Voiced</i>	b	d	*gʲ	g	g^w	
<i>Aspirated</i>	b^h	d^h	*gʲ^h	g^h	g^{wh}	
<i>Nasals</i>	m	n				
<i>Fricatives</i>		s , (z)				*h₁ , *h₂ , *h₃
<i>Liquids</i>		r , l				
<i>Approximant</i>	ɰ		ɨ			

NOTE 1. [z] was already heard in Late Proto-Indo-European, as a different pronunciation of [s] before voiced consonants, and because of that it is an alternative writing in MIE, as in PIE **nízdos** (for **ní-sd-os**), *nest*, which comes from PIE roots **ni**, *down*, and zero-grade of **sed**, *sit*.

NOTE 2. The existence of a distinctive row of PIE ‘satemizable’ velars, the so-called palatovelars, has been the subject of much debate over the last century of IE studies. Today the question is, however, usually deemed solved, with a majority of scholars supporting only two types of velars – generally Velars and Labiovelars, although other solutions have been proposed. The support of neogrammarians to the ‘palatals’, as well as its acceptance in Brugmann’s *Grundriss* and Pokorny’s *Lexikon*, has extended the distinction to many (mainly etymological) works, which don’t deal with the phonological reconstruction problem directly. For more on this, see Appendix II.2.

NOTE 3. The symbols h_1 , h_2 , h_3 , with cover symbol H (traditionally ə_1 , ə_2 , ə_3 and ə) stand for three hypothetical “laryngeal” phonemes. There is no consensus as to what these phonemes were, but it is widely accepted that h_2 was probably uvular or pharyngeal, and that h_3 was labialized. Commonly cited possibilities are ɰ , ç , ç^w and x , $\text{χ} \sim \text{ħ}$, x^w ; there is some evidence that h_1 may have been two consonants, ɰ and h , that fell together. See Appendix II.3.

2.3. SOUNDS OF THE LETTERS

2.3.1 The following pronunciation scheme is substantially that used by those who spoke the Proto-Indo-European language within Europe in the end of the so-called III Stage, at the time when the phonetic trends usually called satemization were probably spreading.

NOTE. MIE cannot permit dialectal phonetic differences – like the palatalization of velars in the Satem group –, because systematization in the pronunciation is especially needed when targeting a comprehensible language.

2.3.2. Vowels:

[a:] as in <i>father</i>	[a] as in <i>idea</i>
[e:] as in <i>they</i>	[e] as in <i>met</i>
[i:] as in <i>meet</i>	[i] as in <i>chip</i>
[o:] as in <i>note</i>	[o] as in <i>pot</i>
[u:] as in <i>rude</i>	[u] as in <i>put</i>

NOTE 1. Following the laryngeals' theory, Proto-Indo-European knew only two vowels, e and o, while the other commonly reconstructed vowels were earlier combinations with laryngeals. Thus, short vowels **a** < *h₂e, **e** < *(h₁)e, **o** < *h₃e and (h₁)o, long vowels **ā** < *eh₂, **ē** < *eh₁, **ō** < *eh₃ and *oh. The output of *h₂o was either **a** or **o**, after the different schools. Short and long vowels **ī** and **ū** are just variants of the semivowels *j and *w.

NOTE 2. The sonants may have been lengthened too (usually because of compensatory lengthenings), especially in the conjugation of verbs, giving thus [r̥:], [l̥:], [m̥:], [n̥:], written as **r̥, l̥, m̥, n̥**. The semivowels can also have a prolonged pronunciation, giving allophones **ij** and **uw**. For more details on this see § 2.7.2.

NOTE 3. It is recommended to mark long vowels with a macron, $\bar{}$, and stressed vowels with a tilde, $\acute{}$, and reduplicated stems without an original vowel are represented with an apostrophe, $\acute{}$ (as in Greek **q'qlos**, see **qel**).

2.3.3. Falling Diphthongs and equivalentents in English:

ěi as in <i>vein</i>	ěu e (<i>met</i>) + u (<i>put</i>)
õi as in <i>oil</i>	õu as <i>ow</i> in <i>know</i>
ǎi as in <i>Cairo</i>	ǎu as <i>ou</i> in <i>out</i>

NOTE. Strictly speaking, **jě, jõ, jǎ**, as well as **wě, wõ, wǎ** (the so-called rising diphthongs) aren't actually diphthongs, because **j-** and **w-** are in fact consonantal sounds. Nevertheless, we consider them diphthongs for syntax analysis; as in **Eu-rõ-pa-io-**, where the adjectival ending **-io** /iõ/ is considered a diphthong.

2.3.4. Triphthongs:

There are no real triphthongs, as a consequence of what was said in the preceding note. The formations usually called triphthongs are **jěi, jõi, jǎi; jěu, jõu, jǎu**; or **wěi, wõi, wǎi; wěu, wõu** and **wǎu**; and none can be named strictly triphthong, as there is a consonantal sound [j] or [w] followed by a diphthong. The rest of possible formations are made up of a diphthong and a vowel.

NOTE. Triphthong can be employed for syntax analysis, too. But a semivowel surrounded by vowels is not one. Thus, in **Eurõpáiom**, [eu-ro:-'pa-iõm], *European* (neuter noun), there aren't any triphthongs.

2.3.4. Consonants:

1. **b, d, h, k, l, m, n, p**, are pronounced as in English.

There are several ways to generate breathy-voiced sounds, among them:

1. To hold the vocal cords apart, so that they are lax as they are for [h], but to increase the volume of airflow so that they vibrate loosely.
 2. To bring the vocal cords closer together along their entire length than in voiceless [h], but not as close as in modally voiced sounds such as vowels. This results in an airflow intermediate between [h] and vowels, and is the case with English intervocalic [h].
 3. To constrict the glottis, but separate the arytenoid cartilages that control one end. This results in the vocal cords being drawn together for voicing in the back, but separated to allow the passage of large volumes of air in the front. This is the situation with Hindustani.
-

2. **n** can also be pronounced as guttural [ŋ] when it is followed by another guttural, as English *sing* or *bank*.

3. **t** is always a plain *t*, never with the sound of *sh*, as in English *oration* or *creation*.

4. **g** always as in *get*. It had two dialectal pronunciations, simple velar and palatovelar. Compare the initial consonants in *garlic* and *gear*, whispering the two words, and it will be observed that before *e* and *i* the *g* is sounded farther forward in the mouth (more ‘palatal’) than before *a* or *o*.

5. **c** is pronounced similar to [g] but with rounded lips. Compare the initial consonant in *good* with those of the preceding example to feel the different articulation. The voiceless **q** has a similar pronunciation to that of **c**, but related to [k]; as *c* in *cool*.

6. **j** as the sound of *y* in *yes*, **w** as *w* in *will*.

7. Proto-Indo-European **r** was possibly slightly trilled with the tip of the tongue (as generally in Romance or Slavic languages), but other usual pronunciations of modern Indo-European languages have to be admitted in the revived language, as French or High German *r*.

8. **s** is voiceless as in *sin*, but there are situations in which it is voiced, depending on the surrounding phonemes. Like the aforementioned [r], modern speakers will probably pronounce [s] differently, but this should not usually lead to misunderstandings, as there are no proper IE roots with original **z** or **sh**, although the former appears in some phonetic environments, v.s.

9. **bh**, **dh**, **gh**, **ch** are uncertain in sound, but the recommended pronunciation is that of the Hindustānī’s “voiced aspirated stops” *bh*, *dh*, *gh*, as they are examples of living voiced aspirates in an Indo-European language (see note). Hindustānī is in fact derived from Sanskrit, one of the earliest attested dialects of Late PIE.

10. **x** represents [x], whether with strong, ‘*ach-laut*’, such as *kh* in Russian *Khrushenko*, or *ch* in Greek *Christós*, or soft, with ‘*ich-*

laut, such as *ch* in German *Kirche* or *Lichtenstein*; but never like *ks*, *gz*, or *z*, as in English.

11. **z**, **v**, **f**, **sh**, are pronounced as in English.

12. **zh** is pronounced as in English *leisure*.

13. **tsh** corresponds to English *ch* in *chain*, and **tzh** to *j* in *jump*

14. The aspirates **ph**, **kh**, **th** are pronounced very nearly like the English stressed *p*, *c*, *t*.

15. There is also another value for **th**, which corresponds to English *th* in *thing*, and for **dh**, which sounds as *th* in *this*.

16. **rh**, **rr** and **rrh** have no similar sounds in English, although there are examples of common loan words, such as Spanish *guerrilla*, or Greek *rhotacism* or *Tyrrhenos*.

17. The pronunciation of **nj** is similar to English *onion* or *canyon*; and that of **lj** to English *million*.

18. Doubled letters, like **ll**, **mm**, **tt**, etc., should be so pronounced that both members of the combination are distinctly articulated.

2.4. SYLLABLES

2.4.1. In many modern languages, there are as many syllables in a word as there are separate vowels and diphthongs. This is not exactly so in Modern Indo-European. It follows, indeed, this rule too:

Eu-rō-pa-iós, **wér-dhom**⁴, **né-wās**⁶, **ju-góm**⁵.

NOTE. The semivowels [u] and [i] are in general written **i** and **u**, as we already said, when they are used in the formation of new words, i.e., when they are not derived from PIE roots. That is why the adjective *European* is written **Eurōpaiós**, not **Eurōpajós**, and so its derived nominalized inanimate form, n. **Eurōpáiom**, *the European (language)*, or **Itália**, *Italy* and not **Italja**. In Proto-Indo-European stems and in words derived from them they are written with **j** and **w**; as, **tréjes**¹⁵⁵, *three*, **néwos**⁶, *new*, **dńghuwes** [ˈdŋ̥-gh̥u-ues], *languages*, etc.

2.4.2. Indo-European has also consonant-only syllables. It is possible to hear a similar sound in spoken English or German, as in *Brighton* [ˈbrai-tŋ̥] or *Haben* [ˈha-bŋ̥], where the final *n* could be considered vocalic. In this kind of syllables, it is the vocalic sonant (i.e. [r̥], [l̥], [m̥] or [ŋ̥]) the one which functions as syllabic centre, instead of a vowel proper:

bhrgh¹²⁸ [b^hr̥gh̥], *bury*; **wíqos**²³ [ˈu̯̥-k^wos], *wolf*; **dékm**¹⁵⁵ [ˈde-km̥], *ten*; **nōmn**¹⁹ [ˈno(:)-mn̥], *name*.

NOTE 1. Words derived from these vocalic consonants differ greatly in modern Indo-European languages. For example, **dńghwā** [ˈdŋ̥-gh̥u̯a:] (see **dńghū-**) evolved in Proto-Germanic as *tungō(n)*, and later English *tongue* or German *Zunge*, while in archaic Latin it was pronounced *dingwa*, and then the initial *d* became *l* in Classic Latin *lingua*, which is in turn the origin of Modern English words “*linguistic*” and “*language*”.

NOTE 2. We maintain the old, difficult and somehow unstable vocalic sounds in search for unity. As such a phonetic system is not easy for speakers of modern Indo-European languages, the proposed alternative pronunciation is to add, if needed, an auxiliary schwa [ə] before or after the sonant. The schwa we are referring to is an unstressed and toneless neutral vowel sound. There are usually two different possible pronunciations, depending on the position of the schwa; as in **wíqos**, which can be pronounced [ˈʊ̯ əl-kʷos], the way it probably evolved into Proto-Germanic **wulfaz*, and [ˈʊ̯l̥ əkʷos], similar to Proto-Greek *(*w*)*lukos*. Other possible examples are **dékm** [ˈde-kəm] (cf. Lat. *decem*, Gmc. *tekham*), and **nōmn** [ˈno(·)-mən] (cf. Lat. *nōmen*, Gmc. *namon*).

2.4.3. In the division of words into syllables, these rules apply:

1. A single consonant is joined to the following vowel or diphthong; as **né-wos**⁶, **mé-dhjos**⁷, etc.
2. Combinations of two or more consonants (other than the vocalic ones) are regularly separated, and the first consonant of the combination is joined to the preceding vowel; as **ók-tō**, *eight*, **pén-qe**, *five*, etc. but **á-gros**⁸, *field*, **s-qá-los**⁹, *squalus*.
3. In compounds, the parts are usually separated; as Gmc. loan-translation **aqā-léndhom** (**áqiā**¹⁰+**léndhom**¹¹), *island* (“*water thing+land*”), as Gmc. *aujō landom* (cf. O.E. *igland*, *ealand*), or Celtic **ambh-ágtos** (**ámbhi**¹²+**ag**¹³), *ambassador* (“*about+lead*”), as Lat. *ambactus*, “*servant*”.

2.5. QUANTITY

2.5.1. Syllables are distinguished according to the length of time required for their pronunciation. Two degrees of Quantity are recognized, *long* and *short*.

NOTE. In syllables, quantity is measured from the beginning of the vowel or diphthong to the end of the syllable.

2.5.3. A syllable is long usually,

- a. if it contains a long vowel; as, **mā-tér**¹⁴, *mother*, **dń-ghūs**³, *language*
- b. if it contains a diphthong; as, **Eu-ró-pā**, *Europe*, **léuk-tom**¹⁵, *light*
- c. if it contains any two non-syllabic consonants (except a mute with **l** or **r**)

2.5.4. A syllable is short usually,

- a. if it contains a short vowel followed by a vowel or by a single consonant; as, **čiwós**¹⁶ [gʷi(·)-ʷos], *alive*, or **léusō**¹⁷, *loosen*.
- b. if it contains a vocalic sonant; as, **rtkos**¹⁸ [ˈrt-kos], *bear*, **nōmn**¹⁹ [ˈno:-mŋ], **dékm** [ˈde-km̩].

2.5.5. Sometimes a syllable varies in quantity, viz. when its vowel is short and is followed by a mute with **l** or **r**, i.e. by **pl**, **kl**, **tl**; **pr**, **kr**, **tr**, etc.; as, **ágrī**⁸. Such syllables are called *common*. In prose they are regularly short, but in verse they might be treated as long at the option of the poet.

NOTE. Such distinctions of long and short are not arbitrary and artificial, but are purely natural. Thus, a syllable containing a short vowel followed by two consonants, as *ng*, is *long*, because such a syllable requires more time for its pronunciation; while a syllable containing a short vowel followed by one consonant is *short*, because it takes less time to pronounce it.

2.6. ACCENT

2.6.1. There are stressed as well as unstressed words. The last could indicate words that are always enclitic, i.e., they are always bound to the accent of the preceding word, as **-qe²⁰**, *and*, **-r²¹** [r̥], *for*; while another can be proclitics, like prepositions. The accent position can thus help to distinguish words.

2.6.2. In Modern Indo-European, each non-clitic word has one and only one accent. The possibility of secondary accents depends on the pronunciation.

Verbs in Main Sentences, as well as Vocatives, appear to have had also different, not fixed accents.

NOTE 1. The attested stress of Indo-European dialects shows a great diversity: Germanic and Old Irish stressed the first syllable, Slavic and Greek had a ‘semifree’ accent, Latin and Armenian (as Albanian) stressed usually the penultimate, etc.

NOTE 2. Baltic and Slavic dialects still show a Musical accent, while Greek and Sanskrit vocabulary seems to show remains of an old Musical accent. In Proto-Indo-European (as in Latin) there are clear traces of syncopes and timbre variations of short vowels near the accentuated ones, what suggests that Indo-European maybe changed a Musical accent for an Intensive one.

2.6.4. The Stress is free, but that does not mean anarchy. On the contrary, it means that each word has an accent, and one has to know – usually by way of practice – where it goes.

NOTE. Unlike Latin (which followed the ‘penultimate rule’), or French, in which the last syllable is usually accentuated, or Polish, Finnish, etc. Indo-European stress is (at least partly) unpredictable. Rather, it is lexical: it comes as part of the word and must be memorized, although orthography can make stress unambiguous for a reader, and some stress patterns are ruled out. Otherwise homophonous words may differ only by the position of the stress, and therefore it is possible to use stress as a grammatical device.

2.6.5. Usually, adjectives are accentuated on the ending; as in **Eurōpaiós**, *European*, **Angliskós**²², *English*, etc., while nouns aren't; as, **Eurōpáios** (maybe ‘purer PIE’ **Európaios**, with root accent), *European*, **Ángliskos**, *English(man)*. There are some other rules to be followed in the declension of nouns and in the conjugation of verbs, which will be later studied.

2.7. VOWEL CHANGE

2.7.1. Syllable creation is the most common of the various phonetic changes that modern Indo-European languages have undergone all along these millennia of continued change. Anaptyxis is a type of phonetic epenthesis, involving insertion of a vowel to ease pronunciation. Examples in English

are *ath-e-lete*, *mischiev-i-ous*, or *wint-e-ry*. It usually happens by adding first a *supporting vowel* or *transition sound* (glide or *Gleitlaut*). After this, in a second stage, the added vowel acquires a fix tone, becoming a full vowel.

2.7.2. The sonants form unstable syllables, and thus vowel epenthesis is very common. For example, ***dñ-ghwā*** becomes *tun-gō-* in Germanic and *dīn-gua* in archaic Latin, while ***wl̥-qos***²³ was pronounced *wul-qos* (later *wulfaz*) in Proto-Germanic and *wlu-qos* (later *lukos*) in Proto-Greek.

The semivowels [i̯], [u̯] are more stable than sonants when they are syllable centres, i.e. [i] or [u]. But they have also some alternating pronunciations. When they are pronounced *lento*, they give the allophones [i̯i̯] and [u̯u̯], always written **ij** and **uw**. Alternating forms like **médhijos** (which gives Lat. *medius*), and **médhjos** (which gives O.Ind. *mádhyas* or Gk. *μέσσος*), probably coexisted already in Late Proto-Indo-European.

NOTE. With the creation of zero-grade stems, vocalization appears, as the original radical vowels disappear and new ones are added. That happens, for example, in the PIE root ***bhr***²⁴- [bʰr̥], *carry*, (cognate with English *bear*), which can be reconstructed from IE languages as ***bher-***, ***bhor-*** or ***bhr-***. The same can be said of the semivowels [i̯] and [u̯] when they are syllable edges, being syllable centres [u] and [i] in zero-grades.

2.7.3. Laryngeals were probably aspirated phonemes (reconstructed as three to nine different sounds) that appear in most current reconstructions of Middle Proto-Indo-European – i.e. the one including the Anatolian subbranch. Some laryngeals are apparently directly attested in the Anatolian inscriptions. In the other Indo-European dialects known – all derived from IE III –, their old presence is to be seen mostly through the effects they had on neighboring sounds, and on patterns of alternation that they participated in.

NOTE. Because such phonemes weren't probably heard in Late Proto-Indo-European, and because their original phonetic values remain controversial, we don't deem it useful to write them in a Modern Indo-European language system, but for the explanation of some alternating Late PIE roots or stems.

2.7.4. Another vocalizations appear in PIE dialects in some phonetic environments, as two occlusives in zero-grade, impossible to pronounce without adding a vowel; as e.g. **skp**, which evolved as Lat. *scabo* or Got. *skaban*. Although the dialectal solutions to such consonantal groups aren't unitary, we can find some general PIE timbres. As **a**, **i** with a following dental (especially in Gk. and Bal.-Sla.) or **u**, also considered general, but probably influenced by the context, possibly when in contact with a labial, guttural or labiovelar, as in Greek reduplicate ***q'qlos***²⁵ [ˈkʷ-kʷlos], *circle*, *wheel*, from **qel**, *move around*, which is usually pronounced **qúqlos**.

2.7.5. Vocalic prothesis (from Gk. προ-θεσις, *pre-putting*), is the appending of a vowel in front of a word, usually to facilitate the pronunciation. Prothesis differ, not only among PIE dialectal branches, but also frequently within the same language or linguistic group. Especially before [r̥], and before [l̥], [m̥], [n̥] and [u̥], more or less systematically, a vowel is added to ease the pronunciation; as, **ῥtkos**¹⁸ (maybe originally **ῥtgos**), *bear*, which gives Lat. *ursus* (cognate with Eng. *ursine*), Gk. αρκτος (as in Eng. *Arctic*) or Welsh *arth* (as in Eng. *Arthur*). The timbre of the added vowel is related neither to a linguistic group or individual language, nor to a particular phonetic or morphological environment.

NOTE 1. It is therefore not a good practice in Modern Indo-European to add such vowels in front of words, but, as seen in §2.4.2., an additional auxiliary schwa [ə] could be a useful way to facilitate pronunciation.

NOTE 2. The different dialectal evolution of old difficult-to-pronounce words (like **ῥtkos** or **wíqos**) can be explained without a need for more phonemes, just accepting that phonetic changes are not always due to an exact pattern or ‘sound law’.

2.7.6. Syllable losses are often observed in Indo-European languages. Syncope refers to the loss of an inner vowel, like brief vowels in Gothic; as, *gasts* from **ghóstis**²⁶. Also after [u̥], long vowel, diphthong or sonant in Latin; as, *prudens* for *providens*, *corolla* for *coronala*, or *ullus* instead of *oinolos*.

Haplology, which consists of the loss of a whole syllable when two consecutive (identical or similar) syllables occur, as Lat. *fastidium* instead of *fastitidium*, or Mycenaean *aporeu* instead of *apiporeu*.

2.8. CONSONANT CHANGE

2.8.1. The so called s-Mobile (*mobile* pronounced as in Italian; the word is a Latin neuter adjective) refers to the phenomenon of alternating word pairs, with and without **s** before initial consonants, in stems with similar or identical meaning. This “moveable” prefix **s-** is always followed by another consonant. Typical combinations are with voiceless stops (**s)p-**, (**s)t-**, (**s)k-**, with liquids and nasals, (**s)l-**, (**s)m-**, (**s)n-**; and rarely (**s)w-**.

For example, Proto-Indo-European stem (**s)táuros**²⁷, perhaps originally meaning *bison*, gave Greek ταυρος (*tauros*) and Old English *steor* (Modern English *steer*), both meaning *bull*. Both variants existed side by side in Late PIE, but whereas Germanic (aside from North Germanic) has preserved the form with the s mobile, Italic, Celtic, Slavic and others all have words for *bull* which reflect the root without the sibilant.

Such pairs with and without **s** are found even within the same language, as Gk. (*s)tégos*, “roof”, (*s)mikrós*, “little”, O.Ind. (*s)tr*, “star”, and so on.

<i>IE stem</i>	<i>Meaning</i>	<i>Example with -s</i>	<i>without -s</i>
(s)kap-	<i>tool</i>	Gk. <i>skeparnion</i>	Lat. <i>capus</i>
(s)kel-	<i>crooked</i>	Ger. <i>Schielen</i>	Gk. <i>kolon</i>
(s)kep-	<i>cut, scrape</i>	Eng. <i>scab</i>	Lat. <i>capulare</i>
(s)ker-	<i>cut</i>	Eng. <i>shear, sheer</i>	Lat. <i>curtus</i>
(s)ker-	<i>bend</i>	Eng. <i>shrink</i>	Lat. <i>curvus</i>
(s)kleu-	<i>close</i>	Ger. <i>schließen</i>	Lat. <i>claudere</i>
(s)qalo-	<i>big fish</i>	Lat. <i>squalus</i>	Eng. <i>whale</i>
(s)leg-	<i>slimy</i>	Eng. <i>slack</i>	Lat. <i>laxus</i>
(s)lei-	<i>slimy</i>	Eng. <i>slime</i>	Lat. <i>linere</i>
(s)mek-	<i>chin</i>	Ir. <i>smeach</i>	Lat. <i>maxilla</i>
(s)melo-	<i>small animal</i>	Eng. <i>small</i>	Gae. <i>mial</i>
(s)neu-	<i>tendon, sinew</i>	Gk. <i>neuron</i>	Skr. <i>snavan</i>
(s)peik-	<i>magpie</i>	Ger. <i>Specht</i>	Lat. <i>pica</i>
(s)pek-	<i>spy, stare</i>	O.H.G. <i>spehon</i>	Alb. <i>pashë</i>
(s)plei-	<i>split</i>	Eng. <i>split, splinter</i>	Eng. <i>flint</i>
(s)perg-	<i>sparrow</i>	O.Eng. <i>spearwa</i>	Lat. <i>parra</i>
(s)tea-	<i>stand</i>	Lat. <i>sto</i> , Eng. <i>stand</i>	Ir. <i>ta</i>
(s)ten-	<i>thunder</i>	O.H.G. <i>donar</i>	O.Sla. <i>stenjo</i>
(s)twer-	<i>whirl</i>	Eng. <i>storm</i>	Lat. <i>turba</i>

NOTE 1. For **(s)ten**, compare O.Ind. *stánati*, Gk. *sténō*, O.Eng. *stenan*, Lith. *stenù*, O.Sla. *stenjo*, and without **s-** in O.Ind. *tányati*, Gk. Eol. *ténnei*, Lat. *tonare*, O.H.G. *donar*, Cel. *Tanaros* (name of a river). For **(s)pek**, cf. O.Ind. *spásati*, Av. *spašta*, Gk. *skopós* (<**spokós**), Lat. *spektus*, O.H.G. *spehon*, without **s-** in O.Ind. *pásyati*, Alb. *pashë*. For PIE **(s)ker**, cf. O.Ind. *ava-*, *apa-skara-*, Gk. *skéraphos*, O.Ir. *scar(a)im*, O.N. *skera*, Lith. *skiriù*, Illyr. *Scardus*, Alb. *hurdhë* (<***skrd-**), without **s-** in O.Ind. *kṛnāti*, Av. *kərəntaiti*, Gk. *keíro*, Arm. *kcorem*, Alb. *kjëth*, Lat. *caro*, O.Ir. *cert*, O.N. *horund*, Lith. *kkarnà*, O.Sla. *korúčü*, Hitt. *kartai-*, and so on.

NOTE 2. Some scholars believe it was a prefix in PIE (which would have had a causative value), while others maintain that it is probably caused by assimilations of similar stems – some of them beginning with an **s-**, and some of them without it. It is possible, however, that the original stem actually had an initial **s**, and that it was lost by analogy in some situations, because of phonetic changes, probably due to some word compounds where the last **-s** of the first word assimilated to the first **s-** of the second one. That helps to explain why both stems (with and without **s**) are recorded in some languages, and why no regular evolution pattern may be ascertained (Adrados).

2.8.2. Before a voiced or aspirated voiced consonant, **s** was articulated as voiced, by way of assimilation; as, **nízdos**²⁸ [ˈniz-dos], *nest*, or **mízdhos** [ˈmiz-d^hos], *meed, salary*. When **s** forms a group with sonants there is usually assimilation, but such a trend is sometimes reversed by adding a consonant; as Lat. *cerebrum*, from **kerésrom**²⁹.

2.8.3. The **s** between vowels was very unstable in PIE, evolving differently in individual dialects; as, **snúsos**³⁰, *daughter-in-law* (cf. Lat. *nurus*, O.H.G. *snur*). The most common examples of these phonetic changes appear in PIE **s** stems, when followed by a vowel in declension; as **nébhōs**³¹, *cloud*, which gives O.C.S. *nebesa*, Gk. *νεφέλη*, or **génōs**³², *race, stock, kind*, which gives Lat. *genus, generis*.

2.8.4. A sequence of two dentals – as ***tt**, ***dt**, ***tdh**, ***ddh**, etc. – was eliminated in all Indo-European dialects, but the process of this suppression differed among branches, some earlier dialects (as Vedic) showing no change, some others an **st** or **sdh**, and others **ss**. This trend began probably in Middle PIE, and thus Late PIE speakers knew such evolutions, which we sum up into a common intermediate stage ***st**, ***sdh**, which was followed in early IE dialects, and probably known to the rest of them.

Examples in MIE are e.g. forms derived from PIE root **wéid**³³, *know, see*, (cf. Lat. *vidēre*, Gmc. *wītan*, Eng. *wite*); as, p.p. **w(e)istós**, *known, seen*, from ***w(e)id-tó-**, (cf. O.Ind. *vitta-*, but Gmc. *wīssaz*, Lat. *vīsus*, Gk. ἄ-(φ)ιστος, Av. *vista-*, O.Pruss. *waist*, O.Sla. *věšťe*, O.Ir. *rofess*, etc.), which gives e.g. Latin **ad wístom**, *advice* (Lat. *ad visum*), or **wístion**, *vision* (Lat. *vīsiō*), in turn giving **qēlewístion**³⁴, *television*; Greek **wístór**, *wise, learned (man)*, from Gk. ἵστωρ (*hístōr*) or φίστωρ (*wístōr*), which gives **wistoriā**, *history*, from Gk. ἱστορία (*historiā*); imperative **wéisdhi!**, *see!*, as O.Lith. *weizdi* (from ***wéid-dhi**, cf. O.C.S. infinitive *vīždo*), Sla. **eghwéisti**, *certainly*, as O.C.S. *izvěšťe*, etc.

2.8.5. The manner of articulation of an occlusive or sibilant usually depends on whether the next phoneme is voiced or voiceless. So e.g. voiced **ag**³⁵, *carry*, gives voiceless **ágtos** [ˈakt-os] (not reflected in MIE writings), cf. Gk. *ακτος* (*aktos*) or Lat. *actus*. The same happens with voiced aspirates, as in **legh**³⁶, *lie* (cognate to Eng. *log*), giving Gk. *λεκτρον* (*lektron*), Lat. *lectus*, O.H.G. *Lehter*; also, compare how voiceless **p-** becomes **-b**, when **pōds**³⁷, *foot*, is in zero-grade **-bd-**, as in Gk. *επιβδα* (*epibda*).

2.8.6. Some difficult consonantal compounds may be so pronounced in Modern Indo-European as to avoid them, imitating its modern use; as, **klus(sk)ō**³⁸ [ˈlu-s(k)o:], *listen* (cf. Gmc. *hluza*, O.Ind. *śrōṣati*, O.Ir. *chuas*, Arm. *lur*, Toch. A *klyoṣ*, Lith. *kláusīt*, O.Bul. *shušati*, etc.), from IE **klew**, *hear*; **psūghologíā**³⁹ [su:-g^ho-lo-ˈgi-a:], *psychology* (as Gk. *ψυχολογία*, from Gk. *ψυχή*, MIE **psū-ghá**, for some IE ***bhs-ū-gh-**), **smwīdikós**⁴⁰ [s-ūi:-di-ˈkos], *sovietic* (O.Rus. *съветъ*, *suvetu*, for some ***ksu-**, loan-translation of Gk. *συμβούλιον*, *sumboulion*), **gnātiōn**⁴¹ [na:-ˈt̪i:ɔ:n], *nation* (as Lat. *natio*), **prkskó**⁴² [pr̪s-ˈko:/pors-ˈko:/pos-ˈko:], *ask, demand, inquire* (cf. Skr. *pr̪cchati*, Av. *p̪r̪əsaiti*, Pers. *pursēdan*, Lat. *poscere*, O.H.G. *forskōn*, Lith. *peršù*, O.Ir. *arcu*, Toch. *pärk*), etc.

NOTE. Verbs like **klusinā*, a loan translation of English ‘listen’ (from IE *klu-s-*, *listen*, from *klew*, *hear*), should be avoided if possible in Modern Indo-European, for the sake of proper communication, if there is another common PIE verb with the same meaning; in this case, the verb is cognate with other IE verbs derived directly from *klus(sk)ō*, and therefore it is unnecessary to use the English tertiary formation shown. Such forms are too derived to be considered an Indo-European term proper; it would be like using Romance **māturikāmi*, *get up early*, loan-translating Spanish “*madrugar*”.

2.9. PECULIARITIES OF ORTHOGRAPHY

2.9.1. Indo-European words may show a variable orthography.

2.9.2. In many words the orthography varies because of alternating forms that give different derivatives; as in *dōmos*⁴³, *house*, but *demspóts*⁴⁴ [des-‘po-ts], *master, lord, despot*, as Gk. *δεσπότης* (*despótēs*), Skr. *dampati*, Av. *dəṅ patōiš*, (with *fem.* *demspótnia*, [des-‘po-nia]) or *démrom*, *timber*, as Gmc. *temran*, all from PIE root *dem-/dōm-*, *house*.

NOTE. The forms shown, Greek *demspót-ā*, as well as Indo-Iranian *demspót-is*, are secondary formations derived from the original Proto-Indo-European form; compare, for an original PIE ending *-t* in compounds, Lat. *sacerdōs* < **-ōts*, O.Ind. *devastút-*, “*who praises the gods*”, etc.

2.9.3. In other situations, the meaning is different, while the stems are the same; as, *gher*⁴⁵, *enclose, grasp*, which gives *ghórdhos/ghórtos*, *garden, enclosure, town* (cf. Gmc. *gardon*, Lat. *hortus*, Gk. *khortos*, Phry. *-gordum*, O.Ir. *gort*, Lith. *gardas*, O.C.S. *gradu*, Alb. *garth*, etc.), and *gher*⁴⁶, *bowels, fig. like, want*, giving *ghrédhus*, *hunger, etc.*

2.9.4. In some cases, however, the grammatical rules of Modern Indo-European affect how a word is written. For example, the word *Spánia*¹⁴⁰, *Spain*, could have been written *Spánjā*, or *Brittánia*, *Britain*, *Brittanjā*; but we chose to maintain the letter *-i* when possible. We write *-j* or *-w* only in some specific cases, to differentiate clearly the Proto-Indo-European roots from its derivatives:

NOTE. Modern English *Britain* comes from O.Fr. *Bretaigne*, in turn from L.Lat. *Britannia*, earlier Lat. *Brittania*, itself from *Britton*, *Briton*, from Lat. *Britto*, *Brittonem*, from the Celtic name given to the Celtic inhabitants of Great Britain before the Anglo-Saxon invasion, MIE *Britts*, *Briton*. A more Germanic noun in Modern Indo-European would be *Brittonléndhom*, as it was known in Old English, *Breten-lond*, similar to the MIE term for “*England*”, *Angloléndhom*, v.s.

1. In PIE roots and its derivatives; as, *tréjes* (possibly from earlier *tri-*), *three*, *jugóm*⁵ (from *jeug*), *yoke*, *sáwel*⁶⁸, *sun*, *néwos*, *new*, (probably from *nu*, *now*), etc. Therefore, PIE roots with different articulations of the semivowel [u], [i] can be written differently; as, *neu-/nou-*, *shout*, but part. *nou-ént-* “*announcing*” (not *nouent-*), giving *nówentios* [‘no-ɯen-tiōs], *messenger*, or *nówentiom*, *message* (from Lat. *nūntius* and *nūntium*); also *cei*⁴⁷, *live*, with variant *cjō-* (not *eiō-*), giving *cjóiom* [‘gʷiō:-iōm], *being, animal*, as Gk. *ζῷον* (*zōon*); it also gives variant *cio-* (and not *ejo-*), as in *cíos*, *life*,

from Gk. *βίος*, and hence **ciologíā** [gʷi̯o-lo-‘gi-a], *biology*, (in compound with **lógos**¹³⁴, from Gk. *λόγος*), and not **ejologíā**.

NOTE. This rule is also followed in declension; as, Nom. **ówis**¹⁴⁹, Gen. **owjós** or Nom. **pékū**¹⁵⁰, Gen. **pékwoš**.

2. In traditionally reconstructed stems with a semivowel; as **serw**, *protect*, (possibly from **ser-**⁴⁸), which gives extended **sérwā**, *keep, preserve*, and **sérwos**, *slave, servant*, or **cei(w)**, *live*, from which zero-grade **čiwós**, *alive, living*; but cf. **man**⁴⁹, *man*, which gives common **mánus**, and Gmc. **mánuos**, *man*, not **manwos**, and adjective **manuiskós**, *human*; or Latin **sítus**, *place* (possibly but unlikely from PIE suffixed ***tki-tus**⁷⁷), is **situā**, *locate, situate*, and not **sitwā**, etc.

NOTE. This rule is followed because of a) scarcely attested roots, whose origin is not straightforward – as **serw-**, which could be from PIE **ser-**, but could also be just an Etruscan borrowing, and b) Indo-European tradition.

3. In metathesized forms; as PIE **neu**⁵⁰, *tendon, sinew*, which gives stems **neuro-**, and **nerwo-**, i.e. **néurom**, *neuron*, from Gk. *νεῦρον* (as in abstract collective **neurá**), and **nerwos**, *nerve*, from Lat. *neruus*, possibly from Italic *neurus*.

NOTE. Following these first three rules, semivowels from Proto-Indo-European roots (whether inflected or not) should be clearly distinguished from the semivowels of derivatives extended in **-uo-**, **-io-**, **-nu-**, and so on.

4. When there is a consonantal sound before or after a sonant, whether a PIE root or not; as, **néwn**, *nine*; **stájŕ**⁵¹, *fat*, **páwŕ**⁵², *fire*, **pŕwós**¹⁵⁵, *first*, **perwŕtós**⁵³, *rocky*, etc. Also, in *vowel+glide*; as in **bháwtos** [‘b^hau-tos], a Greek loan translation (also as loan word **phótos**), whose original IE (genitive) form is **bhauesós->bhau(e)tós->phōtós**, hence Gk. *φῶς, φωτός* (*phōs, phōtós*).

NOTE. Graeco-Latin loans like **bháwtos**, *photo*, **pórnos**, *porn*, from **pornogr^hbós**, *pornograph*, from **porná**, *prostitute*; **rewolútion**, *revolution*, from O.Fr. *revolution*, itself from L.Lat. *reuolutiō*, for which Latin had originally *res nouae*; or **ghostális**, *hotel*, from Fr. *hôtel*, from L.Lat. *hostalis*, “*guest-house*”, from *hostis*, “*guest*”, for which Latin used *deuersorium*; etc. Such loan words are common to most modern IE languages, especially within Europe, and may therefore be left so in MIE, instead of trying to use another common older Proto-Indo-European terms.

5. When the semivowel **-i-** is followed or preceded by another **i**, or the semivowel **-u-** is followed or preceded by another **u**; as, **dréuwos**⁵⁴, *confidence*, **léuwā**⁵⁵, *lag*, **bolijós**⁵⁶, *big*, etc.

NOTE. This happens usually in inflected forms of nouns and verbs ending in [i:] or [u:]; as, **dínghuwes**, *languages*, **bhruwés**, *of the brow*, etc.

6. As a general exception, none of these rules should be followed in compounds, when the semivowel is the last sound of the first word; e.g., for **triáthlōn** (from Gk. *athlon*, “*contest*”), *triathlon*, we won’t write **trjáthlōn**. Also, more obviously, **Sindhueurōpáiom**, and not **Sindhueurōpáiom**.

NOTE. In Modern Indo-European, compounds may be written with and without hyphen, as in the different modern Indo-European languages; for **Sindhueurōpaiom/Sindhu-Eurōpaiom**, compare Eng. *Indo-European*, Ger. *Indoeuropäisch*, Fr. *Indo-européen*, It., Sp. *indoeuropeo*, Gal.-Pt. *Indo-européu*, Cat. *indoeuropeu*, Du. *Indo-Europees*, Pol. *indoeuropejski*, Lit. *indoeuropiečių*, Ir. *Ind-Eorpach*, Russ. *индоевропейский*, Gk. *ινδοευρωπαϊκή*, Ira. *هندواروپا*, Hin. *हिन्द-यूरोपीय*, etc.

2.9.5. What many old PIE books reconstruct as [ə] or *schwa* is generally written and pronounced in Modern Indo-European with a simple **a**; as, **patér**⁵⁷, *father*, for **ph₂ter-*, **bhátis**⁵⁸, *appearance*, for **b^hh₂tis*, or **ána**⁵⁹, *breath*, for **anh₂* – from which derivatives MIE **ánamālis**, *animal*, as Lat. *animalis* (affected by Ablaut because of the ‘penultimate rule’ of Classic Latin), MIE **ánamos**, *wind*, as Gk. *ἄνεμος*, MIE **ánati**, *he breathes*, as Skr. *aniti*, and so on.

NOTE. Academic works use traditionally this *Schwa Indogermanicum* to represent vowels of uncertain quality (and not neutral vowels) in Late PIE. It was observed that, while for the most part [a] in Latin and Ancient Greek corresponded to *a* in Sanskrit, there were instances where Sanskrit had [i] while Latin and Greek had [a], such as Skr. *pitar* vs. Lat. *pater* and O.Gk. *πάτερ*. These findings evolved into the theory of the so-called laryngeals. Most scholars of Proto-Indo-European would now postulate three different old phonemes rather than a single indistinct *schwa*. Some scholars postulate yet more, to explain further problems in the Proto-Indo-European vowel system. Most reconstructions of **-ə-* in older literature would correspond to **-h₂-* in contemporary notation, and usually to **-a-** in Modern Indo-European simplified (Northwestern dialectal) writing and phonological system. See Appendix II.3 for more details on the reconstructed PIE laryngeals.

2.9.6. The forms with the copulative **-qe**²⁰, *and*, and disjunctive **-wě**, *or*, are usually written by adding it to the preceding word, as in Latin *-que*, but with a hyphen.

2.9.7. The capital letters are used at the beginning of the following kind of words:

a. the names of days⁶⁰, months⁶¹, seasons⁶² and public holidays; as, **Januários**, *January*, **Sem**, *Summer*, **Newóm Jérom**, *New Year*, etc.

b. the names of people and places, including stars and planets; as, **Sáwel**, *Sun*, **Djéus**, *God*⁶³, **Teutiskoléndhom**, *Germany* (loan-translated O.Ger. *Diut-isk-lant*, v.i. Compound Words §4.10).

c. people's titles, as **Prōbhastór**⁶⁴, *Professor*, **Kolumnélis**⁶⁵, *Colonel*, **Disrēgtór**⁶⁶, *Director*, etc.

d. with **Nřtos** or **Skéuros**, *North*⁶⁷; **Súntos** or **Déksinā**, *South*⁶⁸; **Áustos**, *East*⁶⁹ and **Wéstos**, *West*⁷⁰ and its derivatives. Also adjectives **Nrtrós**, *Northern*, **Suntrós**, **Deksiós**, *southern*, **Austrós**, *eastern*, **Westrós** or **Wesperós**, *West*.

e. in official or well-established place names; as **Kolosséom**, *Coliseum* (from Lat. *Colossēum*, in turn from **kolossós**, Gk. *κολοσσός*), **Pláteiā**⁷¹, *the Square* (from Lat. *platea*, from PIE **pel**, *flat*), etc.

2.9.8. The vocallic allophones [r̥], [l̥], [m̥], [ŋ̥] may be written, as in Latin transliterations of Sanskrit texts, as **r̥**, **l̥**, **m̥**, and **ŋ̥**, to help the reader clearly identify the sonants; therefore, alternative writings **nm̥rtós**, *inmortal*, **km̥tóm**, *hundred*, **wódr̥**, *water*, etc. are also possible.

2.10. KINDRED FORMS

Compare the following Proto-Indo-European words and their evolution in Germanic dialects and in Latin, with their common derivatives in Modern English.

<i>PIE</i>	<i>Proto-Gmc.</i>	<i>Gothic</i>	<i>O.Eng.</i>	<i>Latin</i>	<i>English (Lat.)</i>
pater	fader	fadar	fæder	pater	father (<i>paternal</i>)
septm	sebun	sibun	seofon	septem	seven (<i>September</i>)
treb	thurpa-	þaurp	þorp	trabēs	thorp (<i>trabecula</i>)
leb	lepjon	lep	lippa	labium	lip (<i>labial</i>)
bhrater	brothar	broþar	broþor	frater	brother (<i>fraternal</i>)
bher	beron	bairan	bera	ferre	bear (<i>infer</i>)
wert	werthaz	wairþan	weard	uertere	-ward (<i>versus</i>)
trejes	thrijiz	þreis	þrēo	tres	three (<i>trinity</i>)
dekm	tekhan	taihun	ten,tien	decem	ten (<i>decimal</i>),
ed	etanan	itan	etan	edere	eat (<i>edible</i>)
dhē	dōn	gadeths	dōn/do	facere	do (<i>factor</i>),
dhers	ders	gadars	dearr	festus	dare (<i>manifest</i>)
leuk	leukhtam	liuhaþ	lēoht	lux	light (<i>lucid</i>)
kerd	khertan	hairto	heorte	cor(d)	heart (<i>core</i>)
aug	aukon	aukan	eacien	augere	eke (<i>augment</i>)
gnō	kunnan	kunnan	cunnan	(g)noscere	can (<i>notice</i>)
ghostis	gastiz	gasts	gæst, giest	hostis	guest (<i>hostile</i>)
bhergh	burgs	baurgs	burg, burh	fortis	borough (<i>force</i>)
leiq	laikhwnjan	leihwan	lænan	linquere	lend (<i>relinquish</i>)
qi/qo	khwi/khwa	hwi/hwa	hwilc/hwæt	qui/quo	why/what (<i>quote</i>)
cem	kuman	qiman	cuman	uenire	to come (<i>venue</i>)
čīwos	kwi(k)waz	quis	cwicu	uīuus	quick (<i>vivacity</i>)
lech	likhtaz	leihts	liht, lēoht	leuis	light (<i>levity</i>)
cher	brennan	brinnan	beornan	fornus	burn (<i>furnace</i>)

3. WORDS AND THEIR FORMS

3.1. THE PARTS OF SPEECH

3.1.1. Words are divided into eight Parts of Speech: Nouns, Adjectives (including Participles), Pronouns, Verbs, Adverbs, Prepositions, Conjunctions, and Interjections.

3.1.2. A Noun is the name of a person, place, thing or idea: as, **Angloléndhom**, *England* (cf. O.E. *Engla land*, “*land of the Angles*”); **wérdhom**⁷², *verb*; **márkiā**⁷³, *mare*, **baktériom**⁷⁴, n.pl. **baktéria**.

Names of particular persons and places are called Proper Nouns; other nouns are called Common.

NOTE. An Abstract Noun is the name of a quality or idea. A Collective Noun is the name of a group or a class.

3.1.3. An Adjective is a word that attributes a quality; as, **patrióm**⁵⁷, *parental*, **bhelá**⁷⁵, *bright*, **Teutiskós**⁷⁶, *German*, **entergnationālis**⁷⁷, *international*.

NOTE 1. A Participle is a word that attributes quality like an adjective, but, being derived from a verb, retains in some degree the power of the verb to assert.

NOTE 2. Etymologically there is no difference between a noun and an adjective, both being formed alike. So, too, all names originally attribute quality, and any common name can still be so used. Thus, **Régia**⁶⁶ (or **Cénis**⁷⁸) **Elisabhet II**, *Queen Elizabeth II* (or **Elizabhet**, as Gk. *Ελισ(σ)αβερ*, from Hebrew *Eli-sheva*, “*God is an oath*”), distinguishes this *Elizabeth* from other *Elizabeths*, by the attribute expressed in the name **Régia/Cénis**, *Queen*.

3.1.4. A Pronoun is a word used to distinguish a person, place, thing or idea without either naming or describing it: as, **egó**¹⁶¹, *I*; **twos**¹⁶³, *your*; **wéi**¹⁶², *we*.

Nouns and pronouns are often called Substantives.

3.1.5. A Verb is a word capable of asserting something: as, **bhérō**, *I carry, bear*; **bhāti**, *it shines*.

NOTE. In English the verb is usually the only word that asserts anything, and a verb is therefore supposed to be necessary to complete an assertion. Strictly, however, any adjective or noun may, by attributing a quality or giving a name, make a complete assertion; as, **wíros**⁷⁹ **dwenós**⁸⁰ (**ésti**), *the man (is) good*, unlike **dwenós wíros**, *the good man*; or **áutom**⁸¹ **ghōdhóm** (**ésti**), *the car is good*, unlike **ghōdhóm áutom**, *the good car*. In the infancy of language there could have been no other means of asserting, as the verb is comparatively of late development.

3.1.6. An Adverb is a word used to express the time, place, or manner of an assertion or attribute: as, **per**⁸², *in front*, **épi**⁸³, *near*, **ánti**⁸⁴, *opposite*.

NOTE. These same functions are often performed in Indo-European by cases of nouns, pronouns and adjectives, and by phrases or sentences.

3.1.7. A Preposition is a word which shows the relation between a noun or pronoun and some other word or words in the same sentence; as, e.g., **ad**⁸⁵, *at, to*, **al**⁸⁶, *beyond*, **de**⁸⁷, *from*, **kom**⁸⁸, *with*, **eghs**⁸⁹, *out*, **upo**⁹⁰, *up*, and so on.

3.1.8. A Conjunction is a word which connects words, or groups of words, without affecting their grammatical relations: as, **-qe**, *and*; **-wě**⁹¹, *or*, **-ma**, *but*, **-r**, *for*.

3.1.9. Interjections are mere exclamations and are not strictly to be classed as parts of speech, and may vary among IE dialects; as, **hej, haj**, (**á**)**hoj** (greeting), **hállo, hóllo**, (on the telephone); **ō** (vocative); **oh** (surprise); **ha ha** (laugh); **áu(tsh)** (pain); etc.

NOTE. Interjections sometimes express an emotion which affects a person or thing mentioned, and so have a grammatical connection like other words.

3.2. INFLECTION

3.2.1. Indo-European is an inflected language. Inflection is a change made in the form of a word to show its grammatical relations.

NOTE. Some modern Indo-European languages, like most Germanic and Romance dialects, have lost partly or completely their earliest attested inflection systems – due to different simplification trends –, in nominal declension as well as in verbal conjugation.

3.2.2. Inflectional changes sometimes take place in the body of a word, or at the beginning, but oftener in its termination:

bhábhā⁹², *the or a bean*; **snichés**⁹³, *of the snow*; (**egó**) **wéghō**⁹⁴, *I ride*; **trátóme**⁹⁵, *we crossed over*; **dáte**⁹⁶, *give!* (pl.)

3.2.3. Terminations of inflection had possibly originally independent meanings which are now obscured. They probably corresponded nearly to the use of prepositions, auxiliaries and personal pronouns in English.

Thus, in **bháres-m**⁹⁷, *the barley* (Acc.), the termination is equivalent to “*the*” or “*to the*”; in **bhléti**⁹⁸ [b^h]-‘e-ti], *it blooms* (Indicative), and **bhléti** [b^h]-‘e:-ti] (Subjunctive), the change of vowel grade signifies a change in the mood.

3.2.4. Inflectional changes in the body of a verb usually denote relations of tense or mood, and often correspond to the use of auxiliary verbs in English:

(**tu**) **déresi**⁹⁹, *(thou) tear or are tearing*; **dóre**, *he tore*; (**gi**)**gnōsketi**¹⁰⁰, *he knows*, **gégona**, *I knew* (see Verbal Inflection for Reduplication and its meaning)

3.2.5. The inflection of Nouns, Adjectives, Pronouns and Participles to denote gender, number and case is called Declension, and these parts of speech are said to be *declined*.

The inflection of Verbs to denote voice, mood, tense, number and person is called Conjugation, and the verb is said to be conjugated.

NOTE. Adjectives are often said to have inflections of comparison. These are, however, properly stem-formations made by derivations.

3.2.6. Adverbs, Prepositions, Conjunctions and Interjections are not inflected, and together form the group of the so-called Particles.

3.3. ROOT, STEM AND BASE

3.3.1. The body of a word, to which the terminations are attached, is called the Stem. The Stem contains the idea of the word without relations; but, except in the first part of compounds (cf. **Níteroléndhom**¹⁰¹, the *Low Land or Netherland*, **klaustrobhocíā**¹⁰², *claustrophobia*, etc.), it cannot ordinarily be used without some termination to express them.

Thus the stem **ka(u)put**¹⁰³- denotes *head*, hence also “*main*”; **káput** (without ending) means *a head* or *the head*, as the Subject or Agent of an action or as Vocative, as well as *to a head* or *to the head*, as the Direct Object; with **-os** it becomes **kaputós**, and signifies *of a head* or *of the head*, and so on.

NOTE. In inflected languages like Indo-European, words are built up from Roots, which at a very early time were possibly used alone to express ideas. Roots are then modified into Stems, which, by inflection, become fully formed words. The process by which roots are modified, in the various forms of derivatives and compounds, is called stem-building. The whole of this process is originally one of composition, by which significant endings are added one after another to forms capable of pronunciation and conveying a meaning.

3.3.2. A Root is the simplest form attainable by analysis of a word into its component parts. Such a form contains the main idea of the word in a very general sense, and is common also to other words either in the same language or in kindred languages.

NOTE. The reconstruction of the Proto-Indo-European language looks for a very old language, and this has an obvious consequence on the general assertion that roots don't mean anything. In fact, many reconstructed PIE roots mean something, even without adding a single ending. So, for example, the English word ‘*special*’ has a root **spec* (also root of words like *speculate* or *species*) which expresses vaguely the idea of looking. In Modern Indo-European, however, the (Latin) adjective **spekiālís**, *special*, coexists with its original PIE root, the verb **spek(iō)**, *observe*. Language evolution blurs the original meanings, and many roots had possibly ceased to be recognized as such before IE III - although less so than in modern languages. Consequently, sometimes (not very often) the reconstructed PIE roots which we use as independent words in Modern Indo-European actually lacked a proper meaning already in Late PIE; they are used because sometimes a common IE form is needed and only different words from the same root have been attested.

For example, the root of verb **démō**, *domesticate*, is **dem**-¹⁰⁴ (or strictly **demh*₂), which does not necessarily mean *to domesticate*, or *I domesticate*, or *domesticating*, but merely expresses vaguely the idea of *domesticating*, and possibly cannot be used as a part of speech without terminations – in fact, **dem**- (strictly [dem]) is another PIE root which means *house*, but is unrelated to the verb, at least in this IE III stage. With the ending **-ti** it becomes **démeti**, *he/she/it domesticates*.

3.3.3. The Stem may be the same as the root; as, **sal-s**¹⁰⁵, *salt*, **bhléig-e-ti**¹⁰⁶, *he/she/it shines*; but it is more frequently formed from the root.

1. By changing or lengthening its vowel: from root **bhēl**¹⁰⁷, *blow, swell*, **bhól-os**, *ball*, or **bhól-ā**, *bullet*, and **bhí-os**, *bowl*. Also **dā**¹⁰⁸, *divide*, gives **dái-mōn**, *demon* (from older Gk. *daimon, divider, provider*), and **dí-mōn**, *time, period* (from Gmc. *tīmōn*, which gives O.Eng. *tīma*, O.N. *timi*, Swe. *timme*; unrelated to Lat. *tempus*, MIE loan word **témpōs**).

2. By the addition of a simple suffix; as, **bhér-ā**¹⁰⁹, *bear*, lit. “*brown animal*”, **lino-m**¹¹⁰, *flax*.

3. By two or more of this methods: **chn-tó-s**, (**chen**¹¹¹ in zero-grade, with participial ending **-to**, and masculine ending), *beaten*, **gón-iā-s**, *angles* (**genus**¹¹², *knee*, in o-grade with ending **-io-**, feminine in **-ā**, plural in **-s**).

4. By derivation and composition, following the laws of development peculiar to the language, which we will see in the corresponding chapters.

3.3.4. The Base is that part of a word which is unchanged in inflection: as, **cherm**-¹¹³ in **chermós**, *warm*, **eus**-¹¹⁴ in **éusō**, *burn*; **noch**-¹¹⁵ in **nochetós**, *naked*, etc.

a. The Base and the Stem are often identical, as in many consonant stems of nouns (as **cer-** in **cers**¹¹⁶, *mount*). If, however, the stem ends in a vowel, the latter does not appear in the base, but is variously combined with the inflectional termination. Thus the stem of **cóus**¹¹⁷, *cow*, is **cou-**; that of **ármos**¹¹⁸, *arm*, is **armo-**.

3.3.5. Inflectional terminations are modified differently by combination with the final vowel or consonant of the Stem, and the various forms of Declension and Conjugation are so developed.

3.4. GENDER

3.4.1. The Genders distinguished in Modern Indo-European are three: Masculine, Feminine (both are referred to as Animate) and Neuter or Inanimate.

3.4.2. The gender of Indo-European nouns is either *natural* or *grammatical*.

The masculine functions as the negative term in the opposition, i.e. when the gender is not defined, the masculine is used. This is a grammatical utility, one that is only relevant for concordance, and which has to do with the evolution of the language and its inflection.

The earliest PIE had probably no distinction of gender; when the inanimate appeared, it was marked by a different inflection, and the animates remained as the negative term in the opposition. After that, probably at the same time as the thematic declension (in *-e/o*) appeared, the feminine was differentiated from the remaining animates, with marks like the different stem vowel (usually *-a*) or vowel length (as *-ī*, *-ū*). Therefore, the feminine is the positive term of the opposition within the animates, because when we use it we reduce the spectrum of the animates to the feminine, while the masculine still serves as the negative (non-differentiated) term for both, the general and the animates, when used in this sense, i.e. when not differentiating the masculine from the other genders.

a. Natural Gender is distinction as to the sex of the object denoted: **bhrátēr**¹¹⁹ (m.), *brother*; **cénā**¹²⁰ (f.), *woman, wife*.

NOTE. Many nouns have both a masculine and a feminine form to distinguish sex: as, **eurōpáios**, **eurōpáiā**, *European* (nominalized adjectives), or **ékwos**, **ékwā**, *horse, mare*.¹²¹

NOTE 2. Names of classes or collections of persons may be of any gender. For example, **ármata** (f.), *army*; from PIE **ar**, *fit together* (as in **ármos**, *arm, upper arm, shoulder*, cf. Gmc. *armaz*, Lat. *armus*, Gk. ἀρμός); also **ghóros** (m.), *choir, chorus, dancing ground*, from PIE **gher**, *grasp, enclose* – loan translated from Gk. χορός, originally “*an special enclosure for dancing*” in its origin, cf. Gmc. *gardaz*, **ghórdhos**, or Lat. *hortus*, **ghórtos**, both meaning *garden, yard, enclosure*.¹²²

b. Grammatical Gender is a formal distinction as to sex where no actual sex exists in the object. It is shown in the form of the adjective joined with the noun: as **swādús**¹²³ **nóqtis**¹²⁴ (f.), *a pleasant night*; **mreghús**¹²⁵ **kántos**¹²⁶ (m.), *brief song* (“*singing*”). The gender of the adjective is simply a gender of concordance: it indicates to which noun of a concrete gender the adjective refers to.

3.4.3. The neuter or inanimate gender differs from the other two in inflection, not in the theme vowel. The gender of the animates, on the contrary, is usually marked by the theme vowel, and sometimes by declension, vocalism and accent.

3.4.4. The neuter does not refer to the lack of sex, but to the lack of liveliness or life. Sometimes, however, animates can be designated as inanimates and *vice versa*.

While the distinction between masculine and feminine is usually straightforward, sometimes the attribution of sex is arbitrary; thus, different words for “*ship*”¹²⁷ or “*war*”¹²⁸ are found as feminine (as **náus** or **wérsā**), masculine (as **bhóids**, or Greek loan **pólemos**), and neuter (**wáskolom** or **crígā**).

3.4.5. The animate nouns can have:

a. An oppositive gender, marked:

I. by the lexicon, as in **patér-mātér**, *father-mother*, **bhrátēr¹¹⁹-swésōr¹²⁹**, *brother-sister*, **súnus¹³⁰-dhúg(a)tēr¹³¹**, *son-daughter*, etc.¹³²

II. by the theme vowel, as in **ékwos-ékwā¹²¹**, *horse-mare*, **wíqos-wíqia²³**, *wolf-she-wolf*.

III. by both at the same time, as in **wíros⁷⁹-cénā¹²⁰**, *male-female*.

b. An autonomous gender, that does not oppose itself to others, as in **náus** (f.), *ship*, **pōds** (m.), *foot*, **egnís** (m.), *fire*, **ówis** (f.), *sheep*, **jéwos¹³³** (n.) or **lēghs** (f.), *law*.¹³⁴

c. A common gender, in nouns that are masculine or feminine depending on the context; as, **dhesós**, *god/goddess* (cf. Gk.Hom. θεός), **cóus**, *cow or bull* (cf. Gk. accompanied by **táuros**, as Scient. Eng. *bos taurus*), **nautā**, *sailor*, **djousnalístā**, *journalist*, **stúden¹³⁵**, *student*, etc.

d. An epicene gender, which, although being masculine or feminine, designates both sexes: as the feminine **sūs¹³⁶**, *pig*, or masculine **kákkā¹³⁷**, *shit* (as an insult).

3.4.6. The gender of a noun can thus be marked by the stem vowel (or sometimes by inflection), or has to be learnt: it is a feature of a word like any other. In its context, concordance is a new gender mark; a masculine noun has a masculine adjective, and a feminine noun a feminine adjective. However, not all adjectives differentiate between masculine and feminine, a lot of them (those in **-i-s**, **-u-s**, **-ēs**, **-ōn**, and many thematic in **-os**) are masculine-feminine: only the context, i.e. the noun with which they agree, helps to disambiguate them. This happens also in nouns with a common gender.

3.4.7. Most endings do not indicate gender, as in **patér** and **mātér**. Only by knowing the roots in many cases, or by the context in others, is it possible to determine it. Some of the suffixes determine, though, totally or partially if they are masculine or feminine. These are the following:

1. **-os** marks masculine when it is opposed to a feminine in **-ā** or **-ī/-iǎ**, as in **ékwos-ékwā**, **wíqos-wíqiǎ**, **djéus-djéwī**, etc. This happens also in adjectives in the same situation, as in **néwos-néwā**. In isolated nouns, **-os** is generally masculine, but some traces of the old indistinctness of gender still remained in the third stage of the Proto-Indo-European language, as in the names of trees (among others). In adjectives, when the ending **-os** is not opposed to feminine, concordance decides.

2. **-ā** marks the feminine in oppositions of nouns and adjectives. It is usually also feminine in isolated nouns, in the first declension. But there are also traces of masculines in **-ā**, as, **ōságā** (or as Latin partial loan **ōrígā**), *charioteer, driver* (from **ōs¹¹⁶**, *mouth*, and **ag¹³**, *drive*), Lat. *auriga*; **nautā**, “*sailor*”, as Gk. ναύτης; or **slúgā**, *servant*, as O.Sla. *slūga*, Lith. *slauga* “*service*”, O.Ir. *sluag*, “*army unit*”, etc.

3. **-ī/-iǎ**, is systematically feminine. It is used in nouns, and often in adjectives.

4. Finally, the roots ending in long vowels **-ī** and **-ū** are always feminines.

3.5. GENERAL RULES OF GENDER

3.5.1. Names of Male beings, and of Rivers, Winds, Months, and Mountains are masculine:

patér⁵⁷, *father*, **Kárlos**¹, *Charles*, **Réin**¹³⁸, *the Rhine*, **Áustros**⁶⁹, *south wind*, **Mágios**⁶¹, *May*, **Uráles**, *the Urals*.

NOTE. The Urals' proper name is **Uraliskás Corás**, Lat. **Uráles Móntes**, “*Urals' Mounts*”, *Ural Mountains*, cf. Russ. Уральныйские горы (*Uralskiye gory*).

a. A few names of Rivers ending in **-ā** (as **Wólgā**), and many Greek names ending in **-ē(s)**, which usually corresponds to IE **-ā**, are feminine; others are variable or uncertain, generally retaining their oldest attested IE gender in MIE.

NOTE. The Russian hydronym Вóлга is akin to the Slavic words for “*wetness, humidity*” (cf. Russ. *влага, волога*), maybe from the same root as PIE base **wed**, *wet*, easily borrowed in MIE from Slavic as **Wólgā**.

b. Some names of Mountains are feminines or neuter: as, **Álpes** (f. *pl.*), *the Alps*

NOTE. **Álpes**, from Latin *Alpes*, may have been related originally to the source of adjectives **albhós**¹³⁹ (*white*, cf. Hitt. *alpas*, v.i.) or **altós** (*high, grown up*, from IE **al**⁷⁹), possibly from a Celtic or Italic dialect.

3.5.2. Names of Female beings, of Cities, Countries, Plants, Trees and Gems, of many Animals (especially Birds), and of most abstract Qualities, are feminine:

mātér¹⁴, *mother*, **Djówiliā**⁶³, *Julia*, **Fránkiā**¹⁴⁰, *France*, **Rómā**, *Rome*, **pínus**¹⁴¹, *pine*, **sanipríjos**, *sapphire* (Gk. *sáppheiros*, ult. from Skr. *sani-priyah*, lit. “*sacred to Saturn*”), **wērós**¹²⁸, *true*.

a. Some names of Towns and Countries are masculine: as, **Oinitós** (from **óinos**, *one*, or ‘purer’ IE **Jugtós**, “*joined*”) **Gningodhómos**¹⁴², *United Kingdom*, **Montinécros**¹⁴³, *Montenegro*; or neuter, as, **Sweorégiom**¹⁴⁴, *Sweden*, **Finnléndhom**¹⁴⁵, *Finland*.

b. A few names of Plants and Gems follow the gender of their termination; as, **kmtáuriom** (n.), *centaury*, **ákantos** (m., Gk. *ἄκανθος*), *bearsfoot*, **úpolos** (m.), *opal*, from PIE **upo**, *up from under*.

NOTE. The gender of most of the above may also be recognized by the terminations, according to the rules given under the different declensions.

3.5.3. Indeclinable nouns, infinitives, terms or phrases used as nouns, and words quoted merely for their form, are neuter:

preso¹⁴⁶, *traffic in, sell*, **Európáio**, *european* (n.n.), **néhīlom**, *nothing*, **kóm̄mi/gúmmi**, *gum*.

NOTE 1. Latin *nehilum*, “*nihil, nil*”, comes from *hīlum* “*small thing, trifle*” hence “*not even a small thing, nothing*”, of unknown origin, therefore MIE ***hīlom***.

NOTE 2. Eng. *gum* comes from O.Fr. *gomme*, from L.Lat. *gumma*, from Lat. *gummi*, from Gk. *kommi*, from Coptic *kemai*, hence MIE loans Lat. ***gúmmis***, or Gk. ***kómmis***.

3.5.4. Many nouns may be either masculine or feminine, according to the sex of the object. These are said to be of Common Gender: as, ***eksáliom***¹⁴⁷, *exile*; ***cóus***¹¹⁷, *ox* or *cow*; ***párents***¹⁴⁸, *parent*.

NOTE. Several names of animals have a grammatical gender, independent of sex. These are called epicene. Thus, ***sūs***¹³⁶, *swine*, and ***wípēs***²³, *fox*, are always feminine.

3.5.5. Nouns, Pronouns, Adjectives and Participles are declined in MIE in two Numbers, singular and plural – PIE had also a possibly dialectal dual – and up to eight cases, Nominative, Vocative, Accusative, Genitive and Oblique - which is found subdivided into combinations of Dative, Locative, Instrumental and Ablative.

NOTE 1. European dialects show around six cases, but most of the oldest attested ones (Ind.-Ira., P.-Gk., Ita.) and Balto-Slavic show remains of up to eight original cases, although the situation has evolved differently due to migrations and linguistic contacts. Traditional theories maintain that the original common PIE situation is a complex system of eight noun cases. On the contrary, a five-case system is for other scholars the oldest situation (of Middle PIE, as Anatolian dialects seem to show), later changed by some dialects by way of merging or splitting the five original cases. It would have been, then, an innovation of individual dialects, just as the phonetic satemization. It is thus a general opinion that in IE III both dialectal trends (split and convergence of Obliques) coexisted. In this Grammar we follow the general Northern trend, i.e. a general six-case inflection, presenting also the other two cases as they are usually reconstructed for Late PIE, when common endings exist.

NOTE 2. In the number we use singular and plural, and not dual, not only because of its doubtful existence in IE II and the objections to its reconstruction for Late PIE, but because it is also more practical in terms of modern Indo-European languages.

I. The Nominative is the case of the Subject of a sentence.

II. The Vocative is the case of Direct Address.

III. The Accusative is the case of the Direct Object of a verb. It is used also with many prepositions.

IV. The Genitive may generally be translated by the English Possessive, or by the Objective with the preposition *of*.

V. The Obliques might be found as:

a. The Dative, the case of the Indirect Object. It may usually be translated into English by the Objective with the preposition *to* or *for*.

b. The Locative, the place *where*.

c. The Instrumental, the thing *with*.

d. The Ablative, usually the Objective with *from*, *by*, *with*, *in* or *at*. It is often found with prepositions.

NOTE. The oblique cases appear in the English pronoun set; these pronouns are often called *objective pronouns*; as in *she loves me* (accusative), *give it to me* (dative) or *that dirt wasn't wiped with me* (instrumental), where *me* is not inflected differently in any of these uses; it is used for all grammatical relationships except the genitive case of possession and a non-disjunctive nominative case as the subject.

3.6. VOWEL GRADE

1. The vowel grade or Ablaut is normally the alternation between full, zero or lengthened grade vocalism. Proto-Indo-European had a regular ablaut sequence that contrasted the five usual vowel sounds called *Thematic*, i.e. **e/ē/o/ō/∅**. This means that in different forms of the same word, or in different but related words, the basic vowel, a short /**e**/, could be replaced by a long /**ē**/, a short /**o**/ or a long /**ō**/, or it could be omitted (transcribed as ∅).

NOTE. The term *Ablaut* comes from Ger. *Abstufung der Laute*, “vowel alternation”. In Romance languages, the term *Apophony* is preferred.

2. When a syllable had a short **e**, it is said to be in the “*e-grade*”; when it had no vowel, it is said to be in the “*zero-grade*”, when in **o**, in “*o-grade*”, and they can also be “*lengthened*”. The *e-grade* is sometimes called “*full grade*”.

A classic example of the five grades of *ablaut* in a single root is provided by the following different case forms of IE **patér**, *father*, and **ḡpatór**, *fatherless* (possibly originally PIE Nom. *ph₂ter-s* > *ph₂tēr*):

Ablaut grade	MIE	Greek	Case	
<i>e-grade or full grade</i>	pa-tér-m	πα-τέρ-α	pa-tér-a	Accusative
<i>lengthened e-grade</i>	pa-tér	πα-τήρ	pa-tér	Nominative
<i>zero-grade</i>	pa-tr-ós	πα-τρ-ός	pa-tr-ós	Genitive
<i>o-grade</i>	n-pa-tór-m	ἄ-πά-τορ-α	a-pá-tor-a	Accusative
<i>lengthened o-grade</i>	n-pa-tór	ἄ-πά-τορ	a-pá-tōr	Nominative

3. Late PIE had ablaut differences within the paradigms of verbs and nouns that were probably significant secondary markers. Compare for example for an original PIE **pértus**, *passing*, *passage*, (from IE verb **pérō**, *go through*):

	PIE	root (<i>per-</i>)	suffix (<i>-tu</i>)
Nominative	<i>pér-tu-s</i>	e-grade	zero-grade
Accusative	<i>pér-tu-m</i>	e-grade	zero-grade
Genitive	<i>pr-téu-s</i>	zero-grade	e-grade
Dative	<i>pr-t(eu)-ei</i>	zero-grade	e-grade

4. Some common examples of different vowel grades (including their lengthened form) as found in Proto-Indo-European are the following:

Vowel Grade	Full (F)	Zero (Ø)	Lengthened (L)
<i>e/o - ø - ē/ō</i>	<i>ped, dom</i>	<i>pd, dm</i>	<i>pēd, dōm</i>
<i>ie/io - i - iē/iō</i>	<i>djeus</i>	<i>diwos/djus</i>	<i>djē-</i>
<i>ue/uo - u - uē/uō</i>	<i>kwon</i>	<i>kun-</i>	<i>kwōn</i>
<i>ei/oi - u/i - ēi/ōi</i>	<i>bheid</i>	<i>bhid</i>	<i>bhēid</i>
<i>eu/ou - u/i -</i>	<i>bheud, ous</i>	<i>bhud, us</i>	<i>bhēud, ōus</i>
<i>ā/ē/ō - a - ā/ē/ō</i>	<i>bhle, bha,</i>	<i>bhla, bha, aku</i>	<i>bhlē, bhā,</i>
<i>au/ai - u/i - āu/āi</i>	<i>bhau, aik</i>	<i>bhu</i>	<i>bhāu, āik</i>
<i>ēi/ōi - ū/ī - ēi/ōi</i>	<i>po(i)</i>	<i>pi</i>	<i>pōi</i>

3. There are also some other possible vowel grade changes, as *a-grade*, *i-grade* and *u-grade*, which usually come from old root endings, rather than from systematized phonetic changes.

NOTE. The alternation *e/ø* was apparently in older stages of PIE dependent on the accent. Compare *kléwos/klutós*, *eimi/imés*, *patérm/patrós*, etc., where the unaccented morpheme loses its vowel. This happened only in the oldest formations, though, as IE III had probably already lost this morphological pattern, freezing the older alternations into a more or less stable vocabulary without changes in vowel grade.

3.7. WORD FORMATION

3.7.1. Word Formation refers to the creation of new words from older ones. Indo-European scholars show an especial interest in Derivational Affixes (most commonly Suffixes), i.e. morphemes that are attached to a base morpheme, such as a Root or a Stem, to form a new word. The main affixes are:

A. Athematic suffixes,

a. The most simple is the zero-ending, i.e. root nouns like *dem-s* (Gk. *des-*), *house*, in consonant, as *neq-t-s* (Hitt. *nekuz*), *night*, or *men-s* (Av. *maz-*), *mind*, in *-r*, as *ghés-ōr* (Hitt. *kiššar*), *hand*, with apophony, Ac. *ghes-ér-m* (Hitt. *kiššeran*), Loc. *ghés-r-i* (Hitt. *kišri*, Gk. *kheiri*), with ending *-n*, as *or-ōn* (Hitt. *ḫara[š]*, stem *ḫaran-*, from PIE **h₃or-o-*, cf. O.H.G. *aro*, Eng. *erne*, Gk. *or-n-[is]*), *eagle*. Common examples include *rěgs*, as Lat. *rex*, Cel. *ri*, Gmc. *rīh*, Skr. *rāt*, *cóus*, as Lat. *bou*, Cel. *bó*, Gmc. *ko*, Skr. *gáu/go*, *mūs*, Lat. *mūs*, Gk. *μῦς*, Gmc. *mūs*, Sla. *mys*, Skr. *mū*, etc.

b. Also, the stem **r/n**, with **-r-** in ‘strong’ cases (Nom-Acc.) and **-n-** in the Obliques, is well represented in Anatolian; see Variable Nouns in the next chapter for more on these *heteroclitēs*.

c. An old stem in **-u-** appears e.g. in the words **gón-u**, *knee*, **dór-u**, *wood*, and **ój-u**, “lifetime”, cf. Av. *zānū*, *dārū*, *āiiū*, Skr. *jānu*, *dāru*, *āyu*, Gk. *góny*, *dóry*, *ou(kí)*, “no”, etc. Apophonic variants are found as full-grade **génw-**, **dérw-**, **éjw-**, cf. Hitt. *genu-*, Lat. *genu-*, Sla. *dérw-o*, Gk. *ai(w)-eí*, etc., and as zero-grade **gn-éw**, **dr-éw**, **(a)j-éw-**, as in Goth. *kniu*, Av. *yaoš*, Hitt. *ganu-t*, etc. Such zero-grades are found within Declension, in Composition (cf. Skr. *jñu-bādh-*, “kneeled”, Gk. *dru-tómos*, “timber-cutter”), and in Derivation, as e.g. **ju-wén-**, *vigorous*, *young* (cf. Skr. *yuván-*, Lat. *iuuen-is*).

d. A suffix **-it-**, which refers to edible substances, as **mel-it**, *honey* (cf. Gk. *mélit-*, Hitt. *milit*, Luw. *mallit*, Gmc. *mil-*), **sép-it**, *wheat* (cf. Hitt. *šēppit*, Gk. *álphit*), etc.

B. Feminine and Abstract (Collectives),

a. A general suffix ***(e)h₂** is found in Feminine, as in **sénā-**, *old* (**senah₂*, cf. Gk. *hénē*, Skr. *śanā-*, Lith. *senà*), **swēkrūs**, *husband’s mother* (**swēkrúh₂-*, cf. O.Sla. *svekrŭ*, Lat. *socrus*, O.H.G. *swigar*), in Abstract Collectives, as in Gk. **tomá**, *cut*, or **neurá**, *rope made from sinew* (IE **néurom**), etc., and in the Nom.-Acc. Neuter singular of the collective that functions as Nom.-Acc. Plural (cf. Skr. *yugá*, Gk. *zygá*, Lat. *iuga*, Goth. *juka*, “jokes”, Hitt. *-a*, Pal. *-a/-ā*, etc.).

b. It is also very well attested a Feminine and Abstract Collective **-ī**, PIE ***-ih₂**, with variant **-iā**, PIE ***-jah₂/-jeh₂**, cf. Skr. *devī* (Gen. *dévyās*), “goddess”, *vṛkīs* (Gen. *vṛkías*), “she-wolf”, etc.

C. Thematic Suffixes, the most abundant affixes found in Nominal and Adjectival derivation,

a. A simple **-o-**, which appears in some primary and secondary old formations, as **wíq-o-s**, *wolf*, **ṛtk-o-s**, *bear*, neuters **jug-ó-m**, *joke*, **wérg-o-m**, *work*, adjectives **sén-o-**, *old*, **néw-o-**, *new*, etc.

NOTE. The Distinction into primary and secondary is not straightforward, unless there is an older root attested; compare e.g. **éku-o-s**, *horse*, which is usually deemed a derivation from *quick*, IE **ōkús**.

Accented **-ó-** is deemed a secondary suffix which marks the possession of the base, as well as adjectives in **-ó-** with lengthened grade root, cf. IE **čjā**, *bow’s string*, as Skr. *jyá*, but **čjós**, *bow* (< “that has a bow’s string”), as Gk. *biós*, or **swēkurós** (> **swékuros**), *husband’s father*, from **swēkrūs**, *husband’s mother*, **deiwós**, from **djéus**, etc.

b. About the Root Grade, o-grade roots are found in two thematic types, barytone Action Nouns (cf. Gk. **tómos**, “slice”), and oxytones Agent Nouns and Adjectives (cf. Gk. **tomós**, “who cuts, acute”), both from IE **tem**, *cut*; zero-grade in neuters **jug-óm**, *joke*, from **jeug**, *join*, and in second elements of compounds like **ni-sd-ós**, *nest*, from **sed**, *sit*, or **newo-gn-ós**, “newborn”, as Gk. *neognós*.

c. Adjectival suffixes **-jo-** and **-ijo-** have a relational sense, as in **cow-jós**, “of a cow/ox”, from **cow-**, cow, ox, as in Av. *gaoya-*, Skr. *gavyá* or *gávya*, Gk. *hekatóm-boios*, “that costs a hundred cows”, Arm. *kogi* (<**cow-ijo-**>), “derived from the cow”, O.Ir. *ambuæ* (<**ṅ-cow-ijo-**>, as in Skr. *ágos*, Gk. *abouíteō*), “man without cows”, or e.g. **patriós**, paternal, **pediós**, “of the foot”, etc. As a nominal suffix, cf. Lat. *ingenium*, *officium*, O.Ir. *críde*, *setig*, Skr. *vairya*, *saujanya*, Sla. *stoletie*, *dolia*, etc.

d. Verbal adjectives in **-tó-** (Ind.-Ira. **-nó-**), with zero-grade verbal root, are common in secondary derivation, as in **klu-tós**, heard, famous, from **kleu**, hear, cf. Skr. *śrutá-*, Av. *sruta-*, Gk. *klytós*, Lat. *in-clitus*, M.Ir. *rocloth*, O.H.G. *Hlot-*, Arm. *lu*, etc. They were incorporated to the Verbal inflection as participles and gerunds. For nouns in **-to-**, **-no-**, **-ti(j)-o-**, **-ni(j)-o-**, **-tu(w)-o-**, **-nu(w)-o-**, etc. cf. Skr. *svápn(i)ya*, *prāvīnya*, Lat. *somnium*, *dominium*, O.Ir. *blíad(a)in*, Sla. *sunie*, *cozarenie*, etc.

e. Other common thematic suffixes include **-nó-**, **-ro-**, **-mo-**, and diminutives in **-ko-**, **-lo-**, **-isko-**, etc. which may also be participial, ordinal or adjectival (from nouns) lengthenings. They are usually preceded by a vowel, as in **-e/onó-**, **-e/oro-**, and so on. Compare for example from **cher**, warm, adjective **cher-mós**, warm, cf. Skr. *gharmá*, Av. *garəma-*, Gk. *thermós*, Toc. A. *särme*, Phryg. *Germiai*, Arm. *jerm*, Alb. *zjarm*, or o-grade Gmc. *warmaz*, Lat. *formus* (<**chor-mos**>). **-bhó-** gives names of animales, as e.g. Gk. *éribhos*, “kid”.

f. A secondary suffix **-tero-/-toro-** marks the opposition of two notions, and is found in Anatolian (cf. Hitt. *nun-taras*, Adv. gen. “from now”), **en-terós/al-terós** (or **anterós**), “the other (of two)” (cf. Goth. *anþar*, Skr. *ántaras*, Lat. *alter*, etc.) opposed to a simple “other”, **aliós** (cf. Skr. *anyás*, Lat. *alius*, Gk. *állos*, Goth. *aljis*). This suffix is also found in some syntactic formations, as Gk. *deksiós – aris-terós*, *skaiós – deksi-terós*, both meaning “right-left” (Benveniste 1948).

g. The suffix **-wó-** is particularly found in words for “alive”, as **čī-wó-** (cf. Skr. *jīvás*, Lat. *uīuos*, O.Ir. *béo*, Welsh *buw*, Goth. *qius*) and “death”, as **mr-wó-** (cf. O.Ir. *marb*, Welsh *marw*, and also Lat. *mortuos*, Sla. *mǐrtvŭ*, where the **-t-** was possibly inserted influenced by **mr-tós**, “mortal”).

h. There are some instrumental suffixes, as **-tro-**, **-tlo-**, **-klo-**, **-dhro-**, **-dhlo-**, as Lat. *-trum*, *-c(u)lum*, *-brum*, *-bulum*, etc.; e.g. **ára-trom**, plough, cf. Gk. *árottron*, Lat. *aratrum*, O.Ir. *arathar*, Welsh *aradr*, Arm. *arawr*, Lith. *árklas*, etc.; also, Gk. *báthron*, O.Ind. *bharíttram*, Goth. *fōdr*, etc.

i. Other common suffixes (also participial) are **-mēn-**, **-mon-**, **-mn-**, with secondary **-mn-to-**, **-men-o-**, **-men-t-** (and **-wen-t-**), etc., cf. Lat. *augmentum*, or Goth. *hliumant*, equivalent to O.Ind. *śrómatam*, both meaning “reputation”, from **klew**, hear, and so on.

4. NOUNS

4.1. DECLENSION OF NOUNS

4.1.1. Declension is made by adding terminations to different stem endings, vowel or consonant. The various phonetic changes in the language have given rise to the different declensions. Most of the case-endings, as shown in this Modern Indo-European grammar, contain also the final letter of the stem.

Adjectives are generally declined like nouns, and are etymologically to be classed with them, but they have some peculiarities of inflection which will be later explained.

4.1.2. Nouns and adjectives are inflected in four regular Declensions, distinguished by their final phonemes – characteristic of the Stem –, and by the opposition of different forms in irregular nouns. They are numbered following Graeco-Latin tradition: First or **a-Declension**, Second or **o-Declension**, Third or **i/u-Declension**, fourth or **Consonant Declension**, and the variable nouns.

NOTE. The *Second* or *o-Declension* is also the **Thematic Declension**, opposed to the rest – and probably older in the evolution of PIE nominal inflection –, which form together the **Athematic Declension**.

Decl.	Stem ending	Nom.	Genitive
1.	ā, ia/ī/iā (ē, ō)	-∅	-s
2.	e/o (Thematic)	-s	-os, -os(i)o, (-ī)
3.	i, u and Diphthong	<i>m., f.</i> -s, <i>n.</i> -∅	-e/ois, -e/ous, -(t)ios, -(t)uos
4.	Sonants & Consonants	-s, -∅	-(e/o)s
(5)	<i>Heteroclites</i>	-∅, -r	-(e)n

The Stem of a noun may be found, if a consonant stem, by omitting the case-ending; if a vowel stem, by substituting for the case-ending the characteristic vowel.

NOTE. Most Indo-Europeanists tend to distinguish at least two major types of declension, Thematic and Athematic. Thematic nominal stems are formed with a suffix **-o-** (in vocative **-e**), and the stem does not undergo *ablaut*. The Athematic stems are more archaic, and they are classified further by their *ablaut* behaviour: *acro-dynamic*, *protero-dynamic*, *hystero-dynamic* and *holo-dynamic*, after the positioning of the early PIE accent (*dynamis*) in the paradigm.

4.1.3. The following are General Rules of Declension:

a. The Nominative singular for animates ends in **-s** when the stem endings are **i, u, ī, ū**, Diphthong, Occlusive and Thematic (**-os**), or **-∅** in **ā, a**, Sonant and **s**; while in the plural **-es** is general, **-s** for those in **ā**, and **-os** for the Thematic ones.

- b. The Accusative singular of all masculines and feminines ends in **-m**; the Accusative plural in **-ms**.
- c. The Vocative singular for animates is always \emptyset , and in the plural it is identical to the Nominative.
- d. The Genitive singular is common to animates and inanimates, it is formed with **-s**: **-s**, **-es**, **-os**. A very old alternative possibility is extended **-os-(i)o**. The Genitive plural is formed in **-ōm** (also **-ēm**), and in **-ām** in a-stems.
- e. The Obliques singular end usually in **-i**: it can be **-i**, **-ei**, **-ēi**, **-oi**, **-ōi** or **-āi**. In the plural, there are two series of declensions, with **-bh-** (general) and **-m-** (only Gmc. and Sla.), generally **-bhi**, **-bhis**, **-bhios**, **-bhos**, and (Gmc., Bal.-Sla.) **-mis**, **-mos**, and also some forms in **-si** (plural mark **-s-** plus oblique mark **-i**), found mainly in Graeco-Aryan dialects.
- f. Inanimates have a syncretic form for Nom.-Ac.-Voc. in \emptyset in Athematic, or **-m** in Thematic. The plural forms end in **-a** or **-ā**.
- g. All Animates have the same form in the plural for Nom.-Voc., in **-es**.

4.1.4. The so-called Oblique cases – opposed to the Straight ones, Nom.-Acc.-Voc –, are Genitive and the Obliques, i.e. Dative, Locative, Instrumental and Ablative. However, the Ablative seems to have never been independent, but for thematic stems in some dialectal areas. The other three cases were usually just one local case in different contexts (what we call the Oblique), although Late PIE clearly shows an irregular Oblique declension system.

NOTE 1. There are some traces – in the Indo-European proto-languages which show divided Oblique cases – that could indicate a possible first division – from a hypothetical five-case-IE II– between a Dat. and a Loc.-Ins., and then another, more recent between Loc. and Ins (see Adrados). Languages like Sanskrit or Avestan show 8 cases, while some Italic dialects show up to 8 (cf. Osc. Loc. *aasai* ‘in *ārā*’, or Ins. *cadeis amnud*, ‘*inimicitiae causae*’, *preiuatud* ‘*prīuātō*’, etc.), while Latin shows six and a semisystematic Locative notion; Slavic and Baltic dialects show seven, Mycenaean Greek shows at least six cases, while Koiné Greek shows five, just as Germanic dialects.

NOTE 2. We know that the splitting and merging processes that affected the Obliques didn't happen uniformly among the different stems, and it didn't happen at the same time in plural and singular. Therefore, there was neither a homogeneous and definite declension system in IE III, nor in the dialects and languages that followed. From language to language, from stem to stem, differences over the number of cases and its formation developed. Firstly syncretism obscured the cases, and thereafter the entire system collapsed: after the time when cases broke up in others, as in most modern Slavic languages, another time came when all cases merged or were completely lost: so today in Romance languages, in Germanic like English, or in Slavic like Bulgarian. However, Modern Indo-European needs to systematize to some extent this diversity, based on the obvious underlying old system, which usually results in 6-case paradigms (normally with Dat.-Abl. and Loc.-Ins.) in most inflected forms.

Nominal Desinences (Summary)

	Singular	Plural
NOM.	-s, -∅, (n. Them -m)	<i>m., f. -es, n. -ǎ</i>
ACC.	-m/-m̄	<i>m., f. -ms/-m̄s; n. -ǎ</i>
VOC.	-∅	<i>m., f. -es, n. -ǎ</i>
GEN.	-(e/o)s; -(e/o)s(i)o	-ǎm (dial. -ēm)
OBL.	-i- (general Obl. mark)	-bh-i- , (dialectal -m-i-); -s-i/u
DAT.	-ei	-bh(i)os , (dial. -mos)
LOC.	-i	-su/i
INS.	-e, -bhi	-bhis , (dial. -mis); -ōis (Them.)
ABL.	-(e/o)s; -ēd/-ōd/-ād	-bh(i)os , (dial. -mos)

4.2. FIRST DECLENSION**4.2.1. FIRST DECLENSION**

1. They are usually Animate nouns and end in **ā**, and **ia/ī/iā**, and also rarely in **ē**, **ō**. Those in **ā** are very common, generally feminine in nouns and always in adjectives. Those in **ia/ī/iā** are always feminine and are also used to make feminines in the adjectival Motion. Those in **ō** and **ē** are feminine only in lesser used words. Those in **a** are etymologically identical to the Neuter plural in Nom.-Acc.-Voc.

a-Declension Paradigm

	Animate	Inanimate
NOM.	-∅	-∅
ACC.	-m	
VOC.	-∅	
GEN.	-s	
DAT.	-i [<*ei]	
LOC.	-i	
INS.	-∅, -bhi, (-mi)	
ABL.	-ād, (-s)	

MIE First Declension corresponds loosely to the Latin First Declension (cf. Lat. *rosa, rosae, or puella, puellae*), and to the Ancient Greek Alpha Declension (cf. Gk. *χῶρᾱ, χῶρᾱς, or τῆμῆ, τῆμῆς*).

NOTE. The entire stem could have been reduced to IE **a**, because this is the origin of the whole stem system before IE III, with an original ending *-(e)**h**₂.

3. It is therefore identical to those nouns in **r**, **n**, **s** of the Fourth Declension, but for some details in vocalism: the Gen. has an **-s** and not **-es/-os**; the difference between Nom. and Voc. is that of **-ā** and **-a**. The zero-grade of the Nom.-Acc.-Voc. in **ia/i** stems is different from the Gen. in **-iā**.

4.2.2. FIRST DECLENSION IN EXAMPLES

1. Nominative Singular in **-∅**; as, **ékwā**⁷³, *mare*, **sénā**⁷⁹, *old*.

Example of **ia/i** stems are **pótniā/pótnī**⁴⁴, *lady*, **wíqiā/wíqi**, *she-wolf*, **djéwiā/djéwi**, *goddess* (maybe also Lat. *gallī* in the later extended *gallīna*, *rēgī* in *regīna*, etc.), as well as Pres.Part. feminines, as **prįjontiā/prįjontī**, “*who loves*”, *friend*, **wésntiā/wésntī**, “*who drives*”, *driver*, etc.

Those in **ē**, **ō**, which aren't found very often, can present an **-s** as well; as in Latin **bhídhēs** (Lat. *fides*, but also O.Lat. *fidis*), *trust*, **spékiēs**, *species*, etc.

Nouns in **ā** can also rarely present forms in **a**; as in Gk. Lesb. **Dika**.

2. Accusative Singular in **-m**; as, **ékwām**, **pótniām/pótnīm**, **bhídhēm**.

3. Vocative Singular in **-∅**. It is normally identical to the Nominative, but disambiguation could happen with distinct vowel grades, i.e. Nom. in **-ā**, Voc. in **-a**.

4. Genitive Singular in **-s**; as, **ékwās**, **sénās**.

The theme in **ia/i/iā** produces a Genitive Singular in **-ās**; as, **pótniās**.

5. Dative-Ablative Singular in **-āi**, probably from an original Dat. **-ei** ending.

There is also a form **-ei** for themes in **ē** and in **iā**.

6. Locative in **-āi**, Instrumental in **-ā**, **-ā-bhi**, **-ā-mi**.

	<i>f. ekwā</i>	<i>f. potnia/potnī</i>	<i>f. spekiē-</i>	<i>adj. f. cowijā</i>
NOM.	ékwā	pótniā/pótnī	spékiēs	cowijá
ACC.	ékwām	pótniām/pótnīm	spékiēm	cowijám
VOC.	ékwā	pótniā/pótnī	spékiē	cowijá
GEN.	ékwās	pótniās	spékiēs	cowijás
DAT.	ékwāi	pótniāi	spékiei	cowijái
LOC.	ékwāi	pótniāi	spékiei	cowijái
INS.	ékwā	pótniā	spékiē	cowijá
ABL.	ékwād	pótniās	spékiēd	cowijád

 4.2.3. THE PLURAL IN THE FIRST DECLENSION

1. The following table presents the plural paradigm of the *a*-Declension.

NOM.	-s [<i><*-es</i>]
ACC.	-ms
VOC.	-s
GEN.	-m
DAT.-ABL.	-bh(i)os (-mos)
LOC.	-su/i
INS.	-bhis (-mis)

2. The Nominative-Vocative Plural in **-s**: **ékwās, néwās, cowijās**.

This form could obviously be confused with the Genitive Singular. In equivocal contexts we change preferably the accent (**ékwās, ékwāms, ékwām**).

3. The Accusative Plural in **-ms**: **ékwāms, néwāms**.

4. The Genitive Plural in **-m**: **ékwām, newām**.

5. The Dative and Ablative Plural in **-bhios, -bhios** (dial. **-mos**); as, **ékwābh(i)os, ékwāmos**.

6. The Locative Plural in **-su** (also **-si, -se**); as, **ékwāsi, ékwāsu**.

6. The Instrumental Plural in **-bhis** (dial. **-mis**); as, **ékwābhis, ékwāmis**.

The Obliques have also special forms Gk. **-āisi, -ais**, Lat. **-ais**; as, Lat. *rosis* < **rosais*.

	<i>f. ékwā</i>	<i>f. potnia/potnī</i>
NOM.	ékwās	pótnias/pótnīs
ACC.	ékwāms	pótniams/pótnīms
VOC.	ékwās	pótnias/pótnīs
GEN.	ekwām	potniám
DAT.	ékwābhios	pótniabhios
LOC.	ékwāsi	pótniasu
INS.	ékwābhis	pótniabhios
ABL.	ékwābhios	pótniabhios

4.3. SECOND DECLENSION

4.3.1. SECOND DECLENSION

1. The Stem of nouns of the Second Declension ends in **e/o**, and they are usually called *Thematic*. They can be animates and inanimates, as well as adjectives. The inanimates have an ending **-m** only in Nom.-Acc.-Voc. The animates, with a Nominative in **-s**, are generally masculine in nouns and adjectives, but there are also feminine nouns and animate adjectives in **-os**, probably remains of the old indistinctness of declension.

2. MIE Second Declension is equivalent to the Second Declension in Latin (cf. Lat. *dominus, domini*, or *uinum, uini*), and to the Omicron Declension in Greek (cf. Gk. *λόγος, λόγου*, or *δῶρον, δῶρου*).

o-Declension Paradigm

	<i>Animate</i>	<i>Inanimate</i>
NOM.	-os	-om
ACC.	-om	
VOC.	-e	
GEN.	-os, -os(i)o, (-ī)	
DAT.	-ōi [<i><*oei</i>]	
LOC.	-ei/-oi	
INS.	-ē/-ō	
ABL.	-ēd/-ōd	

NOTE. This model could indeed have been written without the initial vowel **-o-**, given that the probable origin of this vowel is the ending vowel of some thematic stems, while other, primitive athematic stems were reinterpreted thereafter and this vowel was added to stem by way of analogy. So, for thematic stems, as **wlqo-**, this paradigm could be read Nom. **-s**, Acc. **-m**, Voc. **-e**, Gen. **-s, -sio, -so, -ī**, and so on.

3. The Nominative and the Genitive in **-os** can be confused. This can only be solved with lengthenings, as in Gen. **-os-īo** or **os-o**.

4.3.2. SECOND DECLENSION IN EXAMPLES

1. Nominative Singular Animate in **-os**; as in **wlqos**, *wolf*, **dómūnos**, *lord*, adj. **čiwós**, *alive*.
2. Accusative Singular Animate in **-om**; as in **wlqom**, **dómūnom**, **čiwóm**.
3. Vocative Singular Animate in **-e**; as in **wlqe**, **dómūne**, **čiwé**.
5. The Nom.-Acc.-Voc. Sg. Inanimate in **-om**; as in **jugóm⁵**, *joke*, adj. **néwom**, *new*, **mrwóm**, *dead*.
4. Genitive Singular in **-os, -osio, -e/oso** (also **-ī**); as in **wlqosio**, **mrwós**, **dómūnī**.

NOTE. The original form **-os** is rare, as the Genitive had to be distinguished from the Nominative. This disambiguation happens, as already said, by alternatively lengthening the ending or changing it altogether. The o-Declension is probably recent in IE III – even though it happened already in Anatolian – and that's why it is homogeneous in most IE dialects, without variations in vocalism or accent.

6. Dative Singular in **-ōi, -ō**: **wĺqōi, dómūnōi, nēwōi, mrwō.**
7. Locative Singular in **-oi, -ei**: **wĺqoi, dómūnoi, nēwoi, mrwói.**
8. Instrumental Singular in **-ō**: **wĺqō, cǐwō, nēwō, mrwō.**
9. The Ablative Singular is formed in **-ōd**, and sometimes in **-ēd**: **wĺqōd, cǐwōd, nēwōd.**

	<i>m. wlqo</i>	<i>n. jugo</i>
NOM.	wĺqos	jugóm
ACC.	wĺqom	jugóm
VOC.	wĺqe	jugóm
GEN.	wĺqosio	jugós
DAT.	wĺqōi	jugói
LOC.	wĺqoi	jugói
INS.	wĺqō	jugó
ABL.	wĺqōd	jugód

4.5.3. THE PLURAL IN THE SECOND DECLENSION

1. The Thematic Plural system is usually depicted as follows:

	<i>Animate</i>	<i>Inanimate</i>
NOM.	-ōs [<*-oes], (-oi)	-ǎ
ACC.	-oms	
VOC.	-ōs, (-oi)	
GEN.	-ōm, (-ēm)	
DAT.-ABL.	-obh(i)os, (-omos)	
LOC.	-oisu/i	
INS.	-ōis	

NOTE. The ending **-ōs** is usually considered as derived from the plural ending **-es**, i.e. ***-o(s)-es > -ōs**.

2. The Nominative-Vocative Animate Plural in **-ōs**; as, **wĺqōs, dómūnōs, wĺrōs**.
3. The Accusative Animate Plural in **-oms**; as, **wĺqoms, dómūnoms, mrtóms**.
4. The Nom.-Voc.-Acc. Inanimate Plural in **-ǎ, -a**; as, **jugǎ/jugá, nēwa, mrwá**.

5. The Genitive Plural in **-ōm/-om** (and **-ēm**); as, **wíqōm, dómūnōm, ceiwóm, jugóm**.
6. The Instrumental-Locative Plural in **-ois/-oisi; -ōis/-ōisi**, and also, as in the other declensions, Obliques in **-bhis, -bhos, -bhios (-mis, -mos)**; as, **wíqōisi, wírōis, néwoisu, mrwōis**.

	<i>m. wlqo-</i>	<i>n. jugo-</i>
NOM.	wíqōs	jugá
ACC.	wíqōms	jugá
VOC.	wíqōs	jugá
GEN.	wíqōm	jugóm
DAT.	wíqobhios	jugóbhios
LOC.	wíqōisi	jugóisu
INS.	wíqōis	jugóis
ABL.	wíqobhios	jugóbhios

4.4. THIRD DECLENSION

4.4.1. THIRD DECLENSION PARADIGM

1. Third Declension nouns end in **i, u** (also **ī, ū**) and Diphthong. The Nominative ending is **-s**.
2. This declension usually corresponds to Latin nouns of the Third Declension in *-i* (cf. Lat. *ciuis, ciuis*, or *pars, partis*), and of the Fourth Declension in *-u* (cf. Lat. *cornū, cornūs*, or *portus, portūs*).

i/u-Declension Paradigm

	<i>Animate</i>	<i>Inanimate</i>
NOM.	-s	-∅
ACC.	-m	
VOC.	-∅	
GEN.	-s	
DAT.	-ei	
LOC.	-∅, -i	
INS.	-ī/-ū, (-bhi)	
ABL.	-s	

NOTE. Reduplication or combination with the alternating endings **-i, -ei/-oi** and **-u, -eu/-ou**, was a common resort in the attested dialects that distinguished Dat. and Loc. in this declension, as in **-i-ei, -ei-ei, -eu-ei**, and so on, to distinguish similar forms. A common distinction of Loc. **-i**, Dat. **-ei**, was known to most dialects of Late PIE, while a general Instrumental in lengthened **-ī, -ū** (from Ins. ending **-e-h_i*) was commonly used; the Ablative, when it appears, shows the same declension as the Genitive.

3. The animates in **i** and **u** are masculine or feminine (indifferent to the distinction in adjectives); those in **ī** and **ū**, always feminine.

4. The **-s** can indicate Nominative and Genitive: the distinction is made through the full-grade of the vowel before the declension, i.e. Gen. **-ei-s** for **i**, **-ou-s** for **u** – but for those in **-ti**, **-tu** (type II), v.i.

NOTE. The Vocative of the animates is the same as the Nom.-Acc.-Voc. of the inanimates. In nouns differentiation isn't necessary, because they have different stem vowels; in adjectives, however, a Vocative singular animate **-i** can be an homophone with Nom.-Acc.-Voc. singular neuter **-i**; as e.g. m.Voc. **albhí**, n.Acc. **albhí**. This is, though, a rare case, in which the context is generally enough for disambiguation.

4.4.2. IN I, U

1. Nominative Singular Animate in **-s**; as in **ówis**¹⁴⁹, *ewe*, **nóqtis**¹²⁴, *night*, **ghóstis**²⁶, *guest*, **sūnus**¹³⁰, *son* (cf. also Gk. **sújus**), **médhus**, *mead*, **egnís**, *fire*, **mánus**, *hand*, adj. **swādús**, *sweet*, etc.

2. Accusative Singular Animate in **-m**; as in **ówim**, **nóqtim**, **ghóstim**, **sūnum**, **mánum**, etc.

3. Vocative Singular Animate in **-ei** or **-i**, **-eu** or **-u**; as in **ówei-ówi**, **sūneu/sūnou-sūnu**, sometimes the same Nominative form, as systematically in Latin (cf. Lat. *hostis*).

4. The Nom.-Acc.-Voc. Singular Inanimate in **-i**, **-u**; as in **móri**, **pékū**¹⁵⁰, **médhu**, **swādú**¹²³.

5. Genitive Singular in **-eis** (**-ois**) or **-(t)ios**, **-eus** (**-ous**), **-(t)uos**; as in **egnéis**¹⁵¹, **sūnous**, **owéis** (also dial. **ówios**), **mánous**, **pékwos**, adj. **swādéus**.

6. Dative Singular in **-(ej)ei**, **-(ew)ei**, **-ou**, also with long vowel, **-ēi**, **-ōu**, **egnéi**, **nóqtei**, **owéi**, etc.

7. Locative Singular in **-(ē)i**, **-(ē)u**, Instrumental in **-ī**, **-ū** or dial. **-bhi**; as **sūn(ē)u**, **owí**, **owí**, etc.

	Type I		Type II		Neuter	
	<i>m. sūnu-</i>	<i>f. owi-</i>	<i>f. noq-ti-</i>	<i>m. senā-tu-</i>	<i>n. peku-</i>	<i>n. mori-</i>
NOM.	sūnus	ówis	nóqtis	senátus	péku	móri
ACC.	sūnum	ówim	nóqtim	senátum	péku	móri
VOC.	sūnu	ówi	nóqti	senátu	péku	móri
GEN.	sūnous	owéis	nóqtios	senátuos	pékeus	mórois
DAT.	sūnou	owéi	nóqtei	senátou	pékou	moréi
LOC.	sūnú	owí	noqtí	senátu	pekú	morí
INS.	sūnū	owí	nóqtī	senátū	pékū	móri
ABL.	sūnous	owéis	nóqtios	senátuos	pékeus	mórois

THE STRONG TYPE

1. Its inflection is similar to that of **i**, **u**, but they have no alternating vowels before the declension, and the **ī** and **ū** are substituted before vowel by **-ij**, **-uw**. They are always feminine, and they cannot be inanimates nor adjectives. They are mostly PIE roots, and found mainly in Indo-Iranian.

	<i>f. bhrū</i> ⁻¹⁵²	<i>f. dnghū</i> ⁻³	<i>f. swekrū</i> ⁻¹³²	<i>f. dhī</i>
NOM.	bhrūs	dnghūs	swekrūs	dhīs
ACC.	bhrūm	dnghūm	swekrūm	dhijm
VOC.	bhrū	dnghū	swekrū	dhī
GEN.	bhruwés	dnghuwós	swekruwés	dhijós
DAT.	bhruwéi	dnghuwóu	swekruwéi	dhijéi
LOC.	bhruwí	dnghuwí	swekruwí	dhijí
INS.	bhrú(bhi)	dnghú(bhi)	swekrú(bhi)	dhijí(bhi)
ABL.	bhruwés	dnghuwós	swekruwés	dhijós

4.4.3. IN DIPHTHONG

1. There are long diphthongs **āu**, **ēu**, **ōu**, **ēi**, which sometimes present short vowels, as well as other endings without diphthong, i.e., **ā**, **ē**, **ō**.

NOTE. The last are probably remains of older diphthongs, from IE II. Therefore, even though from the point of view of Late Proto-Indo-European there are only stems with variants **āu**, **ēu**, **ē**, etc, these can all be classified as Diphthong endings, because the original stems were formed as diphthongs in the language history. This kind of irregularities is usual in today's languages, as it was already four millennia ago.

In zero grade Genitives there are forms with **-i-** or **-ij-** or **-u-** or **-uw-**, depending on the diphthongs.

	<i>m. cōu</i> ⁻¹¹⁷	<i>m. djēu</i> ⁻⁶³
NOM.	cóus	djéus
ACC.	cōm	djēm/dijém
VOC.	cóu	djéu
GEN.	cóus	diwós
DAT.	cowéi	diwéi
LOC.	cowí	djéwi/diwí
INS.	cóū	djéū
ABL.	cóus	diwós

NOTE. These are some IE words, usually secondary formations – especially found in Greek – in **-eus**, **-euos**, as in Av. *bāzāus*, Arm, Gk. *Basileus*, which are also so declined.

4.4.4. THE PLURAL IN THE THIRD DECLENSION

1. The following table depicts the general plural system, common to the Fourth Declension.

	<i>Animate</i>	<i>Inanimate</i>
NOM.	-es	-ǎ
ACC.	-ms	
VOC.	-es	
GEN.	-ōm, (-ēm)	
DAT.-ABL.	-bh(i)os, (-mos)	
LOC.	-su/i	
INS.	-bhis, (-mis)	

NOTE. The inanimate plural forms, **-a** and **-ǎ**, correspond to an older stem vowel of an earlier stage of the language, namely **-h₂* and **-eh₂*, following the Laryngeals' Theory.

2. Unlike in the Singular, in which only some Nominatives have an **-s**, in Nom.-Voc. Plural the **-s** is general, and there is always one fix-grade vowel, **e**. So, the opposition Singular-Plural in **-s/-es** is actually a *ø/e* distinction. This opposition has also sometimes another mark, the vowel before the ending (see § 4.7).

3. The Nom.-Voc. Plural Animate is normally in **-es**; as in **cówes**, **ówes**, **sūnes**, etc.

There are forms in **-ei-es** for **i** stems, as in **owéjes**; in **-eu-es** for **u** stems, as in **sūnéwes**; in **ijes**, **-uwes** for **i, ū**; as in **bhrúwes**; etc.

4. The Accusative Plural Animate is in **-ms**: **ówims**, **sūnums**, **cōms/cóums**.

NOTE. Some scholars reconstruct for IE III the accusative plural ending **-ns**, because most of the attested proto-languages show either *-ns* (as some endings in Sanskrit or Germanic) or long vowel, sometimes with *-s*. Most of them also admit an original, older **-ms** form (a logical accusative singular **-m-** plus the plural mark **-s**), but they prefer to reconstruct the attested **-ns**, thus (implicitly) suggesting an intermediate phase common to all proto-languages, i.e. IE II **-ms* > IE III **-ns* > proto-languages *[-n]s*. We don't know if such an intermediate phase happened, and if it did, if it was common to all languages, or if it was common only to those languages which present in some declensions *-ns*, and in other declensions another endings. What we do know with some certainty is that the form **-ms** existed, and at least since IE II, as the Anatolian dialects show.

5. Nom.-Voc. Acc. Plural Inanimate in **-ǎ, -a**: **pékwā**, **mórja**, **médhwā**, **swādwá**, etc.

6. Genitive Plural Animate in **-om/-ōm** (and Gmc. **-ēm**): **ówjom, nóqtjom, sūnuwēm/sūnuwom, cówōm**, etc.

NOTE. The **-m** of the Acc. sg. Animate, Nom.-Acc.-Voc. sg. Inanimate and this case could sometimes be confused. It is disambiguated with the vocalic grade of the Genitive, full or lengthened, as the singular is always \emptyset .

	<i>f. owi-</i>	<i>m. sūnu-</i>	<i>f. bhrū-</i>	<i>m. cou-</i>
NOM.	ówes	súnes	bhrúwes	cówes
ACC.	ówims	sūnums	bhrūms	cóums
VOC.	ówes	súnes	bhrúwes	cówes
GEN.	ówjom	sūnuwēm	bhrúwōm	cówōm
DAT.	ówibhios	sūnumos	bhrúbhos	cóubhios
LOC.	ówisi	sūnusu	bhrúse	cóusi
INS.	ówibhis	sūnumis	bhrúbhis	cóubhis
ABL.	ówibhios	sūnumos	bhrúbhos	cóubhios

7. The Obliques are generally divided into two groups, in **-bh-** (that of Lat., Gk., I.-I., Arm., and Cel.) and in **-m-** (that of Gmc. and Bal.-Sla.). There are, thus, **-bhis, -bhos, -bhios, -bhi**, and **-mis, -mos**; as, **sūnubhis, sūnubhos, sūnubhios, sūnumis, sūnumos**.

There is also another ending possible, that in **-s-i, -s-u, s-e**, generally Locative (in I.-I. and Bal.-Sla.), but also possibly general Dat.-Loc.-Ins. (as in Greek); as, **sūnusi, sūnusu, sūnuse**.

In the Oblique Plural specialized system, which is a common feature of Proto-Balto-Slavic and Proto-Indo-Iranian dialects, (and, to some extent, of Proto-Greek and Proto-Armenian), the Instrumental was probably formed adding the plural mark **-s** to the Instrumental Singular of the Second Declension, **-bhi, -mi**. The Dat.-Abl. was then opposed in vowel stem to the Instrumental: **-bhos** or **-mos** against **-bhis** or **-mis**. The Locative was made with an **-s** marking the plural, and an **-i** which is the Loc. mark.

NOTE. Its origin is probably the plural mark **-s**, to which the local case ending **-i** is added. This is a general oblique ending in the thematic declension.

4.5. FOURTH DECLENSION

4.5.1. THE PARADIGM

1. The Stem of Nouns of the Second Declension ends in Consonant or Sonant, i.e. **-n, -r, -s**, Occlusive (especially **-t**), and rarely **-l, -m**. The inflection of animates is essentially the same as that of the Second or Thematic Declension.

2. Nouns of the Fourth Declension in MIE correspond to Latin nouns of First Declension in **-r** (cf. Lat. *magister, magistrī*), and Third Declension in consonant (cf. Lat. *prīnceps, prīncipis, phoenīx*,

phoenīcis, cōnāmen, cōnāminis, etc.), and to the Ancient Greek Labial and Velar declension (cf. Gk. Ἄραψ, Ἄραβος, or Φρύξ, Φρυγός).

The Nominative ending is **-s** (with Occlusive, **-m, -l**), but there is also a Nominative Sg. with pure stem vowel (desinence $-\emptyset$ and lengthened ending vowel), so that the full-grade Vocative is differentiated. And there is no confusion in Nom./Gen., as **-s** has a different vowel grade (Nom. **-s**, Gen. **-es** or **-os**).

Consonant-Declension Paradigm

	Occlusive, -m, -l	-r, -n, -s
NOM.	-s	$-\emptyset$ (long vowel)
ACC.	-m [m̥]	
VOC.	$-\emptyset$	$-\emptyset$ (full grade)
GEN.-ABL.	-e/os	
DAT.	-ei	
LOC.	-i	
INS.	-bhi, (-mi)	

NOTE. These specialized Oblique endings were probably already splitting in Late PIE, at least in a dialect-to-dialect basis. Compare Indo-Iranian Dat. *-ei*, Loc. *-i*; Italic Dat. *-ei*, Loc.-Inst.-Abl. *-i*; Greek Inst. *-bhi*; in Balto-Slavic Inst. *-mi*, and so on. There is no exact original pattern that includes every dialect, but we may reliably imply an original Oblique declension **-i**, which had split into **-i** (Loc.) and **-ei** (Dat.) already in Late PIE.

3. Inanimates have pure vowel stems with different vocalic grades. In nouns there should be no confusion at all, as they are different words, but neuter adjectives could be mistaken in Nominative or Vocative Animate. Distinction is thus obtained with vocalism, as in Animate **-ōn** vs. Inanimate **-on**, Animate **-ēs** vs. Inanimate **-es** (neuter nouns in **-s** are in **-os**).

4.5.2. IN OCCLUSIVE, M, L

1. Nominative Sg. Animates in **-s**; as, **dóms**, *house*, **póds**³⁷, *foot*, **bhrghs**¹²⁸, *bury*, **dónts**¹⁷³, *tooth*.
2. Accusative Singular Animate in **-m [m̥]**; as, **dómm**, **pódm**, **bhrghm**, **dóntm**.
3. Vocative Singular Animate in $-\emptyset$; a sin **pōd**, **bhrgh**, **dōnt**.
4. The Nom.-Acc.-Voc. Singular Inanimate in $-\emptyset$, with various vocalisms; as in **krd**¹⁵³
5. Genitive Singular in **-es/-os**; as in **péd(e)s/pedés**, **dént(e)s/dentés**, **dém(e)s/demés**.
6. Dative Singular in **-ei**: **pedéi**, **dontéi**, **bhrghéi**, etc.
7. Locative Singular in **-i**: **pedí/pédi**, **dónti**, **bhrghí**, etc.

	<i>m. ped-</i>	<i>m. dōnt-</i>	<i>n. krd-</i>
NOM.	pōds	dōnts	krd
ACC.	pódm	dóntm	krd
VOC.	pōd	dōnt	krd
GEN.	pedés	dentós	krdós
DAT.	pedéi	dentéi	krdéi
LOC.	pedí	dentí	krdí
INS.	pedbhí	dentmí	krdbhí
ABL.	pedós	dentós	krdós

4.5.3. IN R, N, S

1. Nominative Singular Animate in $-\emptyset$ with lengthened vowel; as in **mātér/mātēr**¹⁴, *mother*, **kwōn**¹⁵⁴, *dog*, **ghésōr**, *hand* (cf. Hitt. *kišsar*, Gk. *kheirí*), **órōn**¹³⁹, *eagle*.

Stems in **s**, **ndher-genés**, *degenerate*, **génōs**³², *kin*, **áusōs**⁶⁹, *dawn*, **nébhōs**³¹, *cloud*.

2. Accusative Sg. Animate in **-m**; as in **mātérm**, **kwónm**, **ndheregenésm**, **áusosm**, **ghesérm**.

3. Vocative Singular Animate in $-\emptyset$ with full vowel; as in **mātér**, **kúon**, **áusos**.

4. The Nom.-Acc.-Voc. Singular Inanimate in $-\emptyset$; as in **nómn**, **génos**.

The adjectives in **-s** have the neuter in **-es**: **(a)sugenés** (cf. Gk. *eugenes*, O.Ind. *suganaḥ*)

5. Genitive Singular in **-es/-os**; as in **mātrés/mātrós** (also **mātrés**, **patrés**, **bhrátrés**, etc.), **kunés/kunós**, **nomnés/nomnós**, **ornés**.

Nouns and adjectives in **-s** have an **e**, not an **o**, as the final stem vowel: **genesés**, **ausosés**.

6. Dative Singular in **-ei**, Locative Singular in **-í**: **mātérei**, **mātéri**, **kwónei**, **ausoséi**, **ghésri** etc.

8. Instrumental Singular in **-bhi** (dialectal **-mi**): **mātrbhí**, **kunbhí**, **ausosbhí**, etc.

	<i>m. kwon</i>	<i>f. māter</i>	<i>n. genos</i>	<i>n. nomn</i>	<i>adj. m. ndhergenes</i>
NOM.	kwōn	mātér	génōs	nómn	ndhergenés
ACC.	kwónm	mātérm	génōs	nómn	ndhergenésm
VOC.	kwon	mātér	génōs	nómn	ndhergenés
GEN.	kunés	mātrós	genesós	nomnós	ndhergenéses
DAT.	kunéi	mātréi	geneséi	nomnéi	ndhergenése
LOC.	kwóni/kuní	māt(é)rí	genesí	nomní	ndhergenési
INS.	kunmí	mātrbhí	genesmí	nomnbhí	ndhergenésmi
ABL.	kunós	mātrós	genesós	nomnós	ndhergenésos

4.5.4. THE PLURAL IN THE FOURTH DECLENSION

With a paradigm common to the Third Declension, here are some inflected examples.

	<i>m. kwon</i>	<i>f. māter</i>	<i>n. genos</i>	<i>m. dōnt-</i>	<i>n. nomn-</i>
NOM.	kwónes	mātéres	génesa	dóntes	nómna
ACC.	kwónms	mātrms	génesa	dóntms	nómna
VOC.	kwónes	mātéres	génesa	dóntes	nómna
GEN.	kunóm	mātróm	genesóm	dōntóm	nōmnóm
DAT.	kunmós	mātrbhíos	genesbhós	dōntbhíos	nōmnbhíos
LOC.	kunsú	mātrsú	genessí	dōntsí	nōmnsí
INS.	kunmí	mātrbhís	genesbhís	dōntbhís	nōmnbhís
ABL.	kunmós	mātrbhíos	genesbhíos	dōntbhíos	nōmnbhíos

4.6. VARIABLE NOUNS

4.6.1. Many nouns vary in Declension, and they are called *Heteroclites*.

Note. i.e., “nouns of different inflections” (ἕτερος, “another”, κλινω, “to inflect”)

4.6.2. Heteroclitic forms are isolated and archaic, given only in Inanimates, as remains of an older system, well attested in Anatolian.

4.6.3. They consist of one form to mark the Nom.-Acc.-Voc, and another for the Obliques, as e.g.

a. Opposition \emptyset -*n*: **dérus**, **drunós**⁵⁴, *tree*; **ōs**, **ōsónos**, *mouth*.

b. Opposition *r*-(*e*)*n*: **ághōr**, **aghnós**⁶⁰, *day*; **bhémōr**, **bhēm(e)nés** *thigh*, **jěqr(t)**, **jěqn(t)ós**, *liver*, **wódōr**, **wodonós** (cf. Got. *wato/watins*), **údōr**, **udn(t)ós** (cf. Gk. *údōr*, *údatos*), *water*, etc.

NOTE. For PIE root **bedh(h)**, cf. Slav. *bedro*, Lat. *femur*, *feminis/femoris*; for PIE **jěqr**, cf. Gk. *hēpar*, Lat. *iecur*, Av. *yākarā*, for **jeqr** cf. Ved. *yákr̥t*, and compare its Obl. Skr. *yakn-ás*, Gk. *hēpat-os* < **hēpn̥(t)*.

4.6.4. The *Heteroclites* follow the form of the Genitive Singular when forming the Obliques. That is so in the lengthening before declension, vocalism, and in the accent too.

4.7. VOCALISM BEFORE THE DECLENSION

4.7.1. The Predeclensional vowel is that which precedes the ending, even the \emptyset ending; i.e., we say that Nom. **patér**⁵⁷ (< older **patér-s*) has a long predeclensional vowel; that the Vocative **patér** has a full one, and that **patrs** has it \emptyset . Other examples of the three possibilities are **pōd**, **pod** and **-pd-**.

NOTE. The vocalic changes in timbre and grade aren't meaningful by themselves, they are multifunctional: they can only have meaning in a specific declension, and it is not necessarily always the same. They are thus disambiguating elements, which help distinguish homophones (i.e., words that sound alike).

4.7.2. Two kinds of nominal inflection have no alternating vowel: that in **i**, **u**, and that of the participles of Reduplicates.

4.7.3. Stems in **r** and **n** have two possibilities, both with a Nom. sg. in $-\emptyset$ and lengthened vowel.

1. Nom. with lengthened vowel, Acc., Voc. with full vowel, and Gen. $-\emptyset$. The timbre can be **e** or **o**, depending on the words.

a. In **r**, as in Nom. **mā́tér** (< older **mā́tér-s*), Acc. **mā́tér̄m**, Voc. **mā́tér**, Gen. **mā́trós**.

b. In **n**, in PIE root stems, as in *dog*: Nom. **kwṓn/kuwṓn** (< older **kwon-s*), Acc. **kwṓnm/kuwṓnm**, Voc. **kúon/kúwon**, Gen. **kunós**.

2. Sometimes, the Genitive has a full grade as the Accusative and the Vocative. This grade is redundant, not necessary for the disambiguation of the Genitive from the Nominative. There are, as above, different timbres **e** and **o**, sometimes **o** in Nom.-Acc.-Voc., and **e** in Gen., sometimes **o** in Acc.-Voc.-Gen. and **e** in Obl.

4.7.4. There is usually the same vocalism in nouns ending in Occlusive.

An exception is made in the adjectives and participles in **-nt**, which present long vowel in the Nominative, full vowel in Accusative and Vocative, and zero-grade in the Genitive; cf. **bherónts/bheróntm/bherntós** or **bherénts/bheréntm/bherntós**.

NOTE. There are remains of what seems to be an older alternating vocalism in monosyllabics. The variants **ped/pod**, **neqt/noqt**, etc. suggest an original (i.e. IE II) paradigm Nom. **pṓd-s**, Acc. **pṓd-m**, Gen. **ped-ós**. This is, again, mostly irrelevant for Modern Indo-European, in which both alternating forms may appear in frozen vocabulary, either with **o** or **e**.

4.7.5. Stems in **s** do not present a zero-grade. Animates, as already said, oppose a lengthened-vowel Nominative to the other cases, which have full vowel, i.e., Nom. **-ēs**, rest **-es**, Nom. **-ōs**, rest **-os**.

4.7.6. We know already what happens with stems in **i**, **u**, which have two general models:

1. Nom. **-i-s**, Acc. **-i-m**, Voc. **-ei** or **-i**, Gen. **-i-os** / Nom. **-u-s**, Acc. **-u-m**, Voc. **-ei** or **-i**, Gen. **-u-os**

2. Nom. **-i-s**, Acc. **-i-m**, Voc. **-eu** or **-u**, Gen. **-ei-s** / Nom. **-u-s**, Acc. **-u-m**, Voc. **-eu** or **-u**, Gen. **-eu-s**

NOTE. This is an inversion of the normal situation: the Nom.-Acc.-Voc. has zero-grade (but for some Voc.), the Gen. \emptyset or full. Distinction is obtained through alternating forms; as in Voc., in which the ending **-ei** distinguishes it from Neuters in **-i**; or with changes of **e/o**.

4.7.7. Those in Long Diphthong alternate the diphthong (or long vowel) with **j** or **w**, which represents the \emptyset -grade; as in **djéus**⁶³, **djēm**, **diwós**; or **náu-s**¹²⁷, **naw-ós**. Uniform vocalism (i.e., no vowel change) is generalized, though.

NOTE. These diphthongs reflect a possibly older situation, of a vowel plus a laryngeal (as **-eh₂*) and they are probably related to nouns in **a**, and also to those in **e** and **o**.

4.7.8. Stems in **ā** usually maintain an uniform vocalism: Nom.-Voc. **-ā**, Acc. **-ām**, Gen. **-ās**. But those in **iā/ī** may alternate Nom.-Voc. **-iā̃/-ī**, Gen. **-iās**.

There are also remains of **-ā** in Voc. (and even Nom.), as well as **-ai**, cf. Gk. γυναι (*gunai*, an example also found in Armenian), Gk. Ευρώπαι (*Eurōpai*) and other forms in **-ai** in Latin (as *rosae* < **rosai*), Old Indian and other IE dialects. The **-ē** and **-ō** endings have also traces of alternating phonetic changes.

NOTE. In O.Gk. Εὐρώπη (*Eurōpē*), Εὐρώπα (*Eurōpā*), the Genitive is *Eurōp-ai*, which gives also the thematic adjective *Eurōpai-ós*, hence Modern Indo-European adjective ***Eurōpaiós***, ***Eurōpaiá***, ***Eurōpaióm***, and nominalized forms (with accent shift) ***Eurōpáios/Eurōpaios***, ***-om***, ***-ā***. In Latin this **-ai-o-** corresponds to *-ae-u-*, and so *Europae-us*, *-a*, *-um*. See also § 1.7.5.

4.7.9. Finally, the Neuter stems distinguish the Nom.-Acc.-Voc. forms by having a predeclensional vowel, normally \emptyset (the ending is also \emptyset , but for thematic stems), as we have seen in nouns ending in **i**, **u**, **r**, **n** and Occlusive; as **mádhu**, **nōmn**, **krd**. There are exceptions, though:

1. Nouns with lengthened or full vowel; as, Gk. **údōr**⁶¹ (from **údros**, cf. also O.Ind. *áhar*)
2. Nouns in **s** cannot have \emptyset , they have **-o-** in nouns, **-e-** in adjectives; as in **génōs**, *race*; adj. **eugenés**, *of good race*.
3. Finals **e/o** have a uniform predeclensional vowel, normally **o**, plus Nom.-Acc.-Voc ending **-m**.

NOTE 1. In the Oblique cases, neuters are declined like the animates.

NOTE 2. There are no neuters in **-a**, but for those which became common plural nouns, as e.g. n. **Búbliā**, *Bible*, lit. “*the books*”, from Gk. **búbliom**, *book*.

4.8. VOCALISM IN THE PLURAL

4.8.1. Vocalism in the Plural is generally the same as in the Singular. In Nominative-Vocative and Accusative, the straight cases, the full vowel grade is general (there is no Nominative with lengthened vowel), and in the Genitive the zero-grade is general. But there are also some special situations:

1. There are examples of full vowel in Nom.-Voc.; stems in **-ei-es** and **-eu-es** (in **i**, **u** stems); in **-er-es**, **-or-es**; **-en-es**, **-on-es**; **-es-es**.
2. Sometimes, the vowel timbre varies; as, **ákmōn/ákmenes**, (*sharp*) *stone*, which gives Lith. *akmuö/akmenes*, O.C.S. *kamy/kamene*, and so on.
3. There are also some zero-grades; cf Gk. *óies*. Also some analogical forms, as Gk. *kúnes*, Lat. *carnes*.

4.8.2. The \emptyset -grade, an exception in the Nom.-Voc., is usual in Accusative Plural in **i**, **u** stems; as in derivatives with forms **-i-ns**, **-u-ns**.

As a general rule, then, the Plural has a full vowel: **ákmenes**, **mātéres**, etc.

4.8.3. The stems in **s** of Inanimates in the Nom.-Acc.-Voc. Plural present **-es-a**, **-es-ā**: they follow the vowel timbre in the whole inflection, but for the Nom.-Acc.-Voc. Singular in **-os**. The rest are in \emptyset .

4.8.4. The general vocalism of the Genitive Plural is \emptyset . But the full grade is sometimes found, too; as in **ákmenom**. The most common stems in which the full grade can be found are **n** and sometimes **r**; as in **mātróm**, which could also be **mātérom**.

To sum up, Nominative Plural is usually opposed to Nominative Singular, while Genitive and Accusative tend to assimilate Singular and Plural. When the last are the same, full vowel is found in the Accusative, and \emptyset in the Genitive.

4.8.5. In the Obliques, where there is a distinction, the form is that of the Nominative Singular Animate or Nom.-Acc.-Voc. Singular Inanimate; and when, in any of them, there is a distinction between full- and \emptyset -grade, they take the last. An example of Animates is **pod**, which gives Nom. **pōds**, Gen. **pedós**, Obl. Plural **podbhís**. In Inanimates it happens with **s** stems which have **-os** in Nom.-Acc. and **-es** in the other cases; as in **génōs**, **genesí**, **genesbhós**. And in Heteroclitics that oppose an **-n** in the cases that are not Nom.-Acc.-Voc. with **r**, **s** or \emptyset .

The zero-grade in the predeclensional syllable is very common, whether it has the Genitive vocalism or the full one; as, **kwōn/kunsí**. This \emptyset -grade is also found in **r** stems, as in **patrós**, **patrbbhíos**. And so in **i**, **u**, stems too, in Nom. and Acc. Sg., while **e** is otherwise found (in Nom. Pl., and sometimes in Gen. Sg. and Pl.). The Obliques Plural have \emptyset ; as, **egníbhios**, **egnísi**, **egníbbhis**; **ghóstibhis**, etc.

4.9. ACCENT IN DECLENSION

4.9.1. Just like vocalic grades, the accent is used (normally redundantly) to oppose the *Straight* cases (Nom.-Acc.-Voc.) to the *Oblique* ones.

NOTE. This is one of the worst reconstructed parts of Proto-Indo-European, as each language has developed its own accent system. Only Vedic Sanskrit, Greek and Balto-Slavic dialects appear to have more or less retained the oldest accent system, and even these have undergone different systematizations, which obscure still more the original situation in Proto-Indo-European

4.9.2. In monosyllabics, the alternating system is clearly observed:

Nom. **pōds**, Acc. **pódm**, Gen. **pedés**.

Nom. **kwōn**, Acc. **kwónm**, Gen. **kunós**.

4.9.3. In polysyllabics, there is e.g. **dhúg(a)tēr**¹³¹, **dhug(a)trós**, etc., but also **bhráter**, **bhrátrs** (cf. Skr. *bhartuh*, O.N. *bróðor*), or **mātr̥s** (cf. O.Ind. *matúr*), **patr̥s** (cf. Got. *fadr̥s*), and so on.

1. Stems in **i**, **u**, had probably a root accent in Nom.-Acc., and a Genitive with accent on declension, as in the rest of examples.

2. Those in **ā** are not clearly reconstructed, therefore the alternating system is maintained.

3. The Vocative could be distinguished with the accent. The general rule, observed in Skr., Gk. and O.Sla., is that it is unstressed, but for the beginning of a sentence; in this case, the accent goes in the first syllable, to differentiate it from the Nominative with accent on declension.

NOTE. The accent in the Vocative is also related to the intonation of the sentence.

4.9.4. In the Plural system no general accent pattern can be found. Each Indo-European dialect developed its own system to distinguish the homophones in Singular and Plural. In the Obliques, however, the accent is that of the Genitive, when it is opposed to the Nom.-Acc; as in **patr̥bhíos**, **mātr̥bhís**, etc.

NOTE. The so-called *qetwóres*-rule had been observed by earlier scholars, but has only recently attracted attention. It is a sound law of PIE accent, stating that in a word of three syllables **é-o-X** the accent will be moved to the penultimate, **e-ó-X**. Examples include **qetwóres**<**qétwores**, *four*, singular accusatives of r-stems (cf. **swesórm**<**swésorm**, *sister*), of r/n-heteroclitica (cf. **ghesórm**<**ghésorm**, *hand*), of s-stems (cf. IE **h₂ausósm*<**h₂éusosm*, *dawn*). This rule is fed by an assumed earlier sound law that changes **e* to IE *o* after an accented syllable, i.e. **qetwóres**<**qétwores**<**qétweres*. Rix (1988) invokes this rule to explain why in the PIE Perfect the o-grade root is accented, e.g. **gegón-**/**gégñ-** < **gēgen-**/**gēgn-**, *created, engendered*.

4.10. COMPOUND WORDS

4.10.1. *Nominal Compositum* or nominal composition is the process of putting two or more words together to form another word. The new word, called a Compound Word, is either a Noun or an Adjective, and it does not necessarily have the same meaning as its parts.

4.10.2. The second term of a Compound Word may be

- a) a Noun (Gk. *akró-polis*, “high city, citadel”)
- b) an Adjective (Gk. *theo-eíkelos*, “similar to the gods”) or
- c) a Noun adapted to the adjectival inflection (Gk. *arguró-tozos*, “silver arc”)

NOTE. Sometimes a suffix is added (cf. Gk. *en-neá-boios*, “of nine cows”), and the Compound Noun may have a different gender than the second term (cf. Lat. *triuium*, “cross roads”, from *trēs* and *uia*).

4.10.3. The first term is a Pure Stem, without distinction of word class, gender or number. It may be an Adverb, a Numeral (Gk. *trí-llistos*, “suppllicated three times”, *polú-llistos*, “very suppllicated”) or a

Pronoun (cf. O.Ind. *tatpuruṣa*, “that man”), as well as a Nominal-Verbal stem with Nominal (Gk. *andra-phónos*, “who kills a man”), Adjetival (Gk. *akró-polis*), or Verbal function (Gk. *arkhé-kakos*, “who begins the evil”), and also an Adjective proper (Gk. *polú-tropos*, “of many resources”).

4.10.4. Usually, the first term has zero-grade, cf. O.Ind. *ṅr-hán*, Gk. *polú-tropos*, Lat. *auī-(caps)*, etc. Common exceptions are stems in **-e/o**s, as Gk. *sakés-palos*, “who shakes the shield” (Gk. *sákos*, “shield”), and some suffixes which are substituted by a lengthening in **-i**, cf. Gk. *kudī-áneira*, “who glorifies men” (Gk. *kudrós*), Av. *bərəzi-čaxra-*, “of high wheels” (Av. *bərəzant-*).

In Thematic stems, however, the thematic **-e/o** appears always, as an **o** if Noun or Adjective (Gk. *akró-polis*), as an **e** if Verb (Gk. *arkhé-kakos*).

4.10.5. The first term usually defines the second, the contrary is rare; the main Compound types are:

A. Formed by Verbs, cf. O.Ind. *ṅr-hán*, Gk. *andra-phónos* (Gk. *andro-* is newer) Lat. *auiceps*, O.Sla. *medv-ědi*, “honey-eater”, bear, and also with the second term defining the first, as Gk. *arkhé-kakos*.

B. Nominal Determiners (first term defines the second), with first term Noun (cf. Gk. *mētro-pátōr*, “mother’s father”, Goth. *þiudan-gardi*, “kingdom”), Adjective (cf. Gk. *akró-polis*, O.Sla. *dobro-godŭ*, “good time”, O.Ir. *find-airgit*, “white plant”, Lat. *angi-portus*, “narrow pass”), or Numeral (cf. Lat. *trium*, from *uia*, Gk. *ámaza*, “chariot frame”, from *ázōn*).

C. Adjectival Determiners (*tatpuruṣa-* for Indian grammarians), with first term Noun (cf. Gk. *theo-eíkelos*, Goth. *gasti-gods* “good for the guests”), Adverb (cf. O.Ind. *ájñātas*, Gk. *ágnotos*, “unknown”, *phroudos*, “who is on its way”, from *pró* and *odós*).

D. Possessive Compounds (*bahu-vrihi-*, “which has a lot of rice”, for Indian grammarians), as in Eng. *barefoot*, “(who goes) with bare feet”, with the first term Noun (cf. Gk. *arguró-tozos*, O.Sla. *črŭno-vladŭ*, “of black hair”), Adjective (cf. Lat. *magn-animus*, “of great spirit”), Adverb (cf. O.Ind. *durmanás*, GK. *dus-menés*, “wicked”).

The accent could also distinguish the Determiners from the Possessives, as in O.Ind. *rāja-putrás*, “a king’s son”, from O.Ind. *rajá-putras*, “who has a son as king, king’s father”.

5. ADJECTIVES

5.1. INFLECTION OF ADJECTIVES

5.1.1. In IE III, the noun could be determined in three different ways: with another noun, as in “*stone wall*”; with a noun in Genitive, as in “*the father's house*”; or with an adjective, as in “*paternal love*”. These are all possible in MIE too, but the adjective corresponds to the third way, i.e., to that kind of words – possibly derived from older Genitives – that are declined to make it agree in case, gender and number with the noun they define.

5.1.2. The adjective is from the older stages like a noun, and even today Indo-European languages have the possibility to make an adjective a noun (as *English*), or a noun an adjective (*stone wall*). Furthermore, some words are nouns and adjectives as well: **wrsēn**⁷⁹, *male*, *man*, can be the subject of a verb (i.e., a noun), and can determine a noun.

Most of the stems are actually indifferent to the opposition noun/adjective, and even most of the suffixes. Their inflection is common, too, and differences are normally secondary. This is the reason why we have already studied the adjective declensions; they are the same as the noun's.

5.1.3. However, since the oldest IE language there were nouns different from adjectives, as **wīqos** or **pōds**, and adjectives different from nouns, as **rudhrós**⁶¹, **solwós**, etc. Nouns could, in turn, be used as adjectives, and adjectives be nominalized.

NOTE. There were already in IE II some trends of adjective specialization, with the use of suffixes, vocalism, accent, and sometimes inflection, which changed a noun to an adjective and *vice versa*.

5.2. THE MOTION

5.2.1. In accordance with their use, adjectives distinguish gender by different forms in the same word, and agree with the nouns they define in gender, number and case. This is the *Motion* of the Adjective.

5.2.2. We saw in § 3.4. that there are some rare cases of Motion in the noun. Sometimes the opposition is made between nouns, and this seems to be the older situation; as, **patēr-mātēr**, **bhrātēr-swésōr**.

But an adjective distinguishes between masculine, feminine and neuter, or at least between animate and neuter (or inanimate). This opposition is of two different kinds:

a. Animates are opposed to Inanimates by declension, vocalism and accent; as, **-os/-om**, **-is/-i**, **-nts/-nt**, **-ēs/-es**.

b. The masculine is opposed to the feminine, when it happens, by the stem vowel; as, **-os/-ā**, **-nts/-ntia** (or **-ntī**), **-us/-uī**.

The general system may be so depicted:

	<i>Animates</i>		<i>Inanimates</i>
	<i>Maskuline</i>	<i>Feminine</i>	<i>Neuter</i>
1.	-os	-ā	-om
2.	-is	-is	-i
3.	-nts	-ntiā̃/-ntī	-nt
4.	-ēs	-ēs	-es
5.	-us	-uī	-u

NOTE. The masculine-feminine opposition is possibly new to Late PIE, IE II – as the Anatolian dialects show – had probably only an Animate-Inanimate opposition. The existence of this kind of adjectives is very important for an easy communication as, for example, the adjectives in **-ā** are only feminine (unlike nouns, which can also be masculine). An **o** stem followed by an **-s** in Nom. Sg. is animate or masculine, never feminine only, whilst there are still remains of feminine nouns in **-os**.

5.2.3. Compare the following examples:

1. For the so-called *thematic adjectives*, in **-ós**, **-ā̃**, **-óm**, cf. **kaikós**, **-ā̃**, **-óm**, *blind* (cf. Lat. *caecus*, Gk. *κακία*, *a north wind*), **akrós**, **-ā̃**, **-óm**, *sour*, **newós**, **-ā̃**, **-om**, *new*, **rudhrós**, **-ā̃**, **-om**, *red*, **koilós**, **-ā̃**, **-óm**, *empty* (cf. Gk. *κοιλός*, maybe also Lat. *caelus*, *caelum*), **elnghrós**, **-ā̃**, **-óm**, *light* (cf. Gk. *ἐλαφρός*), etc.

2. For adjectives in **-ús**, **-uī**, **-ú**, cf. **swādús**, **-uī**, **-ú**, *sweet*, **mreghús**, **-uī**, **-ú**, *brief*, **lchús**, **-uī**, **-ú**, *light*, **tnús**, **-uī**, **-ú**, *stretched*, **mldús**, **-uī**, **-ú**, *soft*, **ōkús**, **-uī**, **-ú**, *quick*. Other common examples include **āsús**, *good*, **bhanghús**, *dense*, **gherús**, *small*, *bad*, **car(āw)ús**, *heavy*, **dalkús**, *sweet*, **dansús**, *dense*, **dhanghús**, *quick*, **laghús**, *light*, **maldús**, *soft*, **pnghús**, *thick*, **tegús**, *fat*, *dense*, **tanghús**, *fat*, *obese*, **udhús**, *quick*, *immediate*, etc.

5.3. ADJECTIVE SPECIALIZATION

5.3.1. The specialization of adjectives from nouns is not absolute, but a question of grade, as e.g.

1. Stems in **-nt** are usually adjectives, but they were also assimilated to the verb system and have become (Present) Participles.

2. Words in **-ter** are nouns, and adjectives are derived usually in **-triós** and others.

3. Nouns in **-ti** have adjectives in **-tikós**, which usually has an ethnic meaning.

4. Sometimes distinction is made with alternating vowels: neuters in **-om** and adjectives in **-ēs**, **-és**.

The accent is normally used to distinguish thematic nouns in **-os** with adj. in **-ós** (mainly **-tós**, **-nós**).

NOTE. There are sometimes secondary processes that displace the accent from an adjective to create a noun; cf. Gk. *leukós*, “white”, *léukos*, “white spot”. These correlations noun-adjective were often created, but from some point onward the derivation of adjectives was made with suffixes like **-ment** (**-uent**), **-jo**, **-to**, **-no**, **-iko**, etc. There are, however, abundant remains of the old identity between noun and adjective in IE III and therefore in Modern Indo-European. An example of the accent shift is that of **Eurōp-ai-o-**, which as an adjective is **Eurōpaiós**, **Eurōpaiá**, **Eurōpaióm**, while as a noun the accent is shifted towards the root.

5.4. COMPARISON OF ADJECTIVES

5.4.1. In Modern Indo-European, as in English, there are three degrees of comparison: the Positive, the Comparative and the Superlative.

NOTE. There weren't degrees in the Anatolian dialects, and therefore probably neither in Middle PIE. It is therefore an innovation of IE III, further developed by each dialect after the great IE migrations.

5.4.2. The Comparative is generally formed by adding **-iós**, which has variants **-ijó-** and **-ison**; as in **sen-iós** (Lat. *senior*), *older*, **meg-iós**, *bigger* (cf. “major”), etc.

5.4.3. The same suffix is the base for the Superlative **-istó-** (from **-is-to-**); as in **mreghwistós**, *briefest*, **newistós**, *newest*, etc.

Other dialectal Superlative suffixes include: O.Ind. and Gk. **-tero-**, Gk. **-tm-to-** (Gk. *tato*, cf. O.Sla., O.Ind. ***prījótmos**) O.Ind. **-tmo-**, Ita. and Cel. **-mo-**, **-smo-**, **-tmo-**, and extended **-is-smo-**, **-uper-mo-**, Lat. *summus* < **súp-mos**; Skr. *ádhamas*, Lat. *infimus* < **ídh-mos**; lat. *maximus* < **mág-s-mos**; lat. *intimus* (cf. *intus*) < **én-/n-t-mos**, *innermost*. These are all derivatives of the suffix **-mós**, i.e., [*mos*] or [*mos*]. The suffix is also present in other adjectives, but it took usually the Superlative degree.

5.4.4. It is interesting to point out that both suffixes, **-io-** (also **-tero-**) and **-is-to-**, had probably an original nominal meaning. Thus, the elongations in **-ios** had a meaning; as in Latin, where **junióses** and **senióses** were used for groups of age; or those in **-teros**, as **māterterā**, *aunt on the mother's side*, **ekwáteros**, *mule*.

NOTE 1. Probably forms like **junióses** are not the most common in IE, although indeed attested in different dialects; actually adjectival suffixes **-iós**, **-istós** are added to the root (in e-grade) without the initial suffixes, while **-teros** and **-tmós** are added with the suffixes. Compare e.g. O.Ir. *sír*, cp. *sía* < **sēiós**, ‘longus, longior’; *lán* (*plēnus* cf. *lín* ‘numerus’), cp. *lia* < **plēiós** (Lat *plōios*, Gk. *plēos*); cf. Lat. *plourume*, zero-grade Lat. *maios*, O.Ir. *mía*. So, for **júwenes** we find Umb. cp. *jovie* < ***jowiē-s**, O.Ir. *óac* ‘iuuenis’, *óa* ‘iunior’; *óam* ‘iuuenissimus’, O.Ind. *yúva(n)-* (*yūnah*), cp. *yávīyas-*, sup. *yávīsta-h*.

NOTE 2. In Latin (and Germanic), as already said, the intervocalic **-s-** becomes voiced, and then it is pronounced as the trilled consonant, what is known with the name of rhotacism. Hence Lat. *iuniores* and *seniores*.

5.5. NUMERALS

5.5.1. CLASSIFICATION OF NUMERALS

Modern Indo-European Numerals may be classified as follows:

I. Numeral Adjectives:

1. Cardinal Numbers, answering the question *how many?* as, **óinos**, *one*; **dwo**, *two*, etc.
2. Ordinal Numbers, adjectives derived (in most cases) from the Cardinals, and answering the question *which in order?* as, **přwos**, *first*; **áleros**, *second*, etc.
3. Distributive Numerals, answering the question *how many at a time?* as, **sémni**, *one at a time*; **dwíni** (also **dwísnoi**), *two by two*, etc.

II. Numeral Adverbs, answering the question *how often?* as, **smís**, *once*; **dwis**, *twice*, etc.

5.5.2. CARDINALS AND ORDINALS

1. These two series are as follows, from one to ten: ¹⁵⁵

	<i>Cardinal</i>	<i>Eng.</i>	<i>Ordinal</i>	<i>Eng.</i>
1.	óinos, óinā, óinom	<i>one</i>	přwós	<i>first</i>
2.	dwó, dwá, dwói	<i>two</i>	alterós (dwoterós)	<i>second</i>
3.	tréjes, tresrés/trisóres, trī	<i>three</i>	triós, trit(i)ós	<i>third</i>
4.	qétwor (qetwóres, qetwesóres, qetwóř)	<i>four</i>	qturós, qetwrtós	<i>fourth</i>
5.	pénqe	<i>five</i>	pnqós, penqtós	<i>fifth</i>
6.	s(w)eks (weks)	<i>six</i>	(*suksós), sekstós	<i>sixth</i>
7.	séptm/septń	<i>seven</i>	septmós	<i>seventh</i>
8.	óktō(u)	<i>eight</i>	oktōwós	<i>eighth</i>
9.	néwn	<i>nine</i>	nownós, neuntós	<i>ninth</i>
10.	dékm/dekń	<i>ten</i>	dekmós, dekmtós	<i>tenth</i>

NOTE. The Ordinals are formed by means of the thematic suffix **-o**, which causes the syllable coming before the ending to have zero grade. This is the older form, which is combined with a newer suffix **-to**. For seven and eight there is no zero grade, due probably to their old roots.

2. The forms from eleven to nineteen were usually formed by copulative compounds with the unit plus **-dekm**, *ten*.¹⁵⁶ Hence Modern Indo-European uses the following system:

	<i>Cardinal</i>	<i>Ordinal</i>
11.	óindekm	oindekm(t)ós
12.	dwódekm	dwodekm(t)ós
13.	trídekm	tridekm(t)ós
14.	qetwǎrdekm	qeturdekm(t)ós
15.	penqédekm	penqedekm(t)ós
16.	séksdekm	seksdekm(t)ós
17.	septrídekm	septmdekm(t)ós
18.	októdekm	oktōdekm(t)ós
19.	newńdekm	newndekm(t)ós

3. The tens were normally formed with the units with lengthened vowel/sonant and a general -*kmtā/-komt(a)*¹⁵⁷, “group of ten”, although some dialectal differences existed.¹⁵⁸

	<i>Cardinal</i>	<i>Ordinal</i>
20.	(d)wīkrńtī	(d)wīkmt(m)ós
30.	trīkómt(ǎ)	trīkomtós
40.	qetwǎrkómt(ǎ)	qetwǎrkomtós
50.	penqékómt(ǎ)	penqēkomtós
60.	s(w)ekskómt(ǎ)	sekskomtós
70.	septmńkómt(ǎ)	septmńkomtós
80.	oktōkómt(ǎ)	oktōkomtós
90.	newnkómt(ǎ)	newnkomtós
100.	(sm)kmtóm	kmtom(t)ós
1000.	túsntī, (sm)ghéslo-	tusntitós

4. The hundreds are made as compounds of two numerals, like the tens, but without lengthened vowel. The thousands are made of the numerals plus the indeclinable **túsntī**:

	<i>Cardinal</i>	<i>Ordinal</i>
200.	dwokrńtī	dwokmtós
300.	trīkrńtī	trīkmtós
400.	qetwrkrńtī	qetwrkmtós
500.	penqekrńtī	penqekmtós
600.	sekskrńtī	sekskmtós
700.	septmkrńtī	septmkmtós
800.	oktōkrńtī	oktōkmtós

900.	newnkíntom	newnkmtós
2000.	dwo/dwéi/dwō túsntī	dwo tusntitói, dwéi tusntitás, dwō tusntitóm
3000.	tréjes/trisóres/trī túsntī	tréjes tusntitói, trisóres tusntitás, trī tusntitóm

NOTE 1. These MIE uninflected cardinals are equivalent to most European forms; as, for *two hundred*, Lat. *quingenti*, Gk. *πεντακόσια*, and also Eng. *five hundred*, Ger. *fünfhundert*, Russ. *пятьсот*, Pol. *pięćset*, Welsh *pum cant*, Bret. *pemp-kant*. Inflected forms, such as modern Indo-European dialectal Da. *fem hundrede*, Fr. *cinq cents*, It. *cinquecento*, Spa. *quinientos*, Pt. *quinhentos*, Sr.-Cr. *petsto* (f. *pet stotina*), etc. are left for the ordinals in this Modern Indo-European system.

NOTE 2. In Germanic the hundreds are compounds made of a substantive “*hundred*”, MIE **knít(m)-radhom**, Gmc. *khund(a)-ratham*, v.s., but we have chosen this – for us more straightforward – European form, found in Italic, Balto-Slavic and Greek.

5. The compound numerals are made with the units in the second place, usually followed by the copulative **-qe**:

f. **(d)wīknítī óinā(-qe)**, *twenty (and) one*; m. **trikómta qétwor(-qe)**, *thirty (and) four*; etc.

NOTE. Alternative forms with the unit in the first place are also possible in Modern Indo-European, even though most modern European languages think about numeric compounds with the units at the end. In fact, such lesser used formation is possibly the most archaic, maybe the original PIE form. Compare e.g. for “*twenty-one*” (m.):

MIE **(d)wīknítī óinos(-qe)**, as Eng. *twenty-one*, Swe. *tjuogoett*, Nor. *tjueen*, Ice. *tuttugu og einn*, Lat. *uiginti unus* (as modern Romance, cf. Fr. *vingt-et-un*, It. *ventuno*, Spa. *veintiuno*, Pt. *vinte e um*, Rom. *douăzeci și unu*), Gk. *είκοσι ἓν*, Ltv. *divdesmit viens*, Russ. *двадцать один*, Pol. *dwadzieścia jeden*, etc.

For **óinos(d)wīknítīqe**, maybe the oldest form, compare Gmc. (as Ger. *einundzwanzig*, Du. *eenentwintig*, Fris. *ienentweintich*, Da. *enogtyve*), and Lat. *unus et uiginti*, Skr. *ékaviñśati*, Bret. *unan-warn-ugent*, etc.

6. In compounds we find:

sm-, *one-*; **du-** (or **dw-** followed by vowel), **dwi-**, *two-*; **tri-**, *three-*; **q(e)tur-**, *four-*

5.5.3. DECLENSION OF CARDINALS AND ORDINALS

Of the Cardinals only **óinos**, **dwo**, **tréjes** (and dialectally **qétwor**), as well as **(sm)gheslós**, are declinable.

a. The declension of **óinos**, **-ā**, **-om** has often the meaning of *same* or *only*. The plural is used in this sense; but also, as a simple numeral, to agree with a plural noun of singular meaning. The plural occurs also in phrases like **óinoi alterói-qe**, *one party and the other (the ones and the others)*.

b. The declension of **sem-** (and o-grade **sōm-**), *one*, is as follows:

PIE <i>sem-/som-</i> , <i>one</i>		
NOM.	sems	sōms
ACC.	sémm	sómm
GEN.	smós	somós
D.-A.	sméi	soméi
L.-I.	smí, sémi	somí/sómi

c. **Dwo**, *two*, and **tréjes**, *three*, are thus declined:

	<i>dwo</i>			<i>trejes</i>		
	<i>m.</i>	<i>n.</i>	<i>f.</i>	<i>m.</i>	<i>f.</i>	<i>n.</i>
NOM.	dwo	dwói	dwā	tréjes		trī
ACC.	dwom	dwói	dwām	trims		trī
GEN.	dwósio		dwésās	tríjom		
D.-A.	dwósmei		dwésiāi (>*-ei)	tríbhios		
LOC.	dwósmi		dwésiāi	trísu		
INS.	dwósmō		dwésiā	tríbhīs		

NOTE. **ámbho**, *both*, is sometimes declined like **dwo**, as in Latin.

d. **Túsntī**, *a thousand*, functions as an indeclinable adjective:

túsntī módois, *in a thousand ways*. **kom túsntī wírōis**, *with a thousand men*

e. The ordinals are adjectives of the Fourth and Third Declensions, and are regularly declined.

6.3.2. Cardinals and Ordinals have the following uses:

a. In numbers below 100, if units precede tens, the number is generally written as one word; as in f. **dwā(d)wīkrntīqe**, *twenty one*; otherwise it is separated: **(d)wīkrntī dwā(-qe)**.

b. In numbers above 100 the highest denomination generally stands first, the next second, etc., as in English; as, *1764*, **túsntī septmkrntī sekskómta qétwor(-qe)**, or **túsntī septmkrntī qétworsekskómtqe**.

NOTE. Observe the following combinations of numerals with substantives:

wīkrntī óinos(-qe) wírōs, or **wīkrntī wírōs óinosqe**, *21 men*.

dwo túsnti penqekrntī tridekm cénās, *2513 women*.

c. The Proto-Indo-European language had no special words for *million*, *billion*, *trillion*, etc., and these numbers were expressed by multiplication. In Modern Indo-European they are formed with IE common loan from Italic **smghésli** (cf. Ita. **(s)míghēli* > O.Lat. *mīhīli* > Lat. *mille*), a derivative of **sm+ghéslos** meaning “a thousand”; as, **smghésliōn**, *million*, **dwighésliōn**, *billion*, **trighésliōn**, *trillion*, etc. For the word *milliard*, *one thousand million*, **smghesliárdos** can also be used.

d. Fractions are expressed, as in English, by cardinals in the numerator and ordinals in the denominator. The feminine gender is used to agree with **pártis**, *part*, either expressed (with adjective) or understood (nominalized): *two-sevenths*, **dwá séptmāi** (or **dwá séptmāi pártēs**); *three-eighths*, **tréjes októwāi** (or **tréjes októwāi pártēs**).

One-half is **(dwi)medhjá pártis** or **(dwi)médhjom**.

NOTE. When the numerator is one, it can be omitted and **pártis** must then be expressed: *one-third*, **tritá pártis**; *one-fourth*, **qetwrtá pártis**.

5.5.4. DISTRIBUTIVES

1. Distributive Numerals are usually formed with the zero-grade forms and the suffix **-ni**.

NOTE. These answer to the interrogative **qóteni?**, *how many of each?* or *how many at a time?*

1.	sémni , <i>one by one</i>	20.	(d)wikrntīni
2.	dwí(s)ni , <i>two by two</i>	21.	(d)wikrntīni sémni-qe , etc.
3.	trí(s)ni , <i>three by three</i>	30.	trīkrntīni
4.	qtúrni	40.	qetwrkrntīni
5.	pnqéni	50.	penqekrntīni
6.	sék(s)ni (older <i>*suksni</i>)	60.	sekskrntīni
7.	septmni	70.	septmkrntīni
8.	októni	80.	oktōkrntīni
9.	néwnni	90.	newnkrntīni
10.	dékmni	100.	kmtmni
11.	sémni dékmni	200.	dukmtmni
12.	dwíni dékmni	1.000	túsntīni
13.	tríni dékmni	2.000	dwíni túsntīni
14.	qtúrni dékmni , etc.	10.000	dékmni túsntīni

NOTE 1. The word for “one by one” can also be **sémgoli**, *one, individual, separate*, as Lat. *singuli*, from **semgolós**, *alone, single*, formed with suffixed **sem-go-lo-**, although that Lat. *-g-* is generally believed to be a later addition, i.e. proper MIE **sémoli**, from **sem-o-lós**.

NOTE 2. Suffixed **trísni**, *three each*, is found in Lat. *trīni*, Skr. *trīṇi*, giving derivative **trísnos**, *trine*, as Lat. *trinus*, as well as **trísnitā**, *trinity*.

2. Distributives are used mainly in the sense of *so many apiece* or *on each side*, and also in multiplications.

5.5.5. NUMERAL ADVERBS

The Numeral Adverbs answer the question *how many times? how often?*, and are usually formed with **i** and sometimes a lengthening in **-s**.

1.	smís , <i>once</i>	20.	(d)wīkrntīs
2.	dwis , <i>twice</i>	21.	(d)wīkrntī smīs-qe ,
3.	tris , <i>thrice</i>	30.	trīkómti
4.	qéturs , qétrus	40.	qetwrkómti
5.	pénqei	50.	penqekómti
6.	sék(s)i	60.	sekskómti
7.	séptmi	70.	septmkómti
8:	óktōi	80.	oktōkómti
9.	néwni	90.	newnkómti
10.	dékmi	100.	kmtómi
11.	óindekmi	200.	dukmtómi
12.	dwódekmi	1.000	túsntīs
13.	trídekmi	2.000	dwis túsntīs
14.	qetúrdekmi , <i>etc.</i>	10.000	dékmi túsntīs

5.5.6. OTHER NUMERALS

1. The following adjectives are called Multiplicatives, formed in PIE with common suffix **-io**, and also dialectally in compound with PIE root **pel**¹⁵⁹, as Greek and Latin zero-grade suffixed with **-plos**, or Germanic full-grade compound with **-póltos**, *fold*:

semiós, **sem(g)olós**, *single*, **oinikós**, *unique*; **dwoiós**, **dwiplós/duplós**, *double*, **dwopóltos**, *twofold*; **treijós**, **triplós** *triple*; **trejespóltos**, *threefold*; **qetworiós**, **qeturplós**, *quadruple*, **qetworpóltos**, *fourfold*, etc.; **mtiplós**, **mtipléks**, *multiple*, **monoghopóltos**¹⁶⁰, *manifold*, etc.

NOTE. For **óinikos**, *any, anyone, unique*, compare Gmc. *ainagas* (cf. O.S. *enig*, O.N. *einigr*, O.E. *ænig*, O.Fris. *enich*, O.H.G. *einag*, Du. *enig*, Eng. *any*, Ger. *einig*), Lat. *unicus*. Compare also O.Ir. *óen* into Sco. *aon*, from **óinos**, as Welsh *un*.

2. Other usual numerals (from Latin) are made as follows:

a. Temporals: **dwimós**, **trimós**, *of two or three years' age*; **dwiátnis**, **triátnis**, *lasting two or three years* (from **átnos**⁶²); **dwiménstris**, **triménstris**, *of two or three months* (from **mēns**⁶¹); **dwiátniom**, *a period of two years*, as Lat. *biennium*, **smgheslátniom**, *millenium*.

b. Partitives: **dwisnāsios**, **trisnāsios**, *of two or three parts* (cf. Eng. *binary*).

c. Other possible derivatives are: **óiniōn**, *unity, union*; **dwisniōn**, *the two (of dice)*; **prwimanos**, *of the first legion*; **prwimāsiós**, *of the first rank*; **dwisnos** (distributive), *double*, **dwisnāsiós**, *of the second rank*, **tritāsiós**, *of the third rang*, etc.

NOTE 1. English *onion* comes from O.Fr. *oignon* (formerly also *oingnon*), from Lat. *unionem* (nom. *unio*), colloquial rustic Roman for a kind of onion; sense connection is the successive layers of an onion, in contrast with garlic or cloves.

NOTE 2. Most of these forms are taken from Latin, as it has influenced all other European languages for centuries, especially in numerals. These forms are neither the only ones, nor are they preferred to others in this Modern Indo-European system; they are mainly indications. To reconstruct every possible numeral usable in Indo-European is not the aim of this Grammar.

6. PRONOUNS

6.1. ABOUT THE PRONOUNS

6.1.1. Pronouns are used as Nouns or as Adjectives. They are divided into the following seven classes:

1. Personal Pronouns: as, **eg(ó)**, *I*.
2. Reflexive Pronouns: as, **s(w)e**, *himself*.
3. Possessive Pronouns: as, **mos**, *my*.
4. Demonstrative Pronouns: as, **so**, *this*; **i**, *that*.
5. Relative Pronouns: as, **qis**, *who*.
6. Interrogative Pronouns: as, **qis?**, *who?*
7. Indefinite Pronouns: as, **áliqis**, *some one*.

6.1.2. Pronouns have a special declension.

6.2. PERSONAL PRONOUNS

6.2.1. The Personal pronouns of the first person are **eg(ó)**, *I*, **wé(i)**, *we*; of the second person, **tu**, *thou* or *you*, **ju(s)**, *you*. The personal pronouns of the third person - *he, she, it, they* - are wanting in Indo-European, an anaphoric (or even a demonstrative) being used instead.

NOTE. IE III had no personal pronouns for the third person, like most of its early dialects. For that purpose, a demonstrative was used instead; as, from **ki, id**, cf. Anatolian *ki*, Gmc. *khi-*, Lat. *cis-*, *id*, Gk. *ekeinos*, Lith. *sis*, O.C.S. *si*, etc. It is this system the one used in Modern Indo-European; although no unitary form was chosen in Late PIE times, the general pattern (at least in the European or Northwestern dialects) is obvious.

6.2.3. The Personal Pronouns (Non-Reflexive) are declined as follows:

FIRST PERSON

	<i>Singular eg-, me⁻¹⁶¹</i>	<i>Plural we-, ns⁻¹⁶²</i>
NOM.	eg, egó , <i>I</i>	we, wéi , <i>we</i>
ACC.	me , <i>me</i>	nōs, nsmé , <i>us</i>
GEN.	méne, méi , <i>of me</i>	ns(er)óm , <i>of us</i>
DAT.	mégghi(o), mói	nsméi
LOC.-INS.	moí	nsmí
ABL.	med	nsméd

SECOND PERSON

	Singular tu- , te ⁻¹⁶³	Plural ju- , ws ⁻¹⁶⁴
NOM.	tu , <i>thou</i>	ju, jus , <i>you</i>
ACC.	te , <i>thee</i>	wos, usmé , <i>you</i>
GEN.	téwe, téi , <i>of thee</i>	jus(er)óm , <i>of you</i>
DAT.	tébhi, tói	usméi
LOC.-INS.	toí	usmí
ABL.	twed	usméd

NOTE. Other attested pronouns include 1st P. Nom. **eg(h)óm** (cf. O.Ind. *ahám*, Av. *azəm*, Hom.Gk. *εγω*, Ven. *ehom*); Dat. sg. **méghei, tébhei, sébhei** in Osco-Umbrian and Slavic; **-es** endings in Nom. pl., **nsmés, jsmés**, attested in Att.-Ion. Gk. and Gothic. Also, Osco-Umbrian and Old Indian show variant (tonic or accented) series of Acc. Sg. in **-m**, as **mēm(e), twēm, tewe, usóm, s(w)ēm**. The 1st Person Dative form is often found reconstructed as **mébhi/mébhei**, as in the 2nd P. Sg. form.

For the Personal Pronouns of the third person singular and plural, the demonstrative **i** is used. See §6.5 for more details on its use and inflection.

a. The plural **wé(i)** is often used for the singular **eg(ó)**; the plural **ju(s)** can also be so used for the singular **tu**. Both situations happen usually in formal contexts.

b. The forms **nsóm, jusóm**, etc., can be used partitively:

óinosqisqe nsóm, *each one of us*.

jusóm ópniom, *of all of you*.

c. The genitives **méi, téi, nsóm, jusóm**, are chiefly used objectively:

es mnámōn nsóm, *be mindful of us*.

6.3. REFLEXIVE PRONOUNS

6.3.1. Reflexive Pronouns are used in the accusative and the oblique cases to refer to the subject of the sentence or clause in which they stand; as, **s(w)e lubhéieti**, *he/she loves himself/herself*; **séwe bhámi**, *I talk about (of) me*, and so on.

a. In the first and second persons, the oblique cases of the personal pronouns were also commonly used as Reflexives: as, **me widéiō** (for **se widéiō**), *I see myself*; **nos perswādéiomos** (for **swe perswādéiomos**), *we persuade ourselves*, etc.

b. The Reflexive pronoun of the third person has a special form used only in this sense, the same for both singular and plural. It is thus declined:

swe ¹⁶⁵

ACC.	s(w)e , <i>myself, yourself, himself/herself/itself, ourselves, yourselves, themselves.</i>
GEN.	séwe , <i>of myself, yourself, himself/herself/itself, ourselves, yourselves, themselves.</i>
DAT.	sébhi, s(w)ói , <i>to myself, yourself, himself/herself/itself, ourselves, etc.</i>
LOC.-INS.	s(w)ói , <i>in/with myself, yourself, himself/herself/itself, ourselves, etc.</i>
ABL.	swed , <i>by/from/etc. myself, yourself, himself/herself/itself, ourselves, etc.</i>

6.4. POSSESSIVE PRONOUNS

6.4.1. The main Possessive pronouns in Modern Indo-European are:

1st PERSON	mos , <i>my</i>	nsós , <i>our</i>
2nd PERSON	twos , <i>thy, your</i>	usós , <i>your</i>
REFLEXIVE	swos , <i>my, your, his/her/its, our, your, their</i>	

These are really adjectives of the first type (-ós, -á, -óm), and are so declined.

NOTE 1. IE **swos** is used only as a reflexive, referring to the subject. For a possessive pronoun of the third person not referring to the subject, the genitive of a demonstrative must be used. Thus, **(i) swom patérm chénti**, *(he) kills his [own] father*; but **(i) patérm éso chénti**, *(he) kills his [somebody (m.) else's] father*.

NOTE 2. Other common Proto-Indo-European forms were **méwijos/ménjos, téwijos, séwijos**. Forms for the first and second persons are sometimes reconstructed as **emós, tewós**.

A. There are older Oblique singular forms which were assimilated to the thematic inflection by some Indo-European dialects, as **mói, tói, sói**, and its derivatives with **-s, -os, -w-**, etc

B. Forms with adjectival suffixes **-teros, -eros**, were not general in Late PIE, although the forms are common to many European languages; as, **nserós/nsterós, userós/usterós**, etc.

6.4.3. Other forms are the following:

a. A possessive **qosós, -á, -óm**, *whose*, is formed from the genitive singular of the relative or interrogative pronoun (**qi/qo**). It may be either interrogative or relative in force according to its derivation, but is usually the former.

b. The reciprocals *one another* and *each other* may be expressed with PIE **meitós** (cf. Goth. *missō*, O.Ind. *mithá-*, Lat. *mūtūus*, Gk. *μοῖτος*, Bal-Sla. *meitu-*, etc.) or other common expressions, as Lat. **énter s(w)e** or **áalteros...áalterom**, Gmc. **óinos...áalterom** (cf. Eng. *one another*, Ger. *einander*), etc.

áalteros áalterī áutoms déukonti¹⁶⁶ (or **óinos áalterī áutoms déukonti**), *they drive each other's cars (one... of the other)*;

énter se lubhéionti (or **lubhéionti áalteros áalterom**), *they love one another (they love among themselves)*; and so on.

6.5. ANAPHORIC PRONOUNS

6.5.1. Anaphora is an instance of an expression referring to another, the weak part of the deixis. In general, an anaphoric is represented by a pro-form or some kind of deictic. They usually don't have adjectival use, and are only used as mere abbreviating substitutes of the noun.

NOTE. The old anaphorics are usually substituted in modern Indo-European dialects by demonstratives.

They are usually integrated into the pronoun system with gender; only occasionally some of these anaphorics have been integrated into the Personal Pronouns system in Indo-European languages.

6.5.2. Modern Indo-European has a general anaphoric pronoun based on PIE root **i**. It can also be added to old **e** forms, hence **éi**.

NOTE. This root **i** is also the base for common IE relative **jo**.

6.5.3. The other demonstrative, **so/to**, functions as anaphoric too, but tends to appear leading the sentence, being its origin probably the relative. They are also used for the second term in comparisons.

NOTE. Modern IE languages have sometimes mixed both forms to create a single system, while others maintain the old differentiation.

6.6. DEMONSTRATIVE PRONOUNS

6.6.1. The Demonstrative Pronouns **so**, *this*, and **i**, *that*, are used to point out or designate a person or thing for special attention, either with nouns, as Adjectives, or alone, as Pronouns, and are so declined:

so/to¹⁶⁷, *this*

	<i>Singular</i>			<i>Plural</i>		
	<i>m.</i>	<i>n.</i>	<i>f.</i>	<i>m.</i>	<i>n.</i>	<i>f.</i>
NOM.	so	tod	sā	tói	tā	tāi/sāi
ACC.	tom	tod	tām	toms	tā	tāms
GEN.	tósio		tésās	tésom		tésom
DAT.	tósmōi		tésiāi [<i>>*-ei</i>]	tóibh(i)os (-mos)		tábh(i)os (-mos)
LOC.	tósmi		tésiāi	tóisu		tāsu
INS.	toi			tóibhis (-mis)		tábhis (-mis)
ABL.	tósmōd			tóios		

NOTE. Different variants are observed in the attested dialects: 1) Nom. **so** is also found as **sos** in Old Indian, Greek and Gothic, and as **se** in Latin (cf. Lat. *ipse*). 2) Nom. **sā** is found as **sī** in Gothic and Celtic, also as **sjā** in Germanic. 3) Nom. Pl. **tāi** is general, while **sāi** is restricted to some dialects, as Attic-Ionic Greek. However, linguists like Beekes or Adrados reconstruct the Nominative form in **s-** as the original Proto-Indo-European form. 4) Oblique forms in **-bh-/-m-** are sometimes reconstructed as **-m-** only (Beekes).

i¹⁶⁸, that

	Singular			Plural		
	<i>m.</i>	<i>n.</i>	<i>f.</i>	<i>m.</i>	<i>n.</i>	<i>f.</i>
NOM.	i	id	i	éi	ī	íes
ACC.	im	id	īm	ims	ī	īms
GEN.	éso, éjos		ésās	ésom		
DAT.	ésmoi		ésiāi [>*-ei]	éibh(i)os (-mos)		
LOC.	ésmi		ésiāi	éisu, -si		
INS.	eí			éibhis (-mis)		
ABL.	ésmōd			éios		

Deictic particles which appear frequently with demonstrative pronouns include **ko**, **ki**¹⁶⁹, *here*; **en**, **e/ono**¹⁷⁰, *there*; **e/owo**, *away, again*.

NOTE. Compare for PIE **is**, **se**, *he*, Lat. *is*, O.Ind. *saḥ*, *esaḥ*, Hitt. *apā*, Goth. *is*, O.Ir. (*h*)*í*; for (**e**)**ke**, **ghei-(ke)**, **se**, **ete**, *this (here)*, cf. Lat. *hic* (<*ghe-i-ke), Gk. *ovtoς*, O.Ind. *ay-am*, *id-am*, *esaḥ*, Hitt. *kā*, *eda* (def.), Goth. *hi-*, *sa(h)*, O.Ir. *sin*, O.Russ. *ceŭ*, *эмom*; for **oise**, **iste**, **ene**, *this (there)*, cf. Lat. *iste*, Gk. *oioc* (<*oihos), O.Ind. *enam* (clit.); for **el-ne**, *that*, cf. Lat. *ille* (<*el-ne), *ollus* (<*ol-nos), Gk. *εκεινος*, O.Ind. *a-sau*, *u-*, Goth. *jains*

6.7. INTERROGATIVE AND INDEFINITE PRONOUNS

6.7.1. INTRODUCTION

1. There are two forms of the Interrogative-Indefinite Pronoun in Modern Indo-European, and each one corresponds to one different class in our system, **qi** to the Substantive, and **qo** to the Adjective pronouns.

<i>SUBSTANTIVE</i>	<i>ADJECTIVE</i>
qis bhéreti? <i>who carries?</i>	qos wíros bhéreti? <i>what man carries?</i>
qim widéiesi? <i>what/who do you see?</i>	qom áutom widéiesi? <i>which car do you see?</i>

NOTE 1. In the origin, **qi/qo** was possibly a noun which meant “*the unknown*”, and its interrogative/indefinite sense depended on the individual sentences. Later both became pronouns with gender, thus functioning as interrogatives (stressed) or as indefinites (unstressed).

NOTE 2. The form **qi** is probably the original independent form (compare the degree of specialization of **qo**, further extended in IE dialects), for which **qo** could have been originally the o-grade form (see Beekes, Adrados) – hence our choice of clearly dividing a *Substantive-qi* from an *Adjective-qo* in this Modern Indo-European system. Some Indo-European dialects have chosen the o-stem only, as Germanic, while some others have mixed them together in a single paradigm, as Indo-Iranian, Balto-Slavic or Italic. Compare Gmc. *khwo-* (cf. Goth. *hwas*, O.N.

hverr, O.S. *hwe*, O.E. *hwā*, Dan. *hvo*, O.Fris. *hwa*, O.H.G. *hwër*), Lat. *qui, quae, quod; quis, quid*, Osc. *pisi*, Umb. *púí, svepis*, Gk. *tis*, Sktr. *kaḥ*, Av. *ko*, O.Pers. *čiy*, Pers. *ki*, Phryg. *kos*, Toch. *kus/kūse*, Arm. *ov, inč'*, Lith. *kas*, Ltv. *kas*, O.C.S. *kuto*, Rus. *kto*, Pol. *kto*, O.Ir. *ce, cid*, Welsh *pwyl*, Alb. *kush*, Kam. *kâčá*; in Anatolian, compare Hitt. *kuiš*, Luw. *kui-*, Lyd. *qi-*, Lyc. *tike*, and Carian *kuo*.

2. The Substantive Interrogative Pronoun **qi-?** *who?, what?*, is declined in the Singular as follows:

	Singular			Plural		
	<i>m.</i>	<i>f.</i>	<i>n.</i>	<i>m.</i>	<i>f.</i>	<i>n.</i>
NOM.	qis		qid	qéi(es)		qī
ACC.	qim			qims		
GEN.	qés(i)o, qéios			qéisom		
DAT.	qésmei,			qéibh(i)os (-mos)		
LOC.	qésmi			qéisu, -si		
INS.	q(esm)í			qéibhis (-mis)		
ABL.	qósmōd			qéibh(i)os (-mos)		

3. The Adjective Interrogative Pronoun, **qo-?**, *who (of them)? what kind of? what? which?* is declined throughout like the Relative:

	Singular			Plural		
	<i>m.</i>	<i>f.</i>	<i>n.</i>	<i>m.</i>	<i>f.</i>	<i>n.</i>
NOM.	qos	qā	qod	qoi	qās	qā
ACC.	qom	qām		qoms	qāms	
GEN.	qóso, qósio			qósom		
DAT.	qósmōi			qóibh(i)os (-mos)		
LOC.	qósmi			qóisu, -si		
INS.	q(osm)í			qóibhis (-mis)		
ABL.	qósmōd			qóibh(i)os (-mos)		

Qóteros?, *who of two?* is derived from the stem **qo** with the suffix **-tero**.

4. The Indefinite Pronouns **qi/qo**, *any one, any*, are declined like the corresponding Interrogatives.

<i>SUBSTANTIVE</i>	qis , <i>any one</i> ; qid , <i>anything</i>
<i>ADJECTIVE</i>	qos, qā, qod , <i>any</i>

5. The Adverbial form of the Indefinite-Interrogative pronoun is **qu**.

6.7.2. COMPOUNDS

1. The pronouns **qi** and **qo** appear in various combinations.

a. The forms can be repeated, as in substantive **qisqis**, **qidqid**, or adjective **qosqos**, **qāqā**, **qodqod**; with an usual meaning *whatever, whoever, whichever*, etc.

b. In some forms the copulative conjunction **-qe** is added to form new pronouns (both as substantives and as adjectives), usually *universals*; as, **qisqe**, *every one*: **qoterqe**, *each of two*, or *both*. **Qisqe** is declined like the interrogative **qi**: substantive, **qisqe**, **qidqe**, adjective, **qosqe**, **qāqe**, **qodqe**

c. Other forms are those with prefixes – deemed more modern –, like **aliqis** (substantive), *some one*, **aliqod** (adjective), *some*.

d. Forms with the numerals **oino-**, **sem-**, *one*, are also frequently pronouns; as in **óinos**, **óinā**, **óinom**, and **sēms** (gen. **semós**), *some, somebody, someone*.

óinosqisqe, *each one*

c. The negatives are usually composed with negation particles, as **ne** or modal **mē**. As in **néqis**, **néqos**, **méqis**, **n(ě)óin(os)** (cf. Eng. *none*, Ger. *nein*, maybe Lat. *nōn*), **nóin(o)los** (Lat. *nullus*).

In the compound **óinosqisqe**, *each one, every single one*, both parts are declined (genitive **óinosoqéisoqe**), and they may be separated by other words:

ne en óinō qisqis qósqe, *not even in a single one*.

h. The relative and interrogative have a possessive adjective **qósos** (**-ā**, **-om**), *whose*.

i. Other Latin forms are **qámτος**, *how great*, and **qális**, *of what sort*, both derivative adjectives from the interrogative. They are either interrogative or relative, corresponding respectively to the demonstratives **támτος**, **tális**, from **to**. Indefinite compounds are **qámτοςkomqe** and **qálistkomqe**.

j. It is also found as in compound with relative **jo**, as in **jos qis**, **jod qid**, *anyone, anything*.

h. An interrogative **mo-** is also attested in Anatolian and Tocharian.

6.7.3. CORRELATIVES

1. Many Pronouns, Pronominal Adjectives and Adverbs have corresponding demonstrative, relative, interrogative, and indefinite forms in most Indo-European languages. Such parallel forms are called Correlatives. Some of those usable in Modern Indo-European are shown in the following table.

NOTE. Other common PIE forms include (**sol**)**wos**, *all*, cf. Gk. *ολοι*, O.Ind. *visva*, *sarva*, Hitt. *hūmant-*, O.Ir. *u(i)le*; **qāqos**, *each one*, cf. Gk. *εκατερος*, *εκαστος*, O.Ind. *pratieka*, Hitt. *kuissa*, Gaul. *papon*, O.Ir. *cách*, Ru. *κακοῦ*, Goth. *ainhvaþaruh*; **qisqis**, *anyone*, cf. Gk. *τις*, *οστις*, O.Ind. *kacit*, *kaścana*, *kopi*, Hitt. *kuis kuis*, *kuis-as kuis*, Lat. *quisquis*, *quīlibēt*, *quīvis*, Goth. *hvazuh*, *hvarjizuh*; **qiskomqe**, **qisimmoqe**, *whoever*, cf. Gk. *τις av*, *τις*

eav, O.Ind. *yaḥ kaś cit*, *yo yaḥ*, *yadanga*, Hitt. *kuis imma*, *kuis imma kuis*, *kuis-as imma* (*kuis*), Lat. *quiscumque*, Goth. *sahvazuh saei*, Ger. *wer auch immer*, O.Ir. *cibé duine*, Russ. *кто бы ни*; **qéjespeioi**, *some*, cf. Gk. *οιτινες*, O.Ind. *katipaya*, Hitt. *kuis ki*, Russ. *несколько*; (**ed**)**qis**, *some(one) among many*, cf. Gk. *τις*, O.Ind. *anyatama*, Hitt. *kuis ki*, Lat. *ecquis*, *quis*, *aliquis*, Goth. *hwashun*, Russ. *едва́*, O.Ir. *nech*, *duine*; **enis**, *certain*, cf. Gk. *ενιαυτον*, O.Ind. *ekaścana* Lat. *quīdam*; **somós**, *the same*, cf. O.Ind. *sama*, Goth. *sama*, Russ. *самый*; **se epse**, **epe**, **s(w)el** (**e**)**pe**, (*him*)*self*, cf. Hitt. *apāsila*, O.Lat. *sapsa*, *sumpse*, *ipse*, Goth. *silba*, O.Ir. *fessin*, *fadessin* (>*féin*), Russ. *сам*, **neqis**, *noone*, cf. Gk. *ουδεις*, O.Ind. *na kaḥ*, Hitt. *UL kuiski*, Goth. (*ni*) *hwashun*, Gaul. *nepon*, O.Ir. *ní aon duine*, Lat. *nec quisquam*, Russ. *никто*; **álteros**, **ónteros**, *the other*, **álios**, **onios**, *some other*, etc.

<i>Demonstrative</i>	<i>Relative</i>	<i>Interrogative</i>	<i>Indefinite Relative</i>	<i>Indefinite</i>
i	qis	qis?	qísqis	aliqís
<i>that</i>	<i>who? what?</i>	<i>who? what?</i>	<i>whoever, whatever</i>	<i>some one, something</i>
tántos	qámτος	qámτος?	qámτοςkomqe	aliqámτος
<i>so great</i>	<i>how (as) great</i>	<i>how great?</i>	<i>however great</i>	<i>some/other</i>
tális/swo	qális	qális?	qálistkomqe	-
<i>such, so, this way</i>	<i>as</i>	<i>of what sort?</i>	<i>of whatever kind</i>	-
tom/tóeno	qom/qíeno	qámđō/qíeno?	qámđōkomqe/éno	aliqámđō
<i>then ('this there')</i>	<i>when</i>	<i>when?</i>	<i>whenever</i>	<i>at some/other time</i>
tótrō(d)	qítro	qítro?	qítroqítter	aliqítter
<i>thither</i>	<i>whither</i>	<i>whither?</i>	<i>whithersoever</i>	<i>(to) somewhere</i>
ī	qā	qā?	qāqā	aliqā
<i>that way</i>	<i>which way</i>	<i>which way?</i>	<i>whithersoever</i>	<i>(to) anywhere</i>
tóendes	qíendes	qíendes?	qíendekomqe	aliqíende
<i>thence</i>	<i>whence</i>	<i>whence?</i>	<i>whencesoever</i>	<i>from somewhere</i>
qídhei/tóko	qódhei/qísko	qódhei/qísko?	qódheiqisqe	aliqídhei/aliqódhei
<i>there ('this here')</i>	<i>where</i>	<i>where?</i>	<i>wherever</i>	<i>other place/somewhere</i>
tot	qot	qot?	qótqot	aliqót
<i>so many</i>	<i>as</i>	<i>how many?</i>	<i>however many</i>	<i>other, some, several</i>
tótients	qótients	qótients?	qótientskomqe	aliqótients
<i>so often</i>	<i>as</i>	<i>how often?</i>	<i>however often</i>	<i>at several times</i>
so	qos	qos	qósqos	aliqós
<i>this</i>	<i>who? which?</i>	<i>who? which?</i>	<i>whoever, whichever</i>	<i>some (of them)</i>

¹ Latin (*cibi*, *cubi*) is frequently reconstructed as a conceivable PIE ***qibhi**, ***qobhi**, but it is not difficult to find a common origin in PIE **qi-dhei**, **qo-dhei** for similar forms attested in different IE dialects; cf. Lat. *ubi*, Osc. *puf*, O.Ind. *kuha*, O.Sla. *kude*, etc.

6.8. RELATIVE PRONOUNS

6.8.1. There are two general pronominal stems used as relative pronouns, one related to the anaphorics and one to the interrogative-indefinites.

6.8.2. Relative Pronoun **jo**, the o-stem derivative from **i**. It is inflected like **so/to** and **qo**.

	<i>Singular</i>			<i>Plural</i>		
	<i>m.</i>	<i>n.</i>	<i>f.</i>	<i>m.</i>	<i>n.</i>	<i>f.</i>
NOM.	jōs	jōd	jā	jōi	jā	sāi
ACC.	jōm	jōd	jām	jōms	jā	jāms
GEN.	jōsio		jēsās	jēsom		
DAT.	jōsmōi		jésiāi [$>^*{-ei}$]	jéibh(i)os (-mos)		
LOC.	jōsmi		jésiāi	jéisu, -si		
INS.	jeí			jéibhis (-mis)		
ABL.	jésmōd			jéios		

6.8.3. **qo/qi**, *who, which*, has its origin in the interrogative pronouns, and are declined alike.

NOTE. Relative pronoun **jo-**, maybe from an older **hjo-*, is found in Gk. *hós*, Skr. *yá-*, Av. *ya-*, Phryg. *ios*, Cel. *io*. Italic and Germanic dialects use **qo-** as relative, in compound with **-qe** in Germanic. In Balto-Slavic, this pronouns is suffixed in some adjectives to create indefinites. It is also found as indefinite in compound with **qi/qo**, as in **jós qis, jód qid**, *anyone, anything*, as Gk. *hóstis hótti*, Skr. *yás cit, yác cit*.

6.9. IDENTITY PRONOUNS

6.9.1. With Identity pronoun we are referring to the English *self*, which is formed differently in most Indo-European dialects. The different possibilities are:

1. Those which come from a Pronoun, which are only valid for the third person, formed basically by the anaphoric pronoun lengthened with another particle:

- a. Greek **autós**, as Gk. *αὐτός*, from adverb **áu**, *newly*, and the anaphoric **to**.
- b. Latin identity **ídem** formed by **id** and ending **-em**.

2. Those formed from a Noun, with the sense *equal, same*, able to modify demonstrative or personal pronouns, and even having an autonomous pronominal use, with a pronoun declension:

The common Indo-European form is derived from adjective **somós**, *same, similar*.

NOTE. Common adjective **somós**, *same*, and different derivatives from PIE root **sem**, give Gmc. *samaz* (cf. O.S., O.H.G., Goth. *sama*, O.N. *sómr*, O.E. *same*, O.H.G. *samant*, Ger. *samt*, Du. *zamelen*), Lat. *similis*, (IE **smilís**) Gk. *ómós, ómoũ, ómalós*, Skr. *samaḥ*, Av. *hama*, O.C.S., O.Russ. *самъ*, Pol. *sam, sama*, O.Ir. *som, sāim* (from IE **sōmi**).

6.10. OPPOSITIVE PRONOUNS

6.10.1. There are two forms to express the opposition of two deictic or anaphoric pronouns.

6.10.2. The first type of opposition is made with the same word, meaning *what is different*. This is the same as the English *either...either* sentences.

6.10.3. Modern Indo-European has also terms itself oppositives, apart from the correlation sentences:

a. Derived from the oppositive suffix **-tero**:

súteros, *different*, from which Gmc. *suntar*, Ger. *sonder*, Gk *ατερ* (cf. Gk. ἕτερος, “*other, different, uneven*”), Lat. *sine*, “*without*”, O.Ind. *sanutar*, O.Sla. *svene*, O.Ir. *sain* ‘uariē’.

qóteros, *either (of two)*, and **qúteros** (as Lat. *uter*), formed with adverb **qu** (from interrogative-indefinite **qi/qo**). The later appears also in common Indo-European loan from Lat. *neuter*, MIE **neqúteros**, “*neither one nor the other*”.

NOTE. The oldest interrogative form is probably **qóteros?**, *who of two?*, attested in different IE dialects.

álteros, *the other*, already seen.

NOTE. Another form is that of the deictic **en-/eno-** and **-teros**, as in **enteros**, also **anteros** (influenced by **alteros**), found in Germanic and Balto-Slavic dialects.

b. The Stem **al-**, **ali-** is very common in Modern Indo-European, the **-i** being a characteristic lengthening of the pronouns and not an adjectival one. Some usual forms are **álios**, **álidhei** (sometimes reconstructed as ***álibhi**, but cf. Lat. *alibi*, Gk. *αλλυδεις*, Goth. *aljab*, etc.), **áliqis**, etc.

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 **bhéro** (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 awisdhíjendhos 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 Djówilī, “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*), **gígnoskō**, *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 Desinenes 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.		Athematic		Thematic		PASSIVE*	
		Primary	Secondary	Primary	Secondary	Athematic	Thematic
sg.	1.	-mai	-ma	-ai, -omai	-oma	-mar	-ar, -omar
	2.	-soi	-so	-esoi	-eso	-sor	-esor
	3.	-toi	-to	-etoi	-eto	-tor	-etor
pl.	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 *subsidiūm*, *praesidiūm*, 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, láva**, *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, róda**, *excite*.

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

- **amáio**, *love*.
- **lubhéio**, *love, desire*.
- **ságíjo**, *look for, search*.
- **argúio** *reason, argue* (cf. Lat. *arguō*, Hitt. *arkuwwai*).

4) Verbs in **-io**:

- Trilateral: **kúpio, 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, καρχαλαω, 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**, **swédhióm**, **swédhua**, **swédhsō**, *get used to*.
- Of Permanent Suffix: **prkskó**, *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**, **séwa**, *sow*.
- **gígnō**, **gégna**, **gégnāka**, *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*, **ésmai**, *find oneself, be*.
- In **ā** (i.e. PIE **h*₂): **snámi**, *swim*, **bhámai**, *speak*.
- In **ē** (i.e. PIE **h*₁): **bhlémi**, *cry*, **(s)rémai**, *calculate*.
- With Nasal infix: **leiq-** (**linéqti/linqúti**), *leave*, **klew-** (**klnéuti/klnúnti**), *hear*, **pew-** (**punáti/punánti**), *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. *πρίαμαι*, 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 $\text{-}\ddot{o}/\text{-}\emptyset$, 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, $(\acute{e})\text{liqé/ó-}$ for the Aorist, $(\acute{e})\text{lóiq-}$ 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/ø-vowel. The alternative ø/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. *pr̥ch*, 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 **-[n̥o]**, 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*) **-áio**, **-éio**, **-íjo** 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 **-ĕie/o**, cf. from **wes**, *dress*, Active **wosĕieti** (cf. Hitt. *waššizzi*, Skr. *vāsāiati*, Ger. *wazjan*, Alb. *vesh*), from **leuk**, *light*, Active **loukĕieti** (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*), **nóm**, *name*, **nómniō**, *name* (cf. Got. *namnjan*), or **mĕlit**, *honey*, **mlítiō**, *take honey from the honeycomb* (as Gk. *blíttō*), etc.

The deverbative inflection could have **-io**, **-ĕio**, 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 **-ĕiō/-ĕīō**, 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 **-ĕiō**, 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, **bhá(iō)**, *draw*; **duká(iō)**, *drag, draw*; **amá(iō)**, *love*, etc.

NOTE. Some find apparently irregular formations, mixed with **-i-**, as Lat. *amō*, “*I love*”, from an older **amá-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 \emptyset/\emptyset , 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, **klneuō**, from **klew**, *hear*, or **qrneuō**, 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*; **bhávō**, 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 \emptyset 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. ηγαγον, where η<ā<é+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**, *purifie* (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, **mńiō-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, gegn-mé,** *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. *τεθλα,* 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 **sedé-iō, séd-a, sit;** **éd-ō, éd-a, eat;** **cém-iō, cém-a, come;** **ág-ō, ág-a, act;** from Germanic, **sléb-ō, sésléb-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 ***sedai** 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., 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. *weljan*, “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. *бѣиѹ*, Russ. *бѣиѹ*, Cz. *býti*, Pol. *być*, Sr.-Cr. *bíti*, etc.), and also in Lith. *būti*, O.Ind. *bhūtis*, 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. *φύμαι*; 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 - \emptyset 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. **bhéréš**, *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 **kléwōm**.

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		<i>Athematic</i>	<i>Thematic</i>
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, -tavai* (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 *-θαι*, 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; **áломнос**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*, **ghabhilís**, *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*; **sepondhós**, *second, that has to follow*; **gnaskendhós**, *that has to be born*; and so on.

c. **-mōñ-**, with a general meaning of ‘able’; as, **mnámōñ**, *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 **mnámñ**, into Gk. *mnémon* > **mnā-món**, “who remembers”; compare also Skr. *bráhmañ*, “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. *-τεος*, 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
	lóweso	lowéso	lówoiso	lówesor
	lówetoi	lowéto	lówoito	lówetor
<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	lowétor
<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	weidéiar
	weidéiesoi	weidéiēso	weidéioiso	weidéiesor
	weidéietoi	weidéiēto	weidéioito	weidéietor
<i>pl.</i>	weidéiomesdha	weidéiōmedhā	weidéioimedha	weidéiomor
	weidéiedhe	weidéiēdhue	weidéioidhue	weidéiedhuer
	weidéiontoi	weidéiōnto	weidéiojnto	weidéiontor

IMPERFECT

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

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	louseso	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 *lów-/lou-*

	<i>Indicative</i>	<i>Subjunctive</i>	<i>Optative</i>	<i>PAST*</i>	<i>MIDDLE*</i>
<i>sg</i>	lówa	lówō	lówóim	lówóm	lówā
	lóuta	lówes	lówóis	lówés	lóweso
	lówe	lówet	lówóit	lówét	lóweto
<i>pl</i>	loumé	lówome	lówóime	lówóme	lówomedha
	louté	lówete	lówóite	lówéte	lówedhue
	lowr	lówont	lówóint	lówónt	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	dóikeso
	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	wóideso
	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	déiksome
	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	síēm	-	ésm
	éssi	éses	síēs	es (sdhi)	és(s)
	ésti	éset	síēt	éstōd	ést
<i>pl.</i>	smés	ésome	síme	-	ésme
	sté	ésete	síte	(e)sté	éste
	sénti	ésont	síjent	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 (<ésomi>), es(s), est, sunt (<sónti>)*, Gk. *εμί, εῖ, εστί, εσί* (Dor. *έντ*), O.Ind. *ásmi, ási, ásti, sánti*, Av. *ahmi* (O.Pers. *amiy*), *-, asti, hanti*, Arm. *em, es, ē, -, O.Pruss. asmai, assai, est*, Lith. *esmì, esì, èsti*, O.C.S. *jesmь, jesi, jestь, sqь (<sónti>)*, Russ. *есмь, ecu, есмь, суть (<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	klnwíjēm	-
	klnéusi	kléwes	klnwíjēs	klnéu(dhi)
	klnéuti	kléwet	klnwíjēt	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, διδοιην, τιθειην*, O.Ind. *syaam (asmi), dvisyām (dvesmi), iyām (emi), juhuyām (juhkomī), sunuykām (sunomī), rundhyām (runadhmi), kuryām (karomī), krīnīyām (krīnāmī)*, etc. Exceptions are Lat. *uelim* (not *uulim*), Goth. (conclave) *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>	(sī)stāmi	stāiō	(si)stājēm	-
	(sī)stāsi	stāies	(si)stājēs	(sī)stā(dhi)
	(sī)stāti	stāiet	(si)stājēt	(sī)stātōd
<i>pl.</i>	(sī)stames	stāiome	(si)stāime	-
	(sī)state	stāiete	(si)staíte	(sī)state
	(sī)stanti	stāiont	(si)stājnt	(sī)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>	(sí)stāmai	stáia	(si)stáima	(sí)stāmar
	(sí)stāsoi	stáieso	(si)stáiso	(sí)stāsor
	(sí)stātoi	stáieto	(si)stáito	(sí)stātor
<i>pl.</i>	(sí)stāmesdha	stáiomedha	(si)stáimedha	(sí)stāmor
	(sí)stādhe	stáiedhue	(si)stáidhue	(sí)stāsdhuer
	(sí)stāntoi	stáionto	(si)stáijnto	(sí)stāntor

IMPERFECT

	<i>ACTIVE</i>	<i>MIDDLE</i>	<i>PASSIVE*</i>
<i>sg.</i>	(si)stám	(si)stáma	(si)stāmar
	(si)stás	(si)stáso	(si)stāsor
	(si)stát	(si)státo	(si)stātor
<i>pl.</i>	(si)stáme	(si)stāmedha	(si)stāmor
	(si)státe	(si)stádhue	(si)stādhuer
	(si)stánt	(si)stánto	(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. *ásam, ās, ās*, Pl. *ásma, ásta, ásan*, 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, bhū́tīṣ, bhūtīṣ*, Lith. *bū́ti*, O.C.S. *бъиѣти*, 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	stājēm
	stās	stāiés	stājēs
	stāt	stāiét	stājēt
<i>pl.</i>	stamé	stāiόμε	stāíme
	staté	stāiéte	stāíte
	stánt	stāiánt	stājnt

MIDDLE

	<i>Indicative</i>	<i>Subjunctive</i>	<i>Optative</i>
<i>sg.</i>	stáma	stāiá	stājā
	stáso	stāiéso	stáiso
	státo	stāiéto	stáito
<i>pl.</i>	stámedha	stāiomedha	stáimedha
	stádhue	stāiédhue	stáidhue
	stánto	stāiánto	stājnto

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	bhūjēm	bhūiom	bhūiā
	bhūita	bhūiowes	bhūjēs	bhūiés	bhūieso
	bhūie	bhūiowet	bhūjēt	bhūiét	bhūieto
<i>pl</i>	bhūimé	bhūiowom	bhūjīme	bhūiόμε	bhūiomedha
	bhūité	bhūiowete	bhūjīte	bhūiéte	bhūiedhue
	bhūiér	bhūiowont	bhūjīnt	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>	keklumé	kéklowome	keklowíme	keklowóme	kéklowomedha
	kekluté	kéklowete	keklowíte	keklowéte	kéklowedhue
	keklwér	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)**trmom**.

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 **gínō**, *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** (<***widτός**).
- 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 **prkskó**, *I ask, demand, inquire* (cf. Lat. *posco*, Ger. *forschen*, v.i.) from **prek**, *ask*.
- Present **gnáskai/gnáska**, *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. *jūngiu*, *jūngti*, 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. *jūngtas*, 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 **wélmī**, *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 **jjēmī**, *throw*, Imperfect **jjēm**, Aorist **(é)jem**.

NOTE. For evidence on an original PIE **jjēmī**, and not ***jjāmi** 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**.

8. PARTICLES

8.1. PARTICLES

8.1.1. Adverbs, Prepositions, Conjunctions and Interjections are called Particles. They cannot always be distinctly classified, for many adverbs are used also as prepositions and many as conjunctions.

8.1.2. Strictly speaking, Particles are usually defined as autonomous elements, usually clitics, which make modifications in the verb or sentence, but which don't have a precise meaning, and which are neither adverbs nor preverbs nor conjunctions.

8.1.3. Indo-European has some particles (in the strictest sense) which mark certain syntax categories:

a. Emphatics or Generalizers: they may affect the whole sentence or a single word, usually a pronoun, but also a noun or verb. The particle **ge/gi, ghe/ghi**, usually strengthens the negation, and emphasizes different pronouns.

NOTE 1. The origin of this particle is probably to be found in PIE **-qe**, acquiring its coordinate value from an older use as word-connector, from which this Intensive/Emphatic use was derived. Compare O.Ind. *gha, ha, hí*, Av. *zi*, Gk. *ge, -gí, -χί*, Lith. *gu, gi*, O.Sla. *-go, že, ži*. Also, compare, e.g. for intensive negative **neghi**, O.E. *nek*, O.Ind. *nahí*, Balt. *negi*.

NOTE 2. Also, if compared with Gk. *dé*, O.Ind. *ha*, O.Sla. *že*, a common PIE particle **che** may be reconstructed.

b. Verb Modifiers:

I. The old **-ti** had a Middle value, i.e. Reflexive.

NOTE. This is a very old value, attested in Anatolian, cf. Hitt. *za*, Pal. *-ti*, Luw. *-ti*, Lyd. *-(i)t*, Lyc. *-t/di*.

II. The modal **-man**, associated with the Indicative, expresses Potentiality (when used in Present) and Irreality (in the Past).

NOTE. It is probably the same as the conjunction **man, if**, and closely related to **-ma, but**.

III. The negative particle **mē**, associated with the Indicative or forms indifferent to the Moods.

c. Sentence categorizers: they indicate the Class of Sentence, whether negative or interrogative.

I. Absolute Interrogatives were introduced in European dialects by special particles, generally **(a)n**.

NOTE. The origin could be the “Non-Declarative Sense” of the sentence, so that it could have been derived originally from the negative **ne/n**.

II. Negation has usually two particles, etymologically related:

- Simple negation is made by the particle **ne**, lengthened in some dialects with **-i, -n, -d**, etc.

- Mood negation or prohibitive is the particle **mē** (also **nē**).

NOTE. For PIE **mē**, compare Gk. μή, O.Ind.,Av.,O.Pers. *mā*, Toch. *mar/mā*, Arm. *mi*, Alb. *mos*, and probably from Indo-European into Altaic (cf. Turkic *-ma-*, Tungus *-me*, Korean *mō-t*, Japanese *-ma-*), and compare also Arabic *ma*. In other IE dialects, it was substituted by **nē**, cf. Goth. *ne*, Lat. *nē*, Ira. *ni*. It is not clear whether Hitt. *lē* is ultimately derived from **mē** or **nē**.

d. **Sentence Connectives**: they introduce independent sentences or connect different sentences, or even mark the principal sentence among subordinates.

I. **so** and **to**, which are in the origin of the anaphoric pronoun we studied in § 6.5.

II. **nu**, which has an adverbial, temporal-consecutive meaning.

III. An introductory or connective **r**, which is possibly the origin of some coordinate conjunctions.

8.2. ADVERBS

8.2.1. There is a class of invariable words, able to modify nouns and verbs, adding a specific meaning, whether semantical or deictic. They can be independent words (Adverbs), prefixes of verbal stems (Preverbs) – originally independent but usually united with it – and also a nexus between a noun and a verb (Appositions), expressing a non-grammatical relationship, normally put behind, but sometimes coming before the word.

NOTE. In the oldest PIE the three categories were probably only different uses of the same word class, being eventually classified and assigned to only one function and meaning. In fact, Adverbs are generally distinguished from the other two categories in the history of Indo-European languages, so that they change due to innovation, while Preverbs and Appositions remain the same and normally freeze in their oldest positions.

8.2.2. Adverbs come usually from old particles which have obtained a specific deictic meaning. Traditionally, Adverbs are deemed to be the result of oblique cases of old nouns or verbal roots which have frozen in IE dialects, thus losing inflection.

8.3. DERIVATION OF ADVERBS

8.3.1. Adverbs were regularly formed in PIE from Nouns, Pronouns and Adjectives as follows:

A. From Pronouns:

I. With a nasal lengthening, added systematically to zero-grade forms, which gives adverbs in **-am**; as, **tam**, **qam** (from Latin), or **peram** (as Gk. *peran*)

NOTE. They are usually interpreted as being originally Acc. Sg. fem. of independent forms.

II. An **-s** lengthening, added to the adverb and not to the basic form, giving sometimes alternating adverbs; as, **ap/aps**, **ek/eks**, **ambhi/ambhis**, etc.

III. An **-r** lengthening; as, **qor**, **tor**, **kir**, etc. which is added also to other derived adverbs. It is less usual than the other two.

NOTE. Compare for such lengthenings Goth. *hwar, her*, (O.E. *where, hier*), Lat. *cur*, O.Ind. *kár-hi, tár-hi*, Lith. *kur*, Hitt. *kuwari*. Also, IE **qor-i, tor-i, cîr-i**, etc. may show a final circumstantial **-i**, probably the same which appears in the Oblique cases and in the Primary Verbal Endings, and which originally meant ‘*here and now*’.

Some older adverbs, derived as the above, were in turn specialized as suffixes for adverb derivation, helping to create compound adverbs from two pronoun stems:

- i. From the pronoun **de**, the nasalized **de-m** gives adverbs in **-dem, -dam**; as, **ídem, qídam**, etc.
- ii. From root **dhē**, *put, place*, there are two adverbs which give suffixes with local meaning, from stems of Pronouns, Nouns, Adverbs and Prepositions:
 - a. an Adverb in **-m, dhem/dhm**; as, **endhem, prosdhm**, etc.
 - b. an Adverb in **-i, dhi**, as in **podhi, autodhi**, etc.

NOTE. Compare from IE **de**, Lat. *idem, quidam*, O.Ind. *idān-im*; from **dh(e)m, dhi**, Gk. *-then, -tha, -thi*.

- iii. From PIE root **te**, there are some adverbial suffixes with mood sense – some with temporal sense, derived from the older modal. So **ta**; as, **ita** or **itadem, ut(a), prota, auta**, etc; and **t(e)m, utm, item, eitm**, etc.

NOTE. Compare from IE **ta** (PIE **th₂*), Lat. *iti-dem, ut(i), ita*, Gk. *protí, au-ti*, O.Ind. *iti, práti*; from **t(e)m**, Lat. *i-tem*, Gk. *ei-ta, epei-ta*, O.Ind. *u-tá*.

B. From Nouns and Adjectives (usually Neuter Accusatives), frozen as adverbs already in Late PIE. The older endings to form Adverbs are the same as those above, i.e. generally **-i, -u** and **-(e)m**, which are in turn originally Adverbs. Such Adverbs have normally precise, Local meanings, not merely Abstract or Deictic, and evolve then usually as Temporals. Endings **-r**, nasal **-n** and also **-s**, as in the formation of Pronouns, are also found.

NOTE 1. It is not uncommon to find adverbs derived from nominal stems which never had inflection, thus (probably) early frozen as adverbs in its pure stem.

NOTE 2. From those adverbs were derived Conjunctions, either with Temporal-Consecutive meaning (cf. Eng. *then, so*) or Contrastive (cf. Eng. *on the contrary, instead*).

Adverbs may also end:

In **-d**: cf. Lat. *probee*, Osc. *prufēd*; O.Ind. *pascāt, adharāt, purastāt*.

In **-nim**: cf. Osc. *enim* ‘*and*’, O.Ind. *tūsnim* ‘*silently*’, maybe also *idānim* is **idā-nim*, not **idān-im*.

In **-tos**: cf. Lat. *funditus, diuinitus, publicitus, penitus*; O.Ind. *vistarataḥ* ‘*in detail*’, *samkṣepataḥ, prasangataḥ* ‘*occasionally*’, *nāmattaḥ* ‘*namely*’, *vastutaḥ* ‘*actually*’, *mata* ‘*by/for me*’

In **-ks**: cf. Lat. *uix*, Gk. *περιξ*, O.Ind. *samyak* ‘*well*’, *prthak* ‘*separately*’, Hitt. *hudak* ‘*directly*’.

8.4. PREPOSITIONS

8.4.1. Prepositions were not originally distinguished from Adverbs in form or meaning, but have become specialized in use.

They developed comparatively late in the history of language. In the early stages of the Proto-Indo-European language the cases alone were probably sufficient to indicate the sense, but, as the force of the case-endings weakened, adverbs were used for greater precision. These adverbs, from their common association with particular cases, became Prepositions; but many retained also their independent function as adverbs.

8.4.2. Most prepositions are true case-forms: as the comparatives **ekstrós** (cf. *external*), **ndhrós** (cf. *inferior*), **suprós**, and the accusatives **kikrom**, **koram**, etc.

8.4.3. Prepositions are regularly used either with the Accusative or with the Obliques.

8.4.4. Some examples of common PIE adverbs/prepositions are:

ám̐bhi, **ím̐bhi**, *on both sides, around*; cf. O.H.G. *umbi* (as Eng. *by*, Ger. *bei*), Lat. *am*, *amb-*, Gk. *amphi*, *amphis*, O.Ind. *abhí*.

ána, *on, over, above*; cf. Goth. *ana*, Gk. *ánō*, *aná*, O.Ind. *ána*, O.C.S. *na*.

ánti, *opposite, in front*; cf. Goth. *and*, Lat. *ante*, Gk. *antí*, O.Ind. *ánti*, *átha*, Lith. *añt*; Hitt. *ḫanti*.

ápo, **po**, *out, from*; cf. Goth. *af*, Lat. *ab*, *abs*, Gk. *apo*, *aps*, *apothēn*, O.Ind. *ápa*.

au/we, *out, far*; cf. Lat. *au-*, *uē-*, Gk. *au*, *authi*, *autár*, O.Ind. *áva*, *vi-*, Toc. *-/ot-*, O.C.S. *u*.

ébhi, **óbhi**, **bhi**, *around, from, to, etc.*; cf. Lat. *ob*, “*towards, to*”, O.Ind. *abhi*, Av. *aiwi*, Goth. *bi*,

én(i)/n, *in*; cf. Goth. *in*, Lat. *in*, Gk. *en*, *ení*, O.Ind. *ni*, *nis*, Lith. *in*, O.C.S. *on*, *vŭ*.

épi, **ópi**, **pi**, *towards here, around, circa*; cf. Gmc. *ap-*, *ep-*, Lat. *ob*, *op-*, *-pe*, Osc. *úp-*, Gk. *ἐπί*, *ἔπι*, *ὄπι*, *πι*, O.Ind. *ápi*, Av. *áipi*, Arm. *ev*, Lith. *ap-*, O.Ir. *iar*, *ía-*, *ei-*, Alb. *épërë*, etc.

ét(i), **óti**, *also, even*; **áti**, *beyond, past; over, on the other side*; cf. Goth. *iþ*, Lat. *et*, Gk. *eti*, O.Ind. *áti*, *átaḥ*, *at*, O.C.S. *otu*.

ndhí, *more, over*, **ndher(i)**, *down*; cf. Gmc. *under-*, Lat. *infra*, Gk. *éntha*, O.Ind. *ádhi*, *ádhaḥ*.

per, **pr**, *in front, opposite, around*; cf. Goth. *fra*, *faúr*, *faúra*, Lat. *pro*, *prae*, *per*, Gk. *perí*, *pará*, *pros*, O.Ind. *pári*, *práti*, *pra*, Lith. *per*, Ltv. *prett'*, O.C.S. *prě*.

qu, from interrogative-indefinites **qi/qo**;

ter, **tr**, *through*, cf. Gmc. *thurkh* (cf. Goth. *þairh*, O.S. *thuru*, O.E. *þurh*, O.Fris. *thruch*, O.H.G. *thuruh*, M.Du. *dore*, Ger. *durch*), Lat. *trans*, O.Ind. *tiraḥ*, Av. *taro*, O.Ir. *tre*, Welsh *tra*.

upo, *under, down*; **uper(i)**, *up*; cf. Goth. *uf*, *ufar* (as Eng. *up*, *over*, Ger. *auf*, *über*), Lat. *sub*, *super*, Gk. *upó*, *upér*, O.Ind. *úpa*, *upári*.

ad <i>to, near,</i>	perti <i>through, otherwise</i>
aneu <i>without</i>	pos/posti/pósteri <i>behind</i>
apóteri <i>behind</i>	poti <i>toward</i>
dē/dō <i>to</i>	pósteri/postrōd <i>behind</i>
ek/eksí <i>out</i>	prāi <i>in front, ahead</i>
ektós <i>except</i>	práiteri <i>along(side)</i>
entós <i>even, also</i>	prō(d) <i>ahead</i>
kamta <i>downward</i>	próteri <i>in front of</i>
kom <i>near</i>	prota <i>against</i>
nī <i>down</i>	rādí <i>because (of)</i>
obhi <i>on, over</i>	ani/santeri <i>separately</i>
ólteri <i>beyond</i>	úperi/upsí <i>on, over</i>
para <i>next to</i>	ut/utsí <i>up, out</i>
paros <i>ahead</i>	wī <i>separately</i>

8.5. CONJUNCTIONS

8.5.1. Conjunctions, like prepositions, are closely related to adverbs, and are either petrified cases of nouns, pronouns and adjectives, or obscured phrases: as, **qod**, an old accusative. Most conjunctions are connected with pronominal adverbs, which cannot always be referred to their original case-forms.

8.5.2. Conjunctions connect words, phrases or sentences. They are divided in two main classes, Coordinate and Subordinate:

a. Coordinates are the oldest ones, which connect coordinated or similar constructions. Most of them were usually put behind and were normally used as independent words. They are:

I. Copulative or disjunctive, implying a connection or separation of thought as well as of words: as, **qe**, *and*; **we**, *or*; **neqe**, *nor*.

NOTE. For PIE **neqe**, compare Lat. *ne-que*, Gk. οὔτε, Arm. *oc*, O.Ir. *nó, nú*, Welsh *ne-u*, O.Bret. *no-u*, Alb. *a-s*, Lyc. *ne-u*, Luw. *napa-wa*, and for PIE **mēqe**, in Greek and Indo-Iranian, but also in Toch. *ma-k* and Alb. *mo-s*. The parallel **newē** is found in Anatolian, Indo-Iranian, Italic and Celtic dialects.

II. Adversative, implying a connection of words, but a contrast in thought: as, **ma**, *but*.

NOTE. Adversative conjunctions of certain antiquity are **at(i)** (cf. Goth. *adh-*, Lat. *at*, Gk. *atár*), **(s)ma/(s)me** (cf. Hitt.,Pal. *ma*, Lyd. *-m*, Lyc. *me*, Gk. *má, mé*, Messap. *min*), **auti** (cf. Lat. *autem, aut*, Gk. *aute, authis, autis, autár*), **ōd**, “*and, but*” (cf. O.Ind. *ād*, Av. (*ā*)*at*, Lith. *o*, Sla. *a*), etc. In general, the oldest IE languages attested use the same Copulative postpositive conjunctions as Adversatives, their semantic value ascertained by the context.

III. Causal, introducing a cause or reason: as, **nam**, *for*.

IV. Illative, denoting an inference: as, **igitur**, *therefore*.

NOTE. Newer particles usually are usually put before, and some of them are general, as the Copulative **eti**, *and* (as Lat. *et*, Gk. *eti*, nasalized **nti** in Germanic, as Goth. *and*), and Illative **ōd**, *certainly* (cf. O.Ind. *ád*, Lith. *o*, O.Sla. *a*), or **ōdqe** in Latin. Others were not generalized before the first PIE split, but could nevertheless be used in Modern Indo-European.

b. Subordinates connect a subordinate or independent clause with that on which it depends. They are:

I. **jo**, which has general subordinate value, usually Relative, Final or Conditional.

NOTE. For common derivatives of PIE **jo**, probably related to the relative pronoun, compare Hitt. *-a/-ya*, Toch. *-/yo*, and possibly Goth. *-ei*, Gk. *ei*, Gaul. *-io*. It was probably replaced by **-qe**.

II. Conditional, denoting a condition or hypothesis; as, **man**, *if*; **neman**, *unless*.

III. Comparative, implying comparison as well as condition; as, **man**, *as if*.

IV. Concessive, denoting a concession or admission; as, **qamqam**, *although* (Lit. *however much it may be true that*, etc.).

V. Temporal: as, **postqam**, *after*.

VI. Consecutive, expressing result; as, **ut(ei)**, *so that*.

VII. Final, expressing purpose; as, **ut(ei)**, *in order that*; **ne**, *that not*.

VIII. Causal, expressing cause; as, **qja**, *because*.

Conjunctions are more numerous and more accurately distinguished in MIE than in English.

APPENDIX I. PROTO-INDO-EUROPEAN SYNTAX

I.1. THE SENTENCE

A Sentence is a form of words which contains a Statement, a Question, an Exclamation, or a Command.

- a. A sentence in the form of a Statement is called a Declarative Sentence: as, *the dog runs*.
- b. A sentence in the form of a Question is called an Interrogative Sentence: as, *does the dog run?*
- c. A sentence in the form of an Exclamation is called an Exclamatory Sentence: as, *how fast the dog runs!*
- d. A sentence in the form of a Command, an Exhortation, or an Entreaty is called an Imperative Sentence : as, *go, run across the Alps; or let the dog run*.

NOTE. After Lehman (1974), “*The fundamental order of sentences in PIE appears to be OV. Support for this assumption is evident in the oldest texts of the materials attested earliest in the IE dialects. The fundamental order of sentences in these early dialects cannot be determined solely by frequency of sentence patterns. For, like other linguistic constructions, sentence patterns manifest marked as well as unmarked order. Marked order is expected in literary materials. The documents surviving from the earliest dialects are virtually all in verse or in literary forms of prose. Accordingly many of the individual sentences do not have the unmarked order, with verb final. For this reason conclusions about the characteristic word order of PIE and the early dialects will be based in part on those syntactic patterns that are rarely modified for literary and rhetorical effect: comparative constructions, the presence of postpositions and prepositions, and the absence of prefixes, (...)*”.

Lehman is criticized by Friedrich (1975) who, like Watkins (1976) and Miller (1975), support a VO prehistoric situation, probably SVO (like those found in ‘central’ IE areas), with non-consistent dialectal SOV findings. In any case (viz. Lehman and Miller), an older IE I or IE II OV (VSO for Miller) would have been substituted by a newer VO (SOV for Miller, later SVO through a process of verb transposition) – thus, all Indo-European dialects attested have evolved (thus probably from a common Late PIE trend) into a modern SVO.

Modern Indo-European, as a modern IE language, may follow the stricter formal patterns attested in the oldest inscriptions, i.e. (S)OV, as in Vedic Sanskrit, Ancient Greek, Old Latin and Avestan. A newer, general (S)VO order (found in Greek, Latin, Avestan, Germanic, etc.), which reveals the change from OV in Early PIE towards a VO in Late PIE for the spoken language of Europe – and even some forms of literary uses, as e.g. journalism – could be used in non-formal contexts.

I.1.1. KINDS OF SENTENCES

PIE sentences were either Nominal, i.e. formed by nouns, or Verbal, if they included a verb.

I. A Subject and a Predicate. The Subject of a sentence is the *person or thing spoken of*. The Predicate is *that which is said* of the Subject.

a. The Subject is usually a Noun or Pronoun, or some word or group of words used as a Noun.

b. The Predicate of a sentence may be a Verb (as *the dog runs*), or it may consist of some form of **es** and a Noun or Adjective which *describes* or *defines* the subject (as *It is good*). Such a noun or adjective is called a Predicate Noun or Adjective.

II. In Proto-Indo-European, simple sentences may be composed of only one word, a noun or a verb; as, *God!*, or *(it) rains*.

NOTE 1. Nominal sentences of this type are usually Interjections and Vocatives. Verbal sentences of this type include Imperatives (at least of 2nd P.Sg.) and impersonal verbs, which had never a subject in the oldest dialects attested; as, for Eng. *(it) rains*, cf. Goth. *rigneiþ*, Lat. *pluit*, Gk. *ὔει*, Skt. *várṣati*. It is believed that when IE dialects became SVO in structure, so that a subject was required, the third singular anaphoric pronoun, corresponding to *it*, German *es*, French *il*, etc., was introduced as subject in such sentences. Such pronouns were introduced because SVO languages must have subjects in sentences, as do intransitive verbs in any OV language. Such verbs could be supplemented by substantives in various cases, among them the accusative. These constructions are especially prominent for verbs referring to the emotions; as, Lat. *miseret*, *pudet*, *taedet*, Skr. *kitavám tatāpa*. Compare also Cicero's Lat. *eōrum nōs miseret*, or O.H.G. *thes gānges thih nirthrúzzi*. In PIE sentences various case forms could be used with verbs. The simplest sentences may consist of verbs accompanied by nouns in seven of the eight cases; only the vocative is not so used. The nouns fill the role of objects or, possibly better stated, of complements.

NOTE 2. Besides the simple sentence which consists only of a verb, a simple sentence in the early dialects and in PIE could consist of a verb accompanied by a noun or pronoun as complement. A subject however wasn't mandatory. Nor were other constructions which may seem to be natural, such as indirect objects with verbs like 'give'. The root **dō-* or in its earlier form **deH-* had in its simplest sense the meaning 'present' and was often unaccompanied by any nominal expression (Lehman).

I.1.2. NOMINAL SENTENCE

Nominal sentences, in which a substantive is equated with another substantive, an adjective, or a particle, make up one of the simplest type of sentence in PIE.

NOTE 1. Such a type of sentence is found in almost every IE dialect; cf. Hitt. *attaš aššuš*, "the father (is) good", Skr. *tvám váruṇa*, "you (are) Varuna", O.Pers. *adam Dārayavauš*, "I (am) Darius", Lat. *omnia praeclara rara*, "all the best things (are) rare", etc. In all dialects, however, such sentences were restricted in its use to a especially formal use or, on the contrary, they are found more often than originally in PIE. Thus, in Latin and Germanic

dialects they are found in proverbs and sayings, as in Old Irish; in Greek it is also found in epic and poetry. However, in Balto-Slavic dialects the pure nominal sentence has become the usual type of nominal sentence, even when the predicate is an adverb or an adverbial case. However, such a use, which is more extended in modern dialects (like Russian) than in the older ones (as Old Slavic), is considered the result of Finno-Ugrian influence.

NOTE 2. In the course of time a nominal sentence required a verb; this development is in accordance with the subjective characteristic of PIE and the endings which came to replace the individual qualifier markers of early PIE. The various dialects no longer had a distinct equational sentence type. Verbs might of course be omitted by ellipsis. And, remarkably, in Slavic, nominal sentences were reintroduced, as Meillet has demonstrated (1906-1908). The reintroduction is probably a result of influence from OV languages, such as the Finno-Ugric. This phenomenon illustrates that syntactic constructions and syntactic characteristics must be carefully studied before they can be ascribed to inheritance. In North Germanic too an OV characteristic was reintroduced, with the loss of prefixes towards the end of the first millennium A.D. (Lehmann 1970). Yet in spite of these subsequent OV influences, nominal sentences must be assumed for PIE.

A. There are traces of Pure Nominal Sentences with a predicate made by an oblique case of a noun or a prepositional compound, although they are not common to all Indo-European dialects.

NOTE. Apart from Balto-Slavic examples (due to Finno-Ugric influence), only some isolated examples are found; cf. Skr. *havyáir Agnír mánuṣa īrayádhyai*, “Agni must be prayed with the sacrifices of men”, Gk. *pàr hēpoige kai hálloi oi ké mé timēsousi*, “near me (there are) others who [particle] will praise me” (Mendoza).

B. In addition to such expansions by means of additional nouns in nonrequired cases, sentences could be expanded by means of particles.

NOTE. For Lehman, three subsets of particles came to be particularly important. One of these is the set of preverbs, such as *ā*. Another is the set of sentence connectives, such as Hitt. *nu*. The third is the set of qualifier expressions, e.g., PIE *mē* ‘(must) not’. An additional subset, conjunctions introducing clauses, will be discussed below in the section on compound clauses.

Preverbs are distinctively characterized by being closely associated with verbs and modifying their meaning. In their normal position they stand directly before verbs (Watkins 1964).

Generally, thus, Concordance governed both members of the Pure Nominal Sentence.

NOTE. Unlike the personal verb and its complements (governed by inflection), the Nominal Sentence showed a strong reliance on Concordance between Subject and Predicate as a definitory feature: both needed the same case, and tended to have the same number and gender.

THE COPULATIVE VERB

The copulative verb **es** is only necessary when introducing late categories in the verbal morphology, like Time and Mood. Therefore, when the Mood is the Indicative, and the Time is neuter (proverbs without timing, or Present with semantic neuter) there is no need to use **es**.

NOTE 1. The basic form of nominal sentences has, however, been a matter of dispute. Some Indo-Europeanists propose that the absence of a verb in nominal sentences is a result of ellipsis and assume an underlying verb **es-** ‘be’ (Benveniste 1950). They support this assumption by pointing to the requirement of such a verb if the nominal sentence is in the past tense; cf. Hitt. *ABU.ĪA genzuu₁alaš ešta*, “*My father was merciful*”. On the contrary, Meillet (1906-1908), followed by Lehman and Mendoza, thought that nominal sentences did not require a verb but that a verb might be included for emphasis. This conclusion may be supported by noting that the qualifiers which were found in PIE could be used in nominal sentences without a verb. As an example we may cite a Hittite sentence which is negative and imperative, *1-aš 1-edani menahhanda lē idāluš*, “*One should not be evil toward another one*”. Yet, if a passage was to be explicit, a form of **es** could be used, as in Skr. *nákir indra tvád úttaro ná jyáyāñ asti*, “*No one is higher than you, Indra, nor greater*”.

NOTE 2. On the original meaning of **es**, since Brugmann (1925) meant originally “*exist*” hence its use as a copulative verb through constructions in which the predicate express the existence of the subject, as in Hom. Gk. *eím Oduseús Laertiádes*, “*I am Odiseus, son of Laertes*” (Mendoza). In PIE times there were seemingly other verbs (with similar meanings of ‘*exist*’) which could be used as copulatives; compare IE **bhū**, “*exist, become, grow*” (cf. O.Ind. *bhávati*, or as suppletives in Lat. past *fui*, O.Ir. *ba*, O.Lith. *búvo*, fut. *bùs*, O.C.S. impf. *bease*, etc.), Germanic **wes**, ‘*live, dwell*’.

I.1.3. VERBAL SENTENCE

The most simple structure of the common Indo-European sentence consists of a verb, i.e. the carrying out of an action. In it, none of the verbal actors (Subject and Object) must be expressed – the subject is usually not obligatory, and the object appears only when it is linked to the lexical nature of the verb.

NOTE. The oldest morphological categories, even time, were expressed in the PIE through lexical means, and many remains are found of such a system; cf. Hitt. *-za* (reflexive), modal particles in Gk. and O.Ind., modal negation in some IE dialects, or the simple change in intonation, which made interrogative or imperative a declarative sentence – in fact, the imperative lacks a mark of its own.

The relationship between the Subject and the Object is expressed through the case.

There is no clear morphological distinction between transitive and intransitive verbs in Proto-Indo-European.

NOTE. Some Indo-European dialects have specialized some verbal suffixes as transitives (causatives) or intransitives, as Gk. *-en*, Gmc. *-io*, Lat. *-a*, etc., while in some others a preverb combined with a verbal root makes the basic verb transitive or intransitive.

When subjects are explicitly expressed, the nominative is the case employed.

NOTE. Expression of the subject is the most prominent extension of simple sentences to include more than one substantival expression. Besides such explicit mention of the subject, predicates may consist of verbs accompanied by two or more nouns, in cases which supplement the meanings of the verbs (v.i.). Such constructions must be distinguished from the inclusion of additional nouns whose case forms indicate adverbial use.

Few verbs are mandatorily accompanied by two nouns.

1. the use of the dative in addition to the accusative, as in Skr. *tābhiām enaṃ pári dehi*, ‘Give him over to those two’.

2. the instrumental and ablative, as Skr. *áhan vṛtrám ... índro vājreṇa*, ‘Indra killed ... Vṛtra with his bolt’. Skr. *tvám dásyūmṛ ókaso agna ājah*, ‘You drove the enemies from the house, O Agni.’

NOTE. While the addition to these sentences which is indicated by the nouns in the instrumental and the ablative is essential for the meaning of the lines in their context, it does not need to be included in the sentence for syntactic reasons.

3. The causative accompanied by two accusatives, as Skr. *devāṅ usataḥ pāyayā havíḥ*, ‘Make the desiring gods drink the libation’.

In such sentences the agent-accusative represents the object of the causative element: as Arthur A. Macdonell indicated (1916), in a corresponding simple sentence this noun would have been given in the nominative, as Skr. *devā havíḥ pibanti*, ‘The gods drink the libation’.

Accordingly a simple verb in PIE was at the most accompanied by one substantive, unless the additional substantive was complementary or adverbial.

LOCAL CASES: PREDICATES WITH TWO OR MORE SUBSTANTIVES

Nonmandatory case forms are found in great variety, as may be determined from the studies of substantival inflections and their uses. Five groups of adverbial elements are identified: (1) circumstance, purpose, or result; (2) time; (3) place; (4) manner; (5) means.

1) Additional case forms may be used to indicate the Purpose, Result, or Circumstance of an action.

So e.g. the Instrumental in Skr. *mṛḥáyā naḥ suastí*, ‘Be gracious to us for our well-being’.

The Dative was commonly used in this sense, as in the infinitival form Skr. *prá ṇa áyur jīvāse soma tāriḥ* ‘Extend our years, soma, for our living [so that we may live long].’,

NOTE. Cf. Hitt. *nu-kan ṁNana-Luin kuin DUMU.LUGAL ANA ṁNuwanza haluki para nehun*, ‘and the prince NanaLUiṣ whom I sent to Nuwanza to convey the message’ where Hittite dative noun *haluki*. (Raman 1973).

When an animate noun is involved, this use of the dative has been labeled the indirect object; as, Skr. *riṇákti kṛṣṇá raruṣáya pánthām*, ‘Black night gives up the path to the red sun’.

NOTE. As these examples may indicate, the dative, like the other cases, must be interpreted with reference to the lexical properties of the verbal element.

2) A further adverbial segment in sentences indicates the Time of Occurrence. The cases in question are various, as in Skr. *dívā náктаṃ sárum asmád yuyotam*, ‘By day and during the night protect us from the arrow’.

NOTE. The nominal form *dívā*, which with change of accent is no longer an instrumental but an adverbial form outside the paradigm, and the accusative *náktam* differ in meaning. The instrumental, like the locative, refers to a point in time, though the “*point*” may be extended; the accusative, to an extent of time. Differing cases accordingly provide different meanings for nouns marked for the lexical category *time*.

3) Nouns indicating Place also differ in meaning according to case form:

A. The Accusative indicates the goal of an action, as in Lat. *Rōmam ire* ‘go to Rome’, Hitt. *tuš alkištan tarnahhe* ‘and those (birds) I release to the branch’ (Otten and Souček 1969:38 § 37).

B. The Instrumental indicates the place “over which an action extends” (Macdonell 1916: 306): *sárasvatyā yānti* ‘they go along the Sarasvatī’.

C. The Ablative indicates the starting point of the action: *sá ráthāt papāta* ‘he fell from his chariot’; and the following example from Hittite (Otten and Souček 1969): *iššaz (š)mit lālan AN.BARaš [d]āi*, ‘He takes the iron tongue out of their mouths.’

D. The Locative indicates a point in space, e.g., Skt. *diví* ‘in heaven’ or the locative *kardi* in the following Hittite example (Otten and Souček): *kardi-šmi-ja-at-kán dahhun*, ‘And I took away that [illness which was] in your heart’.

Nouns with lexical features for place and for time may be used in the same sentence, as in Skr. *ástam úpa náktam eti*, ‘He goes during the night to the house’. Although both nouns are in the Accusative, the differing lexical features lead to different interpretations of the case. In this way, inflectional markers combine with lexical features to yield a wide variety of adverbial elements.

4) Among the adverbial elements which are most diverse in surface forms are those referring to Manner. Various cases are used, as follows.

A. The Accusative is especially frequent with adjectives, such as Skt. *kṣiprám* ‘quickly’, *bahú* ‘greatly’, *nyák* ‘downward’.

B. The Instrumental is also used, in the plural, as in Skt. *máhobhiḥ* ‘mightily’, as well as in the singular, *sáhasā* ‘suddenly’.

Similar to the expression of manner is the instrumental used to express the sense of accompaniment: Skr. *devó devébhīr āgamat*, ‘May the god come [in such a way that he is] accompanied by the other gods’.

C. The Ablative is also used to express manner in connection with a restricted number of verbs such as those expressing ‘fear’: *réjante víśvā kṛtrímāṇi bhīṣā*, ‘All creatures tremble fearfully’.

5) Adverbial expressions of Means are expressed especially by the instrumental; as, Skr. *áhan vṛtrám ... índro vājreṇa*, ‘Indra killed ... Vṛtra with his bolt.’ The noun involved frequently refers to an instrument; cf. Hitt. *kalulupuš šmuš gapinit hulaliemi*, ‘I wind the thread around their fingers’.

Animate nouns may also be so used. When they are, they indicate the agent: *agnínā turváṣaṃ yádum parāváta ugrá devaṃ havāmahe*, ‘Through Agni we call from far Turvasa, Yadu, and Ugradeva’. This use led to the use of the instrumental as the agent in passive constructions.

I.2. SENTENCE MODIFIERS

I.2.1. INTONATION PATTERNS

The sentence was characterized in PIE by patterns of Order and by Selection.

A. Selection classes were determined in part by inflection, in part by lexical categories, most of which were covert.

NOTE. Some lexical categories were characterized at least in part by formal features, such as abstract nouns marked by *-tī-*, nouns in the religious sphere marked by *-u-* and collectives marked by **-h*.

B. In addition to characterization by means of order and categories of selection, the sentence was also delimited by Intonation based on variations in pitch.

To the extent that the pitch phonemes of PIE have been determined, a high pitch may be posited, which could stand on one syllable per word, and a low pitch, which was not so restricted.

NOTE. The location of the high pitch is determined by Lehman primarily from the evidence in Vedic; the theory that this was inherited from PIE received important corroboration from Karl Verner's demonstration of its maintenance into Germanic (1875). Thus the often cited correlation between the position of the accent in the Vedic perfect and the differing consonants in Germanic provided decisive evidence for reconstruction of the PIE pitch accent as well as for Verner's law, as in the perfect (preterite) forms of the root *deik-*, *show*.

	<i>PIE</i>	<i>Vedic</i>	<i>O.E</i>	<i>O.H.</i>
<i>1</i>	dedóik	<i>didésa</i>	<i>tāh</i>	<i>zēh</i>
<i>1</i>	dedik	<i>didiši</i>	<i>tig</i>	<i>zigu</i>

Words were characterized on one syllable by a high pitch accent, unless they were enclitic, that is, unmarked for accent.

Accented words could lose their high pitch accent if they were placed at specific positions in sentences.

A. Vocatives lost their accent if they were medial in a sentence or clause; and finite verbs lost their accent unless they stood initially in an independent clause or in any position in a dependent clause in

Vedic. These same rules may be assumed for PIE. On the basis of the two characteristic patterns of loss of accent for verbs, characteristic patterns of intonation may also be posited for the IE sentence.

Judging on the basis of loss of high pitch accent of verbs in them, independent clauses were characterized by final dropping in pitch. For in unmarked order the verb stands finally in the clause.

Clauses, however, which are marked either to convey emphasis or to indicate subordination, do not undergo such lowering. They may be distinguished with final

NOTE. The intonation pattern indicated by apparently conveyed the notion of an emotional or emphatic utterance or one requiring supplementation, as by another clause. These conclusions are supported by the patterns found in Germanic alliterative verse. For, as is well known, verbs were frequently placed by poets in the fourth, nonalliterating, metrically prominent position in the line: *þeodcýninga þrym gefrūnon*, *of-people's-kings glory we-heard-of*, 'We heard of the glory of the kings of the people'. This placing of verbs, retained by metrical convention in Germanic verse, presumably maintains evidence for the IE intonation pattern. For, by contrast, verbs could alliterate when they stood initially in clauses or in subordinate clauses; *egsode eorlas, syððan ærest wearð*, *he-terrified men since first he-was*, 'He terrified men from the time he first was [found]'. *þenden wordum wēold wine Scýldinga, as-long-as with-words he-ruled the-friend of-the-Scýldings*. The patterns of alliteration in the oldest Germanic verse accordingly support the conclusions that have been derived from Vedic accentuation regarding the intonation of the Indo-European sentence, as do patterns in other dialects.

Among such patterns is the preference for enclitics in second position in the sentence (Wackernagel 1892). Words found in this position are particles, pronouns, and verbs, which have no accent in Vedic texts. This observation of Wackernagel supports the conclusion that the intonation of the sentence was characterized by initial high pitch, with the voice trailing off at the end. For the enclitic elements were not placed initially, but rather they occupied positions in which unaccented portions of words were expected, as in Skr. *prāvepā mā bṛható mādayanti*, 'The dangling ones of the lofty tree gladden me'. The pronoun *mā* 'me', like other such enclitics, makes up a phrase with the initial word; in this way it is comparable to unaccented syllables of individual words, as in Skr. *pravātejā íriṇe várvṛtānāḥ*, '[born] in a windy place, rolling on the dice-board'

A simple sentence then consisted not only of a unit accompanied by an intonation pattern, but also of subunits or phrases. These were identified by their accent and also by patterns of permitted finals.

I.2.2. SENTENCE DELIMITING PARTICLES

The particles concerned are PIE **nu**, **so**, **to**, all of them introductory particles.

NOTE. Their homonymity with the adverb **nu**, **nun** and the anaphoric pronoun was one of the reasons earlier Indo-Europeanists failed to recognize them and their function. Yet Delbrück had already noted the clause-introducing function of Skr. *sa* (1888), as in Skr. *tásya táni śīrṣāṇi prá cicheda. sá yát somapānam ása tátah kapīñjalaḥ sám abhavat*, 'He struck off his heads. From the one that drank soma, the hazel-hen was created'. Delbrück identified *sa* in this and other sentences as a particle and not a pronoun, for it did not agree in gender with a noun in the sentence. But it remained for Hittite to clarify the situation.

In Hittite texts the introductory use of the particles is unmistakable (J.Friedrich 1960); *ta* and *šu* occur primarily in the early texts, *nu* in the later, as illustrated in the following Old Hittite example (Otten and Souček 1969): *GAD-an pešiemī šu- uš LÚ-aš natta aušzi* ‘I throw a cloth over it and no one will see them’.

Besides such an introductory function (here as often elsewhere translated ‘and’), these particles were used as first element in a chain of enclitics, as in *n-at-ši* ‘and it to-him’, *nu-mu-za-kan* ‘and to-me self within’ and so on.

NOTE 1. In Homeric Greek such strings of particles follow different orders, but reflect the IE construction, as in: *oudé nu soí per entrépetai phílon êtor, Olúmpie*, ‘But your heart doesn't notice, Zeus’. As the translation of *per* here indicates, some particles were used to indicate the relationships between clauses marking the simple sentence.

NOTE 2. Many simple sentences in PIE would then be similar to those in Hittite and Vedic Sanskrit, such as those in the charming story taken by Delbrück from the Śatapathabrāhmaṇa. Among the simplest is Skr. *tám índro didveṣa*, ‘Indra hated him’. Presumably *tam* is a conflated form of the particle *ta* and the enclitic accusative singular pronoun; the combination is attested in Hittite as *ta-an* (J. Friedrich 1960). Besides the use of sentence-delimiting particles, these examples illustrate the simplicity of PIE sentences. Of the fifteen sentences in the story, only two have more than one nominal form per verb, and these are adverbial as observed above. Similar examples from the other early dialects could be cited, such as the Italic inscription of Praeneste, or the Germanic Gallehus inscription: *Ek HlewagastiR HoltijaR horna tawido*, ‘I, Hlewagastir of Holt, made the horn’. In these late texts, the subject was mandatory, and accordingly two nominal forms had come to be standard for the sentence. If however the subject is not taken into consideration, many sentences contained only one nominal element with verbs, in the early dialects as well as in PIE.

I.3. VERBAL MODIFIERS

I.3.1. DECLARATIVE SENTENCES

The Injunctive has long been identified as a form unmarked for mood and marked only for stem and person. It may thus be compared with the simplest form of OV languages.

By contrast the Present indicative indicates “mood”. We associate this additional feature with the suffix *-i*, and assume for it declarative meaning.

NOTE 1. Yet it is also clear that, by the time of Vedic Sanskrit and, we assume, Late PIE, the injunctive no longer contrasted directly with the present indicative. We must therefore conclude that the declarative qualifier was expressed by other means in the sentence. We assume that the means of expression was an intonation pattern. For, in normal unmarked simple sentences, finite unaccented verbs stood finally in their clause, as did the predicative elements of nominal sentences; Delbrück's repeatedly used example may be cited once again to illustrate the typical pattern: *vísaḥ kṣatríyāya balīṃ haranti*, ‘The villagers pay tribute to the prince’. Since the verb *haranti* was unaccented, i.e., had no high pitch, we may posit for the normal sentence an intonation pattern in which the final elements in the sentence were accompanied by low pitch.

NOTE 2. Lehman supports this assumption by noting that a distinctive suprasegmental was used in Vedic to distinguish a contrasting feature, *interrogation* or *request* (Wackernagel 1896). This marker, called *pluti* by native grammarians, consisted of extra length, as in *ágnāzi* ‘O fire’ (3 indicates extra length). But a more direct contrast with the intonation of simple sentences may be exemplified by the accentuation of subordinate clauses. These have accented verbs, as in the following line from the Rigveda: *antás ca práḡā áditir bhavāsi*, ‘If you have entered inside, you will be Aditi’. As the pitch accent on *ágā* indicates, verbs in subordinate clauses maintained high pitch, in contrast with verbs of independent clauses like *bhavāsi*. We may conclude that this high pitch was an element in an intonation pattern which indicated incompleteness, somewhat like the pattern of contemporary English.

Evidence from other dialects supports the conclusion that, in late PIE, Declarative sentences were indicated by means of an intonation pattern with a drop in accentuation at the end of the clause.

NOTE. In Germanic verse, verbs of unmarked declarative sentences tend to occupy unaccented positions in the line, notably the final position (Lehmann 1956). Although the surface expression of accentuation patterns in Germanic is stress, rather than the pitch of Vedic and PIE, the coincidence of accentuation pattern supports our conclusions concerning PIE intonation.

I.3.2. INTERROGATIVE SENTENCES

The Interrogation was apparently also indicated by means of Intonation, for some questions in our early texts have no surface segmental indication distinguishing them from statements, for example, Plautus *Aulularia* 213, *aetatem meam scis*, ‘Do you know my age?’

NOTE. Only the context indicates to us that this utterance was a question; we may assume that the spoken form included means of expressing Int., and in view of expressions in the later dialects we can only conclude that these means were an intonation pattern.

Questions are generally classified into two groups:

- A. Those framed to obtain clarification (*Verdeutlichungsfragen*), and
- B. Those framed to obtain confirmation (*Bestätigungsfragen*). This feature accompanies statements in which a speaker sets out to elicit information from the hearer.

NOTE. It may be indicated by an intonation pattern, as noted above, or by an affix or a particle, or by characteristic patterns of order, as in German *Ist er da?* ‘Is he here?’ When the Interrogative sentence is so expressed, the surface marker commonly occupies second position among the question elements, if the entire clause is questioned. Such means of expression for Int. are found in IE languages, as Lat. *-ne*, which, according to Minton Warren “occurs about 1100 times in Plautus and over 40 times in Terence” (1881). Besides expressions like Lat. *egone* ‘Me?’, sentences like the following occur (Plautus *Asinaria* 884): *Aúdin quid ait? Artemona: Aúdio*. ‘Did you hear what he is saying? Artemona: yes’

Other evidence for a postponed particle for expressing Int. is found in Avestan, in which *-na* is suffixed to some interrogatives, as in Av. *kas-nā* ‘who (then)?’; and in Germanic, where *na* is found finally in some questions in Old High German. Old Church Slavic is more consistent in the use of such a particle than are these dialects, as in *chošteši li* ‘Do you wish to?’ This particle is also used in contemporary Russian.

The particle used to express Interrogation in Latin, Avestan, and Germanic is homophonous with the particle for expressing negation, PIE **ně**.

NOTE. It is not unlikely that PIE *ne* of questions is the same particle as that used for the negative. As the interrogative particle, however, it has been lost in most dialects. After Lehman (1974), its loss is one of the indications that late PIE was not a consistent OV language. After Mendoza, the fact that such Interrogatives of a yes/no-answer are introduced by different particles in the oldest attested dialects means that no single particle was generalized by Late PIE; cf. Goth. *u*, Lat. *-ne, nonne, num* Gk. *ἤ, vó*, Skr. *nu*, Sla. *li*. However, the common findings of Hittite, Indo-Iranian, Germanic and Latin are similar if not the same. In any case, for most linguists, rather than a postposed particle, 1) Intonation was used to express the Interrogatives, as well as 2) Particles that were placed early in clauses, often Initially.

The partial Interrogative sentences are those which expect an aclaratory answer; they are introduced in PIE by pronominal or adverbial forms derived from interrogative **qi/qo**, always placed initially but for marked sentences, where a change in position is admitted to emphasize it.

NOTE. In some languages, Interrogatives may be strengthened by the addition of posposed particles with interrogative sense, as in Av. *kaš-na*. Such forms introduce indirect interrogatives when they ask about a part of the sentence. Indirect interrogatives in the form of Total interrogatives (i.e., not of yes/no-answer) are introduced by particles derived from direct interrogative particles (when there are) or by conditional conjunctions; as Hitt. *man*.

I.3.3. NEGATIVE SENTENCES

Indications of Negation, by which the speaker negates the verbal means of expression, commonly occupies third position in the hierarchy of sentence elements.

We can only posit the particles **ně** and **mē**, neither of which is normally postposed after verbs.

NOTE 1. For prohibitive particle **mē**, compare Gk. *μή*, O.Ind.,Av.,O.Pers. *mā*, Toch. *mar/mā*, Arm. *mi*, Alb. *mos*. In other IE dialects it was substituted by **nē**, cf. Goth. *ne*, Lat. *nē* (also as modal negation), Ira. *ni*. It is not clear whether Hitt. *lē* is ultimately derived from **mē** or **nē**. PIE **ně** is found as Goth.,O.H.G. *ni*, Lat. *ně-* (e.g. in *nequis*) O.Ind. *ná*, O.Sla. *ne*, etc. Sometimes it is found in lengthened or strengthened forms as Hitt. *natta*, Lat. *non*, Skr. *ned*, etc. A common PIE lengthened form is **nei**, which appears in Lat. *ni*, Lith. *neî*, Sla. *ni*, etc., and which may also ultimately be related to Proto-Uralic negative **ei-* (Kortlandt, v.s.).

NOTE 2. In the oldest languages, negation seems to have been preverbal; Vedic *nákis*, Gk. *oú tis, mé tis*, Lat. *nēmo*, OHG *nioman* ‘no one’, and so on. The negative element **ne** was not used in compounding in PIE

(Brugmann 1904); **ṛ-** had this function. Moreover, there is evidence for proposing that other particles were placed postverbally in PIE (Delbrück 1897). Delbrück has classified these in a special group, which he labels *particles*. They have been maintained postpositively primarily in frozen expressions: *ē* in Gk. *egōnē*, *ge* in *égōge* ‘*T*’ (Schwyzer 1939). But they are also frequent in Vedic and early Greek; Delbrück (1897) discusses at length the use of Skt. *gha*, Gk. *ge*, and Skt. *sma*, Gk. *mén*, after pronouns, nouns, particles, and verbs, cf. Lat. *nōlo* < *ne volo*, Goth. *nist* < *ni ist*, and also, negative forms of the indefinite pronoun as O.Ind. *mā-kis*, *ná-kis*, Lat. *ne-quis*, etc. which may indicate an old initial absolute position, which could be also supported by the development of correlative forms like Lat. *neque*, etc., which combine negation and coordination. Lehman, on the contrary, believes in an older posposed order, characteristic of OV languages (i.e. a situation in IE II), because of the usually attributed value of emphasis to the initial position of negation, postverbal negation examples (even absolute final position in Hittite and Greek), the old existence of the form **nei**, as well as innovative forms like Lat. *ne-quis* or Gk. *ou-tis*.

NOTE 3. In Modern Indo-European, thus, negation should usually be preverbal, as in modern Romance languages (cf. Fr. *n’est*, Spa. *no es*, etc.), but it can be postponed in emphatic contexts, as it is usual in modern Germanic languages (cf. Eng. *is not*, Ger. *ist nicht*, etc.), as well as in very formal texts, thus imitating some of the most archaic findings of early PIE dialects.

I.4. NOMINAL MODIFIERS

I.4.1. ADJECTIVE AND GENITIVE CONSTRUCTIONS

1. Proto-Indo-European Attributive Adjectives were normally preposed.

NOTE. Delbrück summarizes the findings for Vedic, Greek, Latin, Lithuanian, and Germanic, giving examples like the following from Vedic: *śvetāḥ párvatāḥ*, ‘*white mountains*’ (1900). Lehman (1974) adds an example of Hitt. *šuppi watar*, ‘*pure water*’.

In marked constructions Adjectives might be postposed, as in *ásvaḥ śvetāḥ*, ‘*a white horse, a gray*’.

2. The position of the Attributive Genitive is the same as that of the Attributive Adjective.

NOTE. A striking example is given from the Old English legal language (Delbrück 1900): *ōðres mannes hūses dura*, ‘*the door of the house of the other man*’.

Like the adjective construction, the attributive-genitive construction may have the modifier postposed for marked effect, as is *sómasya* in SB 3.9.4.15 (Delbrück 1878): *kíṃ nas tátaḥ syād íti? prathamabhakṣá evá sómasyará jña íti*, ‘*What might then happen for us?*’ ‘*The first enjoyment of [Prince] Soma*’.

NOTE 1. The relatively frequent marked use of the genitive may be the cause for the apparently free position of the genitive in Greek and Latin. The ambivalent order may also have resulted from the change of these languages toward a VO order. But, as Delbrück indicates, the preposed order is well attested in the majority of dialects. This order is also characteristic of Hittite (J. Friedrich 1960). We may therefore assume it for PIE.

NOTE 2. In accordance with Lehman's views on syntactic structure, the attributive genitive, like the attributive adjective, must be derived from an embedded sentence. The sentence would have a noun phrase equivalent with that in the matrix sentence and would be a predicate nominal sentence. Such independent sentences are attested in the older dialects. Delbrück gives a number of examples, among them: *aṣṭáu ha vai putrá ádites*, 'Aditi had eight sons'. *áhar devánām ásit*, 'Day belonged to the gods'. These sentences accordingly illustrate that the genitive was used in predicate nominative sentences to convey what Calvert Watkins has labeled its primary syntactic function: the sense "of belonging". When such a sentence was embedded in another with an equivalent NP, the NP was deleted, and the typical genitive construction resulted. Hittite also uses *s* as a genitive as well as a nominative marker. For "genitives" like *haššannaššaš* '(one) of his race' can be further inflected, as in the accusative *haššannaš-šan* '(to one) of his race' (J. Friedrich).

I.4.2. COMPOUNDS.

1. In the derivation of compounds special compounding rules apply.

The verbal compounds in a language observe the basic order patterns, For PIE we would expect an older OV order in compounds, as e.g. Skt. *agnídh-* 'priest' < *agni* 'fire' + *idh* 'kindle.'

NOTE. A direct relationship between compounds and basic syntactic patterns is found only when the compounds are primary and productive. After a specific type of compound becomes established in a language, further compounds may be constructed on the basis of analogy, for example Gk. *híppagros* 'wild horse', in contrast with the standard productive Greek compounds in which the adjectival element precedes the modified, as in *agriókhoiros* 'wild swine' (Risch 1944-1949). Here we will consider the primary and productive kinds of compounds in PIE.

2. Two large classes and other minor types are found:

A. the Synthetics (noun+noun), which make up the majority of the PIE compounds,

a. Pure Synthetics, i.e. noun+noun.

b. Synthetics in which the first element is adverbial, i.e. adverb+noun.

B. The Bahuvrihis.

C. Adjective + Nouns, apparently not so productive in PIE as in its dialects.

D. A small number of additive compounds.

SYNTHETICS

Synthetics consist of a nominal element preceding a verbal, in their unmarked forms, as in Skt. *agnídh-*, 'priest'. As in this compound, the relation of the nominal element to the verbal is that of *target*.

The particular relationship of nominal and verbal elements was determined by the lexical properties of the verb; accordingly, the primary relationship for most PIE verbs was that of *target*. But other nominal categories could also be used with verbs.

3. Kinds of Relationships:

- 1) The *Receptor* relationship, as Skr. *devahéḍana*, ‘*angering the gods*’.
- 2) The *Instrument* or *Means* relationship; as Skr. *ádrijūta*, ‘*speeded by the stones*’,
The compound *ṛtajā* of this passage may illustrate the *Time* relationship.
- 3) The *Source* relationship, as Skr. *aṅhomúc*, ‘*freeing from trouble*’.
- 4) The *Place* relationship, as Skr. *druṣád*, ‘*sitting in a tree*’.
- 5) The *Manner* relationship; as, Skr. *īśānakṛt*, ‘*acting like a ruler*’.

These compounds exhibit the various relationships of nominal constituents with verbal elements, as in Skr. *tvā-datta*, ‘*given by you*’.

NOTE. Synthetics attested in the Rigveda accordingly illustrate all the nominal relationships determinable from sentences. Synthetics are frequently comparable to relative constructions, as in the following sentence: *ágnír agāmi bhárato vṛtrahá purucétaṅaḥ*, ‘*Agni, the god of the Bharatas, was approached, he who killed Vṛtra, who is seen by many*’.

Besides the large number of synthetics of the NV pattern, others are attested with the pattern VN. These are largely names and epithets, such as *púṣṭi-gu*, a name meaning ‘*one who raises cattle*’ (RV 8.51.1.), and *sanád-rayi* ‘*dispensing riches*’.

BAHUVRIHIS

The second large group of PIE compounds, *Bahuvrihis*, are derived in accordance with the sentence pattern expressing Possession. This pattern is well known from the Latin *mihi est* construction (Bennett 1914; Brugmann 1911): *nulli est homini perpetuom bonum*, ‘*No man has perpetual blessings*’.

Lehman accounts for the derivation of bahuvrihis, like Lat. *magnanimus* ‘*great-hearted*’, by assuming that an equational sentence with a noun phrase as subject and a noun in the receptor category indicating possession is embedded with an equivalent noun, as in the following example (‘*great spirit is to man*’ = ‘*the man has great spirit*’):

On deletion of the equivalent NP (*homini*) in the embedded sentence, a bahuvrihi compound *magnanimus* ‘*greathearted*’ is generated. This pattern of compounding ceased to be primary and productive when the dialects developed verbal patterns for expressing possession, such as Lat. *habeo* ‘*I have*’.

Bahuvrihis may be adjectival in use, or nominal, as in the vocative use of *sūnari* ‘having good strength’ (made up of *su* ‘good’ and **xner-* ‘(magical) strength’) in Slr. *viśvasya hí prāṇanaṃ jīvanam tvé, ví yid uchási sūnari*, ‘For the breath and life of everything is in you, when you light up the skies, you who have good strength’. The Greek cognate may illustrate the adjectival use: *phéron d’ euénora khalkón* ‘They carried on board the bronze of good strength’. The bahuvrihis are accordingly similar to synthetics in being comparable to relative clauses.

NOTE. Although the bahuvrihis were no longer primary and productive in the later dialects, their pattern remained remarkably persistent, as we may note from the various *philo-* compounds in Greek, such as *philósophos*, ‘one who holds wisdom dear’, *phíloinos*, ‘one who likes wine’, and many more. Apart from the loss of the underlying syntactic pattern, the introduction of different accentual patterns removed the basis for bahuvrihis. As Risch pointed out, Greek *eupátōr* could either be a bahuvrihi ‘having a good father’ or a *tatpurusha* ‘a noble father’. In the period before the position of the accent was determined by the quantity of final syllables, the bahuvrihi would have had the accent on the prior syllable, like *rāja-putra* ‘having kings as sons’, RV 2.27.7, in contrast with the *tatpurusha* *rāja-putrá* ‘king’s son’, RV 10.40.3. The bahuvrihis in time, then, were far less frequent than *tatpurushas*, of which only a few are to be posited for late PIE. An example is Gk. *propátōr* ‘forefather’. If the disputed etymology of Latin *proprius* ‘own’ is accepted, **pro-p(a)triós* ‘from the forefathers’, there is evidence for assuming a PIE etymon; Wackernagel (1905) derives Sanskrit compounds like *prá-pada* ‘tip of foot’ from PIE. Yet the small number of such compounds in the early dialects indicates that they were formed in the late stage of PIE (Risch).

NOTE 2. Dvandvas, such as *indrāviṣ’ nu* and a few other patterns, like the teens, were not highly productive in PIE, if they are to be assumed at all. Their lack of productiveness may reflect poorly developed coordination constructions in PIE (Lehmann 1969). Besides the expansion of *tatpurushas* and *dvandvas* in the dialects, we must note also the use of expanded root forms. Thematic forms of noun stems and derived forms of verbal roots are used, as in Skt. *deva-kṛta*, ‘made by the gods’. Such extended constituents become more and more prominent and eventually are characteristic elements of compounds, as the connecting vowel *-o-* in Greek and in early Germanic; Gk. *Apolló-dōros* ‘gift of Apollo’ (an *n-* stem) and Goth. *guma-kunds* ‘of male sex’ (also an *n-* stem). Yet the relationships between the constituents remain unchanged by such morphological innovations. The large number of *tatpurushas* in the dialects reflects the prominence of embedded-modifier constructions, as the earlier synthetics and bahuvrihis reflected the embedding of sentences, often to empty noun nodes. As noted above, they accordingly have given us valuable information about PIE sentence types and their internal relationships.

I.4.3. DETERMINERS IN NOMINAL PHRASES.

Nouns are generally unaccompanied by modifiers, as characteristic passages from an Archaic hymn of the Rigveda and from an Old Hittite text may indicate.

Demonstratives are infrequent; nouns which might be considered definite have no accompanying determinative marker unless they are to be stressed. The Demonstrative then precedes.

The relationship between such Demonstratives and accompanying Nouns has been assumed to be Appositional; it may be preferable to label the relationship a loose one, as of pronoun or noun plus noun, rather than adjective or article plus noun.

NOTE. In Homer too the “article” is generally an anaphoric pronoun, differing from demonstratives by its lack of deictic meaning referring to location (Munro). Nominal phrases as found in Classical Greek or in later dialects are subsequent developments; the relationship between syntactic elements related by congruence, such as adjectives, or even by case, such as genitives, can often be taken as similar to an appositional relationship (Meillet 1937).

To illustrate nominal phrases, cf. Vedic *eṣām marútām*, “*of-them of-Maruts*”. The nominal phrase which may seem to consist of a demonstrative preceding a noun, *eṣām marútām*, is divided by the end of the line; accordingly *eṣām* must be interpreted as pronominal rather than adjectival.

The following Hittite passage from a ritual illustrates a similar asyndetic relationship between the elements of nominal phrases (Otten and Souček 1969): *harkanzi- ma –an^dHantašepeš anduhšaš harša[(r)] –a^{giš}ŠUKUR^{hi.a}*, But the Hantašepa-gods hold heads of men as well as lances. In this sentence the nouns for ‘heads’ and ‘lances’ supplement ‘it’. Moreover, while the meaning of the last word is uncertain, its relationship to the preceding elements is imprecise, for it is a nominative plural, not an accusative. Virtually any line of Homer might be cited to illustrate the absence of close relationships between the members of nominal phrases; cf. *Odyssey nēūs dé moi héd’ héstēken ep’ agrou nósphi pólēos, en liméni Rheíthrōi hupò Néiōi huléenti*, ‘*My ship is berthed yonder in the country away from the city, in a harbor called Rheithron below Neion, which is wooded*’. The nouns have no determiners even when, like *nēūs*, they are definite; and the modifiers with *liméni* and *Néiōi* seem to be loosely related epithets rather than closely linked descriptive adjectives.

The conclusions about the lack of closely related nominal phrases may be supported by the status of compounds in PIE. The compounds consisting of Descriptive Adjectives + Noun are later; the most productive are reduced verbal rather than nominal constructions. And the bahuvrihis, which indicate a descriptive relationship between the first element and the second, support the conclusion that the relationship is relatively general; *rājá-putra*, for example, means ‘*having sons who are kings*’ rather than ‘*having royal sons*’; *gó-vapus* means ‘*having a shape like a cow*’, said of rainclouds, for which the epithet denotes the fructifying quality rather than the physical shape.

Accordingly, closely related nominal expressions are to be assumed only for the dialects, not for PIE. Definiteness was not indicated for nouns. The primary relationship between nominal elements, whether nouns or adjectives, was appositional.

The syntactic patterns assumed for late PIE may be illustrated by narrative passages from the early dialects. The following passage tells of King Hariśchandra, who has been childless but has a son after promising Varuna that he will sacrifice any son to him. After the birth of the son, however, the king asks Varuna to put off the time of the sacrifice, until finally the son escapes to the forest; a few lines suffice to illustrate the simple syntactic patterns.

AB 7.14.

athainam	uvāca	varuṇam	rājānam	upadhāva	putro
then-him	he-told	Varuna	king	you-go-to	son
Acc. sg.	Perf. 3 sg.	Acc. sg.	Acc. sg.	Imper. 2 sg.	Nom. sg.
me	jāyatām	tena	tvā	yajā	
to-me	let-him-be-born	with-	you	I-worship	
	Imper. 3 sg.	Inst. sg.	Acc. sg.	Mid. Pres.	
iti.	tatheti.	sa	varuṇam		
end-quotation	indeed-end	'he'	Varuna		
	(<tathā iti)	3 sg. Nom.			
rājānam	upasasāra	putro	me	jāyatām	tena
king	went-to	son	to-me	let-him-be-born	with-him
	Perf. 3 sg.				
tvā	yajā	iti.	tatheti.		
you	I-worship	end-quotation	indeed-end-quotation		
tasya	ha	putro	jajñe	rohito	nāma.
his, of-him	now	son	he-was-born	Rohita	name
Gen. sg. m.	Ptc.		Mid. Perf. 3 sg.		
taṁ	hovācājani	te	vai	putro	
him	Ptc.-he-told-he-was born	to-you	indeed	son	
Acc. sg.	Aor. Pass. 3 sg. Ptc.		Ptc.		
yajasva	māneneti.	sa			
you-worship	me-with-him-end-quotation	'he'			
Mid. Imper. 2 sg.	Acc. sg.-Inst. sg.				
hovāca	yadā	vai	paśur	nirdaśo	
Ptc.-he-told	when	indeed	animal	above-ten	
	Conj.	Ptc.	Nom. sg. m.	Nom. sg. m.	
bhavatyatha	sa	medhyo	bhavati.	nirdaśo	
he-becomes-then	he	strong	he-becomes	above-ten	
Pres. 3 sg.-Ptc.		Nom. sg. m.			
'nvastvatha	tvā	yajā	iti.		
Ptc.-let-him-be-then	you	I-worship	end-quotation		
Imper. 2 sg.	Acc. sg.				
tatheti.	sa	ha	nirdaśa	āsa	
indeed-end-quotation	he	now	above-ten	he-was	
				Perf. 3 sg.	

Then he [the Rishi Narada] told him [Hariśchandra]: “Go to King Varuna. [Tell him]: ‘Let a son be born to me.

With him I will worship you [= I will sacrifice him to you] .”

“Fine,” [he said].

He went to King Varuna [saying]: “Let a son be born to me. I will sacrifice him to you.”

“Fine,” [he said]

Now his son was born. Rohita [was his] name.

[Varuna] spoke to him. “A son has indeed been born to you. Sacrifice him to me.”

He said thereupon: “When an animal gets to be ten [days old], then he becomes strong [= fit for sacrifice]. Let him be ten days old; then I will worship you.”

“Fine,” he said.

He now became ten.

As this passage illustrates, nouns have few modifiers. Even the sequence: *tasya ha putro*, which might be interpreted as a nominal phrase corresponding to ‘his son’, consists of distinct components, and these should be taken as meaning: “*Of him a son [was born]*”. As in the poetic passage cited above, nouns and pronouns are individual items in the sentence and when accompanied by modifiers have only a loose relationship with them, as to epithets.

I.4.4. APPPOSITION

Apposition is traditionally “when paratactically joined forms are grammatically, but not in meaning, equivalent”.

NOTE. Because of the relationship between nouns and modifiers, and also because subjects of verbs were only explicit expressions for the subjective elements in verb forms, Meillet (1937) considered apposition a basic characteristic of Indo-European syntax. As in the previous passage, subjects were included only when a specific meaning was to be expressed, such as *putra* ‘son’. The element *sa* may still be taken as an introductory particle, a sentence connective, much as *iti* of *tathā iti*, etc., is a sentence-final particle. And the only contiguous nouns in the same case, *varunam rājānam*, are clearly appositional.

A distinction is made between *Appositional* and *Attributive* (Delbrück); an appositional relationship between two or more words is not indicated by any formal expression, whereas an attributive relationship generally is.

NOTE. Thus the relationships in the following line of the Odyssey are attributive: *arnúmenos hén te psukhén kai nóston hetairōn*, lit. “*striving-for his Ptc. life and return of-companions*”. The relationship between *hén* and

psukhēn is indicated by the concordance in endings; that between *nóston* and *hetairōn* by the genitive. On the other hand the relationship between the two vocatives in the following line is appositional, because there is no mark indicating the relationship: *tōn hamóthen ge, theá, thúgater Diós, eipè kai hēmīn*, ‘Tell us of these things, beginning at any point you like, goddess, daughter of Zeus’. Both vocatives can be taken independently, as can any appositional elements.

Asyndetic constructions which are not appositive are frequently attested, as Skr. *té vo hṛdé mánase santu yajñá*, ‘These sacrifices should be in accordance with your heart, your mind’. Coordinate as well as appositive constructions could thus be without a specific coordinating marker.

Comparable to appositional constructions are titles, for, like appositions, the two or more nouns involved refer to one person.

NOTE. In OV languages titles are postposed in contrast with the preposing in VO languages; compare Japanese *Tanaka-san* with *Mr. Middlefield*. The title ‘king’ with *Varuna* and similarly in the *Odyssey*, *Poseidáōni ánakti*, when *ánaks* is used as a title. But, as Lehman himself admits, even in the early texts, titles often precede names, in keeping with the change toward a VO structure.

Appositions normally follow, when nouns and noun groups are contiguous, as in the frequent descriptive epithets of Homer: *Tòn d’ ēmeíbet’ épeita theá, glaukōpis Athēnē*, ‘Him then answered the goddess, owl-eyed Athene’.

To indicate a marked relationship, however, they may precede (Schwyzer 1950). But the early PIE position is clear from the cognates: Skt. *dyaus pitā*, Gk. *Zeú páter*, Lat. *Jūpiter*.

I. 5. MODIFIED FORMS OF PIE SIMPLE SENTENCES

I.5.1. COORDINATION.

While coordination is prominent in the earliest texts, it is generally implicit.

The oldest surviving texts consist largely of paratactic sentences, often with no connecting particles.

New sentences may be introduced with particles, or relationships may be indicated with pronominal elements; but these are fewer than in subsequent texts.

Similar patterns of paratactic sentences are found in Hittite, with no overt marker of coordination or of subordination. J. Friedrich states that “purpose and result” clauses are not found in Hittite (1960), but that coordinate sentences are simply arranged side by side with the particle *nu*, as in the Hittite Laws. Conditional relationships too are found in Hittite with no indication of subordination (J. Friedrich 1960).

NOTE. The subordinate relationships that are indicated, however, have elements that are related to relative particles. Accordingly the subordination found in the early dialects is a type of relative construction. As such

examples and these references indicate, no characteristic patterns of order, or of verb forms, distinguish subordinate from coordinate clauses in PIE and the early dialects. Hermann therefore concluded in his celebrated article that there were no subordinate clauses in PIE (1895). For Lehman (1974), the paratactic arrangement which he assumed for PIE, however, is characteristic of OV languages. Hypotaxis in OV languages is often expressed by nonfinite verb forms and by postposed particles.

The arrangement of sentences in sequence is a typical pattern of PIE syntax, whether for hypotactic or for paratactic relationships.

Expressions for coordination were used largely for elements within clauses and sentences. When used to link sentences, conjunctions were often accompanied by initial particles indicating the beginning of a new clause and also indicating a variety of possible relationships with neighboring clauses.

NOTE. Sentence-connecting particles are, however, infrequent in Vedic and relatively infrequent in the earliest Hittite texts; Lehman concludes that formal markers of sentence coordination were not mandatory in PIE.

The normal coordinating particle in most of the dialects is a reflex of PIE **-qe**.

This is postposed to the second of two conjoined elements, or to both.

NOTE. Hittite *-a*, *-ia* is used similarly, as in *attaš annaš a* ‘father and mother’ (J. Friedrich 1960).

The disjunctive particle PIE **-wě** is also postposed

NOTE 1. In Hittite, however, besides the postposed disjunctive particles *-ku ... -ku* ‘or’, there was the disjunctive particle *našma*, which stood between nouns rather than after the last. This pattern of conjunction placement came to be increasingly frequent in the dialects; it indicates that the conjunction patterns of VO structure have come to be typical already by IE II.

NOTE 2. With the change in coordinating constructions, new particles were introduced; some of these, for example, Lat. *et*, Goth. *jah*, OE *and*, have a generally accepted etymology; others, like Gk. *kaí*, are obscure in etymology. Syntactically the shift in the construction rather than the source of the particles is of primary interest, though, as noted above, the introduction of new markers for the new VO patterns provides welcome lexical evidence of a shift. The syntactic shift also brought with it patterns of coordination reduction (*Ersparung*) which have been well described for some dialects (Behaghel). Such constructions are notable especially in SVO languages, in which sequences with equivalent verbs (S, V, O, Conj., S₂, V₁, O₂) delete the second occurrence of the verb, as M.H.G. *daz einer einez will und ein ander ein anderz*, ‘that one one-thing wants and another an other’.

Reduction of equivalent nouns in either S or O position is also standard, as in *Beowulf*.

NOTE. But in the paratactic structures characteristic of Hittite, such reduction is often avoided. In an SVO language the second *memijas* would probably not have been explicitly stated, as in: ‘now my speech came to be halting and was uttered slowly’. The lack of such reduction, often a characteristic of OV languages, gives an impression of paratactic syntax. Another pattern seeming to be paratactic is the preposing of “subordinate clauses,” either with no mark of subordination or with a kind of relative particle, as in the concluding passage of

Muršilis Sprachlähmung (Götze and Pedersen 1934). The second from last clause has no mark to indicate subordination; the earlier clauses contain a form of relative particle.

<i>IŠTU</i>	^{GIS} BANŠUR-ma-za-kán	kuizza	azikinun				
from	table-but-Refl.-Ptc.	from-which	I-was-accustomed-to-eat				
<i>IŠTU</i>	GAL-ja-kán	kuizza	akkuškinun				
from	beaker-and-Ptc.	from-which	I-was-accustomed-to-drink				
šašti-ja-za-kán	kūedani	šeškeškinun	<i>IŠTU</i>				
in-bed-and-Refl.-Ptc.	in-which	I-was-accustomed-to-sit	from				
^{URUD} DU ₁₀ xA-ia-za-kán	kuizza	arreškinun					
basin-and-Refl.-Ptc.	from-which	I-was-accustomed-to-wash					
kuit-ja	imma	<i>ÚNUTU</i>	anda	u _{er} ijan	ešta	nu	<i>UL</i>
what-and	else	utensil	Adv.-Ptc.	mentioned	it-was	now	not
kuitki	dattat	<i>IŠTU</i>	DINGIR ^{LI}	QATAMMA	SIXDI-at		
any	it-was-taken	from	god	likewise	it-was-determined		

‘The god also determined that nothing more should be used of the table from which I was accustomed to eat, of the beaker from which I was accustomed to drink, of the bed in which I was accustomed to sleep, of the basin in which I was accustomed to wash, and of whatever other article was mentioned’

In an SVO language like English, the principal clause, which stands last in Hittite, would be placed first. The interpretation of the preceding clause as a result clause is taken from Götze and Pedersen. The initial clauses contain relative particles which indicate the relationship to *kuitki* of the second-from-last clause; they also contain coordinating particles: *a*, *ia*. In this passage the clauses, whether coordinate or subordinate from our point of view, are simply arrayed in sequence. Each concludes with a finite verb which provides no evidence of hypotaxis. The sentence connectives which occur—repeated instances of *a/ia*—heighten the impression of coordination.

The absence in Hittite of verb forms – which are cognates of the Vedic and Greek optative and subjunctive – which came to be used largely to indicate subordination is highly consistent in its OV patterning, as such verb forms were not required.

Hittite however did not forego another device, which is used to indicate subordinate relationship in OV as well as VO languages, the so-called nonfinite verb forms. These are used for less explicit kinds of complementation, much the way relative constructions are used for more explicit kinds.

I.5.2. COMPLEMENTATION.

Compound sentences may result from the embedding of nominal modifiers.

NOTE. In VO languages embedded nominal modifiers follow nouns, whereas in OV languages they precede nouns. This observation has led to an understanding of the Hittite and the reconstructed PIE relative constructions. If we follow the standard assumption that in relative constructions a second sentence containing an NP equivalent to an NP in the matrix sentence is embedded in that matrix sentence, we may expect that either sentence may be modified. A sentence may also be embedded with a dummy noun; the verb forms of such embedded sentences are commonly expressed with nominal forms of the verb, variously called infinitives, supines, or participles. In OV languages these, as well as relative constructions, precede the verb of the matrix sentence.

An example with participles in the IE languages is Skr. *vásānaḥ* in the last lines of the following Strophic hymn: *rúśad vásānaḥ sudṛśīkarūpaḥ*, “*brightly dressing-himself beautifully-hued*”.

It may also have “*a final or consequential sense*”, as in the following Strophic hymn: *tvám indra srávitavā apás kaḥ*, ‘*You, O Indra, make the waters to flow.*’ Also in the poetic texts such infinitives may follow the main verb, as in *ábodhi hótā yajáthāya devān*, lit. “*he-woke-up priest for-sacrificing gods*”, ‘*The priest has awakened to sacrifice to the gods*’.

NOTE. The postposed order may result from stylistic or poetic rearrangement; yet it is also a reflection of the shift to VO order, a shift which is reflected in the normal position for infinitives in the other IE dialects. In the Brahmanas still, infinitives normally stand directly before the verb, except in interrogative and negative sentences (Delbrück). On the basis of the Brahmanic order we may assume that in PIE nonfinite verbs used as complements to principal verbs preceded them in the sentence. Hittite provides examples of preposed complementary participles and infinitives to support this assumption (J. Friedrich). Participles were used particularly with *har(k)-‘have’* and *eš-‘be’*, as in *ueriian ešta ‘was mentioned’*; the pattern is used to indicate state.

INFINITIVES

1. Infinitives could indicate result, with or without an object (J. Friedrich 1960): *1-aš 1-an kunanna lē šanhanzi*, lit. “*one one to-kill not he-tries*”, i.e. ‘*One should not try to kill another*’.

2. Infinitives could be used to express purpose, as in the following example, which pairs an infinitive with a noun (J. Friedrich): *tuk-ma kī uttar ŠÀ-ta šijanna išhiull-a ešdu*, lit. “*to-you-however this word in-heart for-laying instruction-and it-should-be*”, i.e. ‘*But for you this word should be for taking to heart and for instruction*’.

3. The Infinitive could be loosely related to its object, as in examples cited by Friedrich, such as *apāš-ma-mu harkanna šan(a)hta*, lit. “*he-however-me for-deteriorating he-sought*”, i.e. ‘*But he sought to destroy me*’.

4. The complementary infinitive indicates the purpose of the action; as Friedrich points out, it is attached to the verb *śanhta* plus its object *mu* in a construction quite different from that in subsequent dialects.

NOTE. These uses are paralleled by uses in Vedic, as may be noted in the work of Macdonell (1916), from which some examples are taken in Lehman (1974). On the basis of such examples in Vedic and in Hittite, he assumes that infinitive constructions were used to indicate a variety of complements in PIE.

Hittite and Sanskrit also provide examples of Participles functioning appositionally or as adjectives indicating state (J. Friedrich 1960): *ammuk-uar-an akkantan IQ.BI*, lit. *to-me-Ptc.-indicating-quotation-him dying he-described*, i.e. ‘He told me that one had died.’

NOTE. This pattern had been noted by Delbrück for the Rigveda, with various examples (1900:327), as *śíśihí mā śíśayám tvā śrñomi*, ‘Strengthen me; I hear that you are strong.’ The adjective *śíśayá* ‘strengthening’ is an adjective derived from the same root as *śíśihí*. Delbrück also noted that such “appositives” are indicated in Greek by means of clauses. Greek represents for Lehman accordingly a further stage in the development of the IE languages to a VO order. Yet Greek still maintained preposed participles having the same subject as does the principal verb, as in: *tēn mēn idōn gēthēse*, lit. “it Ptc. seeing he-rejoiced”

This pattern permits the use of two verbs with only one indicating mood and person; the nonfinite verb takes these categories from the finite.

Participles were thus used in the older period for a great variety of relationships. though also without indicating some of the verbal categories.

Dependent clauses are more flexible in indicating such relationships, and more precise, especially when complementary participles and infinitives follow the principal verb.

I.5.3. SUBORDINATE CLAUSES.

Indo-Europeanists have long recognized the relationship between the Subordinating Particles and the stem from which Relative Pronouns were derived in Indo-Iranian and Greek.

NOTE. Thus Delbrück has pointed out in detail how the neuter accusative form of PIE **jo-** was the basis of the conjunction **jod** in its various meanings: (1) Temporal, (2) Temporal-Causal, (3) Temporal-Conditional, (4) Purpose. He also recognized the source of conjunctive use in sentences like Skr. *yáj jáyathās tād áhar asya káme ’nśóḥ pīyū ’śam apibo giriṣṭhām*, ‘On the day you were born you drank the mountain milk out of desire for the plant’.

- 1) Relative clauses must have stood Before the Main Clause originally and
- 2) The earliest type of subordinate **jo-** clauses must have been the Preposed Relative constructions.

NOTE. This conclusion from Vedic receives striking support from Hittite, for in it we find the same syntactic relationship between relative clauses and other subordinate clauses as is found in Vedic, Greek, and other early

dialects. But the marker for both types of clauses differs. In Hittite it is based on IE **qid** rather than **jod**; thus, Hittite too uses the relative particle for indicating subordination. The remarkable parallelism between the syntactic constructions, though they have different surface markers, must be ascribed to typological reasons; we assume that Hittite as well as Indo-Aryan and Greek was developing a lexical marker to indicate subordination. As does *yad* in Vedic, Hitt. *kuit* signals a “loose” relationship between clauses which must be appropriately interpreted.

As J. Friedrich has stated (1960), *kuit* never stands initially in its clause. Sentences in which it is used are then scarcely more specifically interconnected than are conjoined sentences with no specific relating word, as in examples cited by Friedrich (ibid.): *nu taškupāi nu URU-aš dapiñanzi išdammašzi*, lit. Ptc. you-shout Ptc. city whole it-hears, ‘Now cry out [so that] the whole city hears’. Like this example, both clauses in a *kuit* construction generally are introduced with *nu* (J. Friedrich 1960). We may assume that *kuit* became a subordinating particle when such connections were omitted, as in Friedrich's example. These examples illustrate that both *yád* and *kuit* introduce causal clauses, though they do not contain indications of the origin of this use.

It is therefore generally believed that Subordinates originated in Relative sentences, as Vedic, Old Irish, Avestan and Old Persian illustrate. Proverbs and maxims are a particularly conservative field in all languages, and even etymologically there are two series which especially often; namely, **qo-...to-**, and **jo-...to-**.

NOTE 1. For IE **qo-...to-**, cf. Lat. *cum...tum*, *qualis...talis*, *quam...tam*, or Lith. *kàs...tàs*, *kòks...tàs*, *kaip...taip*, *kiék...tiek*, etc., and for **jo-...to-**, Ved. *yás...sá tád*, *yáthā...táthā*, *yávat...távat*, Gk. *oios...toios*, *ósos...tósos*, O.Pers. *haya* (a compound from **so+jo**, with the same inverse compound as Lat. *tamquam*, from two correlatives), etc.

NOTE 2. For Haudry this correlative structure is the base for subordination in all Indo-European languages. Proto-Indo-European would therefore show an intermediate syntax between parataxis and hypotaxis, as the correlative structure is between a ‘loose’ syntax and a ‘locked’ one.

Lehman assumes that the use of Skr. *yád*, Hitt. *kuit*, and other relative particles to express a causal relationship arose from subordination of clauses introduced by them to an Ablative; cf. Skr. *ácittī yát táva dhármā yuyopimá* (lit. *unknowing that, because your law, order we-have-disturbed*), *má nas tásmād énaso deva rīṣaḥ* (lit. *not us because-of-that because-of-sin O-god you-harm*), ‘Do not harm us, god, because of that sin [that] because unknowingly we have disturbed your law’.

As such relationships with ablatives expressing Cause were not specific, more precise particles or conjunctions came to be used. In Sanskrit the ablatival *yasmāt* specifies the meaning ‘because’.

Further, *yadā* and *yátra* specify the meaning ‘when’. In Hittite, *mān* came to be used for temporal relationships, possibly after combined use with *kuit*; *kuitman* expressed a temporal relationship even in Late Hittite, corresponding to ‘while, until’, though *mahhan* has replaced *mān* (J. Friedrich 1960 gives further details). The conjunction *mān* itself specifies the meanings ‘if’ and ‘although’ in standard

Hittite. In both Hittite and Vedic then, the “loose” relative-construction relationship between subordinate clauses and principal clauses is gradually replaced by special conjunctions for the various types of hypotactic relationship: Causal, Temporal, Conditional, Concessive.

Just as the Causal relationship developed from an Ablative modified by a Relative construction, so the Temporal and Conditional relationship developed from a clause modifying an underlying Time node.

The less differentiated and less precisely related subordinate clauses are often still evident, however, as in *yád* clauses of the Archaic hymn, Rigveda 1.167. For conciseness, only *yád* clauses will be cited here, with Hoffmann's interpretation of each; the entire stanzas and their translations are given by Hoffmann (1967).

RV 1.167.5.	jóṣad	yád	īm	asuryā	sacádhyai
	she-desires	when	them	Asuryan	to-follow
<i>‘when the Asuryan will desire to follow them’</i>					

RV	arkó	yád	vo	maruto	haviṣmān
	song-of-praise	whenever,	for-you	Maruts	accompanied-by-libations
<i>‘if the song of praise accompanied by libations is designed for you, Maruts’</i>					

RV	sácā	yád	īm	vṛṣamaṇā	ahaṃyú
1.167.7.	together	because	them	manly-minded	proud
	sthirá	cij	jánīr	váhate	subhāgāḥ
	rigid	though	women	she-drives	well-favored

‘because the manly minded, proud, yet stubborn [Rodasi] brings along other favored women’

In these three stanzas *yad* introduces subordinate clauses with three different relationships: Temporal, Conditional, Causal. Such multiple uses of *yad* belong particularly to the archaic style; subsequently they are less frequent, being replaced by more specific conjunctions.

In addition to the greater specificity of subordinate relationship indicated by particles, the early, relatively free hypotactic constructions come to be modified by the dominant subjective quality of the principal verb. The effect may be illustrated by passages like the following from a Strophic hymn, in which the verb of the principal clause is an optative:

RV 1.38.4.	yád	yūyám	pṛṣnimātaro
	if, when	you	having-Prsni-as-mother

mártāsaḥ		syātana	
mortals		you-would-be	
stotā	vo	amṛtaḥ	syāt
singer	your	immortal	he-would-be

'Your singer would be immortal if [= in a situation when] you Maruts were mortals.' (That is, if our roles were reversed, and you were mortals, then you would wish me to be immortal.)

This passage illustrates how the use of the Optative in the principal clause brings about a Conditional relationship in the Subordinate clause (see also Delbrück 1900). Through its expression of uncertainty the Optative conveys a Conditional rather than a Temporal meaning in the *yad* clause.

NOTE. Lacking verb forms expressing uncertainty, Hittite indicates conditional relationships simply by means of Particles (J. Friedrich 1960). Although several particles are used in Hittite to indicate various types of conditional clauses—*man ... mān* for Contrary-to-Fact, *takku* and *man* for Simple Conditionals—Hittite did not develop the variety of patterns found in other dialects. These patterns, as well described in the handbooks, are brought about not only by differing particles but also by the uses of the various tense and mood forms. Constructions in the dialects which have developed farthest from those of PIE are those in which the tense, mood, or person is modified in accordance with rules based on the verb form of the principal clause. Such shifts are among the most far-reaching results of the subjective quality of the Indo-European verb (Delbrück 1900).

Differences between the constructions in the various dialects reflect the changes as well as the earlier situation. In Homer, statements may be reported with a shift of mood and person, as in:

Odyssey	lissesthai	dé	min	autós,	hópōs	nēmertéa	eípēi
	request	Ptc.	him	self	that	true-things	he-may-say

'You yourself ask him so that he tells the truth.'

The form *eípēi* is a third-person aorist subjunctive. If the statement were in direct discourse, the verb would be *eīpe*, second-person imperative, and the clause would read: *eīpe nēmertéa* 'tell the truth'. Such shifts in person and mood would not be expected in an OV language; in Vedic, for example, statements are repeated and indicated with a postposed *iti*. The shifts in the other dialects, as they changed more and more to VO structure, led to intricate expression of subordinate relationships, through shifts in person, in mood, and in tense, as well as through specific particles indicating the kind of subordination. The syntactic constructions of these dialects then came to differ considerably from that even in Vedic.

The earliest poems of the Vedas are transparent in syntax, as may be illustrated by Stanzas 9 and 10 of Hymn 1.167:

RV 1.167.9.	nahí	nú	vo	maruto	ánty	asmé
	never	Ptc.	your	Maruts	near	from-us
	ārátātāc	cic	chávaso	ántam	āpúḥ	
	from-far	or	of-strength	end	they-reached	
	té	dhṛṣṇúnā	śávasā	śúśuvāńsó		
	they	bold	power	strengthened		
	'rṇo	ná	dvéṣo	dhṛṣatá	pári	ṣṭhuḥ
	flood	like	enmity	bold	against	they-stand

'Never have they reached the limit of your strength, Maruts, whether near or far from us. Strengthened by bold power they boldly oppose enmity like a flood.'

RV 1.167.10.	vayám	adyéndrasya	préṣṭhā	vayám		
	we	today-Indra's	most-favored	we		
	śvó	vocemahi	samaryé			
	tomorrow	we-wish-to-be-called	in-battle			
	vayám	purá	máhi	ca	no	ánu dyūn
	we	formerly	great	and	us	through days
	tán	na ṛbhukṣá	narám	ánu	ṣyāt	
	that	us chief	of-men	to	may-he-be	

'We today, we tomorrow, want to be called Indra's favorites in battle. We were formerly. And great things will be for us through the days; may the chief of men give that to us.'

Although the hymn offers problems of interpretation because of religious and poetic difficulties, the syntax of these two stanzas is straightforward; the verbs in general are independent of one another, in this way indicating a succession of individual sentences. Such syntactic patterns, though more complicated than those of prose passages, lack the complexity of Classical Greek and Latin, or even Homeric Greek. These early Vedic texts, like those of Old Hittite, include many of the syntactic categories found in the dialects, but the patterns of order and relationship between clauses had already changed considerably from the OV patterns of Middle PIE.

I.6. SYNTACTIC CATEGORIES

I.6.1. PARTICLES AS SYNTACTIC MEANS OF EXPRESSION

Noninflected words of various functions were used in indicating relationships between other words in the sentence or between sentences.

1. Some were used for modifying Nouns, often indicating the relationships of nouns to verbs. Although these were generally placed after nouns and accordingly were Postpositions, they have often been called Prepositions by reason of their function rather than their position with regard to nouns (Delbrück).

2. Others were used for modifying Verbs, often specifying more precisely the meanings of verbs; these then may be called Preverbs.

3. Others, commonly referred to as Sentence Connectives, were used primarily to indicate the relationships between Clauses or Sentences (Watkins 1964; Lehmann 1969).

5.5.1. POSTPOSITIONS.

Postpositions in the various dialects are found with specific cases, in accordance with their meanings.

Yet in the Old Hittite texts, the Genitive rather than such a specific case is prominent with Postpositions derived from Nouns, such as *piran* ‘(in) front’ (Neu 1970):

kuiš	LUGAL-ua-aš	pira	ēšzi
who	king's	fron	he-sits
<i>‘whoever sits before the king’</i>			

Such postpositions came to be frozen in form, whether unidentifiable as to etymology; derived from nouns, like *piran*; or derived from verbs, like Skr. *tirás* (viz. Lehman). Further, as the language came to be VO, they were placed before nouns.

As case forms were less clearly marked, they not only “governed” cases but also took over the meanings of case categories. The preposition *tirás* (*tiró*), derived from the root **tr-* ‘cross’, illustrates both the etymological meaning of the form and its eventual development as preposition:

RV	yám	te	śyenáḥ	padábharat
8.82.9.	what	for-you	eagle	with-foot-he-bore
	tiró		rājānsy	áspṛtam
	crossing, through		skies	not-relinquishing
	píbéd [<píba íd]	asya	tvám	īśiṣe
	you-drink-indeed	of-it	you	you-are-master (for-your-benefit)

‘What the eagle brought for you in his claws, not dropping it [as he flew] through the skies, of that drink. You control [it for your own benefit].’

The syntactic use of such particles with nouns is accordingly clear.

5.5.2. PREVERBS.

1. Rather than having the close relationships to nouns illustrated above, particles could instead be associated primarily with Verbs, often the same particles which were used as Postpositions.

2. Such combinations of particles and verbs came to be treated as units and are found repeatedly in specific uses (Delbrück 1888).

A. Preverbs might occupy various positions:

1. If unmarked, they are placed before the verb;
2. If marked, they are placed initially in clauses (Watkins 1964).

NOTE. In the course of time the Preverbs in unmarked position came to be combined with their verbs, though the identity of each element is long apparent in many of the dialects. Thus, in Modern German the primary accent is still maintained on some verbal roots, and in contrast with cognate nouns the prefix carries weak stress: *erteilen* ‘distribute’, *Úrteil* ‘judgment’. The steps toward the combination of preverb and verbal root have been described for the dialects, for example, Greek, in which uncombined forms as well as combined forms are attested during the period of our texts.

B. In the attested IE dialects:

- a. Preverbs which remained uncombined came to be treated as Adverbs.
- b. Combinations of Preverbs plus Verbs, on the other hand, eventually came to function like unitary elements.

The two different positions of preverbs in early texts led eventually to different word classes.

5.5.3. SENTENCE PARTICLES.

1. Particles were also used to relate sentences and clauses (J. Friedrich 1959:18, § 11):

takku	LÚ.ULÙ ^{LU} -an	EL.LUM	QA.AZ.ZU	naš	GÌR-ŠU	kuiški
if	man	free	his-hand	or	his-foot	someone
tuḡarnizzi	nušše	2	GÍN	KUBABBAR	paai	
he-breaks	Ptc.-to-him	2	shekels	silver	he-gives	

‘If anyone breaks the hand or foot of a freeman, then he must give him twenty shekels of silver.’

Particles like the initial word in this example indicate the kind of clause that will follow and have long been well described. The function of particles like *nu* is not, however, equally clear.

NOTE. Dillon and Götze related *nu* and the use of sentence connectives to similar particles in Old Irish (Dillon 1947). Such particles introduce many sentences in Old Irish and have led to compound verb forms in this VSO language. Delbrück had also noted their presence in Vedic (1888)

Since introductory *šu* and *ta* were more frequent than was *nu* in the older Hittite texts, scholars assumed that sentences in IE were regularly introduced by these sentence connectives. And Sturtevant proposed, as etymology for the anaphoric pronoun, combinations of **so-** and **to-** with enclitic pronouns, as in the well-known Hittite sequence *ta-at*, cf. IE **tod**, and so on (see Otten and Souček 1969 for the use of such particles in one text).

It is clear that sentence connectives were used in Hittite to indicate continued treatment of a given topic (Raman 1973). It is also found with Hittite relative constructions, a function which may also be ascribed to Vedic *sá* and *tád*.

NOTE. For Lehman (1974), since this use may be accounted for through post-PIE influences, sentence connectives may have had a minor role in PIE.

2. Other particles, like Hitt. *takku* ‘if’, probably had their counterparts in PIE, even if the surface forms were completely unrelated. This is also true for Emphatic Particles like Skr. *íd*; they were used after nouns as well as imperatives. Such emphatic particles combined with imperatives suggest the presence of Interjections, which cannot usually be directly reconstructed for PIE but are well attested in the several dialects.

3. A coordinate sentence connective **-qe** can clearly be reconstructed on the basis of Goth. *u(h)*, Skr. *ca*, Gk. *te*, Lat. *que*, and so on. But its primary function is the coordination of elements in the sentence rather than clauses or sentences.

NOTE. Moreover, when *ca* is used to connect verbs in the Vedic materials, they are parallel (Delbrück 1888); Delbrück finds only one possible exception. In an OV language the relating of successive verbs is carried out by means of nonfinite verbs placed before finite. We may then expect that coordinating particles had their primary use in PIE as connectors for sentence elements rather than for sentences.

Another such particle is **-wě** ‘or’. Like **-qe**, the particle indicating disjunctive ‘or’ was postposed, in retention of the original pattern as late as Classical Latin.

4. Particles in PIE may also have corresponded to verbal qualifiers.

a. The most notable of these is **mē**, which carried a negative modal meaning.

b. There is indication of such uses of particles in other patterns, for example, of Vedic *purá* ‘earlier’ to indicate the past, as apparently Brugmann was the first to point out (Delbrück 1888), and also Vedic *sma*, to indicate repeated action in the past (Hoffmann 1967). It is curious that *sma* is also found after *má* in Vedic (Hoffmann 1967).

NOTE. Lehman suggested that such mood- and tense-carrying particles may have been transported from a postverbal to a preverbal position. Some particles may accordingly have been equivalent in an earlier stage of PIE to elements used after verbs to indicate verbal categories.

I.6.2. MARKED ORDER IN SENTENCES.

1. Elements in sentences can be emphasized, by Marking; the chief device for such emphasis is Initial Position.

Other sentence elements may also be placed in initial position for marking.

2. In unmarked position the preverb directly precedes the verb. Changes in normal order thus provide one of the devices for conveying emphasis.

Other devices have to do with Selection, notably particles which are postposed after a marked element.

3. Emphasis can also be indicated by lexical selection.

4. Presumably other modifications might also be made, as in Intonation.

The various syntactic devices accordingly provided means to introduce marking in sentences.

I.6.3. TOPICALIZATION WITH REFERENCE TO EMPHASIS.

Like emphasis, Topicalization is carried out by patterns of arrangement, but the arrangement is applied to coequal elements rather than elements which are moved from their normal order.

Topicalization by arrangement is well known in the study of the early languages, as in the initial lines of the Homeric poems. The Iliad begins with the noun *mēnin* ‘wrath’, the Odyssey with the noun *ándra* ‘man’. These, to be sure, are the only possible nouns in the syntactically simple sentences opening both poems: *mēnin áeide* ‘Sing of the wrath’ and *ándra moi éennepe* ‘Tell me of the man’. Yet the very arrangement of *moi* and other enclitics occupying second position in the sentence, in accordance with Wackernagel’s law, indicates the use of initial placement among nominal elements for topicalization.

The use of topicalization may be illustrated by a more complex set of sentences, such as the first address of Zeus in the *Odyssey*. Only the first lines of this will be quoted; but these indicate a shift in topic from the ‘*gods*’ to ‘*men*’, then to a particular man, Aegisthus, then to Agamemnon, and subsequently to Orestes (Lehman 1974).

Ὀπόποι, ἡοῖον δένυ θεοῖς βροτῶν αἰτιόονται; ἐκς ἡμέων γάρ φησι κάκ’ ἐμμεναι, ἡοὶ δὲ καὶ αὐτοὶ, σφῆϊσιν ἀσθαλίῃσιν ὑπὲρ μόρον ἄλγε’ ἐκῆουσιν, ἡὸς καὶ νῦν Αἰγίσθος ὑπὲρ μόρον Ἀτρεΐδαο, γῆμ’ ἄλοκῆον μνῆστέν, τὸν δ’ ἐκτανε νοστήσαντα,

‘Alas, how the mortals are now blaming the gods. For they say evils come from us, but they themselves have woes beyond what’s fated by their own stupidities. Thus Aegisthus beyond what was fated has now married the wedded wife of Agamemnon, and killed him on his return.’

As this passage and many others that might be cited illustrate, the basic sentence patterns could be rearranged by stylistic rules, both for emphasis and for topicalization. In this way the relatively strict arrangement of simple sentences could be modified to bring about variety and flexibility.

APPENDIX II: PROTO-INDO-EUROPEAN PHONOLOGY

II.1. PHONETIC RECONSTRUCTION

II.1.1. PROTO-INDO-EUROPEAN SOUND LAWS

A few sound-laws can be reconstructed that may have been effective prior to the final breakup of PIE by internal reconstruction.

- Sievers' Law (Edgerton's Law, Lindeman's option)
- Grassman's Law
- Bartholomae's Law

A. SIEVERS' LAW

Sievers' Law in Indo-European linguistics accounts for the pronunciation of a consonant cluster with a glide before a vowel as it was affected by the phonetics of the preceding syllable. Specifically it refers to the alternation between **ij* and **j*, and possibly **uw* and **u*, in Indo-European languages. For instance, Proto-Indo-European **kor-jo-s* became Gothic *harjis* “army”, but PIE **kerdh-jo-s* became Proto-Germanic **herdijas*, Gothic *hairdeis* [hærdīs] “shepherd”. It differs from an ablaut in that the alternation is context-sensitive: PIE **ij* followed a heavy syllable (a syllable with a diphthong, a long vowel, or ending in more than one consonant), but **j* would follow a light syllable (i.e. a short vowel followed by a single consonant). This was first noticed by Germanic philologist Eduard Sievers, and his aim was to account for certain phenomena in the Germanic languages. He originally only discussed **j* in medial position. He also noted, almost as an aside, that something similar seemed to be going on in the earliest Sanskrit texts (thus in the Rigveda *dāivya-* “heavenly” actually had three syllables in scansion (*dāivⁱya-*) but say *satya-* “true” was scanned as written). After him, scholars would find similar alternations in Greek and Latin, and alternation between **uw* and **u*, though the evidence is poor for all of these. Through time, evidence was announced regarding similar alternations of syllabicity in the nasal and liquid semivowels, though the evidence is extremely poor for these, despite the fact that such alternations in the non-glide semivowels would have left permanent, indeed irreversible, traces.

The most ambitious extension of Sievers' Law was proposed by Franklin Edgerton in a pair of articles in the journal *Language* in 1934 and 1943. He argued that not only was the syllabicity of prevocalic semivowels by context applicable to all six Indo-European semivowels, it was applicable in all positions in the word. Thus a form like **djēus*, “sky” would have been pronounced thus only when it happened to follow a word ending with a short vowel. Everywhere else it would have had two syllables, **dijēus*.

The evidence for alternation presented by Edgerton was of two sorts. He cited several hundred passages from the oldest Indic text, the Rigveda, which he claimed should be rescanned to reveal hitherto unnoticed expressions of the syllable structure called for by his theory. But most forms show no such direct expressions; for them, Edgerton noted sharply skewed distributions that he interpreted as evidence for a lost alternation between syllabic and nonsyllabic semivowels. Thus say *śiras* “head” (from **śrros*) has no monosyllabic partner **śras* (from **śros*), but Edgerton noted that it occurred 100% of the time in the environments where his theory called for the syllabification of the **r*. Appealing to the “*formulaic*” nature of oral poetry, especially in tricky and demanding literary forms like sacred Vedic versification, he reasoned that this was direct evidence for the previous existence of an alternant **śras*, on the assumption that when (for whatever reason) this **śras* and other forms like it came to be shunned, the typical collocations in which they would have (correctly) occurred inevitably became obsolete *pari passu* with the loss of the form itself. And he was able to present a sizeable body of evidence in the form of these skewed distributions in both the 1934 and 1943 articles.

In 1965 Fredrik Otto Lindeman published an article proposing a significant modification of Edgerton's theory. Disregarding Edgerton's evidence (on the grounds that he was not prepared to judge the niceties of Rigvedic scansion) he took instead as the data to be analyzed the scansions in Grassmann's *Wörterbuch zum Rig-Veda*. From these he concluded that Edgerton had been right, but only up to a point: the alternations he postulated did indeed apply to all semivowels; but in word-initial position, the alternation was limited to forms like **djēws/dijēws* “sky”, as cited above—that is, words where the “short” form was monosyllabic.

B. GRASSMANN'S LAW

Grassmann's law, named after its discoverer Hermann Grassmann, is a dissimilatory phonological process in Ancient Greek and Sanskrit which states that if an aspirated consonant is followed by another aspirated consonant in the next syllable, the first one loses the aspiration. The descriptive (synchronic) version was described for Sanskrit by Panini.

Here are some examples in Greek of the effects of Grassmann's Law:

- [t^hu-o:] θύω 'I kill an animal'
- [e-tu-t^he:] ἔτυθη 'it was killed'
- [t^hrik-s] θρίξ 'hair'
- [tri^h-es] τριχῆς 'hairs'
- [t^hap-sai] θάψαι 'to bury (aorist)'
- [t^hapt-ein] θάπτειν 'to bury (present)'
- [tap^h-os] τάφος 'a grave'
- [tap^h-e] ταφή 'burial'

In the reduplication which forms the perfect tense in both Greek and Sanskrit, if the initial consonant is aspirated, the prepended consonant is unaspirated by Grassmann's Law. For instance [p^hu-ɔ:] φύω 'I grow': [pe-p^hu:-ka] πεφυκα 'I have grown'.

DIASPIRATE ROOTS

Cases like [t^hrik-s] ~ [trik^h-es] and [t^hap-sai] ~ [tap^h-ein] illustrates the phenomenon of *diaspirate roots*, for which two different analyses have been given.

In one account, the “underlying diaspirate” theory, the underlying roots are taken to be /t^hrik^h/ and /t^hap^h/. When an /s/ (or word edge, or various other sounds) immediately follows, then the second aspiration is lost, and the first aspirate therefore survives ([t^hrik-s], [t^hap-sai]). If a vowel follows the second aspirate, it survives unaltered, and therefore the first aspiration is lost by Grassmann's Law ([trik^h-es], [tap^h-ein]).

A different analytical approach was taken by the ancient Indian grammarians. In their view, the roots are taken to be underlying /trik^h/ and /tap^h/. These roots persist unaltered in [trik^h-es] and [tap^h-ein]. But if an /s/ follows, it triggers an “*aspiration throwback*” (ATB), in which the aspiration migrates leftward, docking onto the initial consonant ([t^hrik-s], [t^hap-sai]).

Interestingly, in his initial formulation of the law Grassmann briefly referred to ATB to explain these seemingly aberrant forms. However, the consensus among contemporary historical linguists is that the former explanation (underlying representation) is the correct one.

In the later course of Sanskrit, (and under the influence of the grammarians) ATB was applied to original monoaspirates through an analogical process. Thus, from the verb root *gah* 'to plunge', the desiderative stem *jighak^ha-* is formed. This is by analogy with the forms *bubhutsati* (a desiderative form) and *bhut* (a nominal form, both from the root *budh* 'to be awake', originally PIE *[b^hud^h-]).

C. BARTHOLOMAE'S LAW

Bartholomae's law is an early Indo-European sound law affecting the Indo-Iranian family, though thanks to the falling together of plain voiced and voiced aspirated stops in Iranian, its impact on the phonological history of that subgroup is unclear.

It states that in a cluster of two or more obstruents (s or a stop (plosive)), any one of which is a voiced aspirate anywhere in the sequence, the whole cluster becomes voiced and aspirated. Thus to the PIE root **bheudh* “learn, become aware of” the participle **bhudh-to-* “enlightened” loses the aspiration of the first stop (Grassmann's Law) and with the application of Bartholomae's Law and regular vowel changes gives Sanskrit *buddha-* “enlightened”.

A written form such as *-ddh-* (a literal rendition of the devanāgarī representation) presents problems of interpretation. The choice is between a long voiced stop with a specific release feature symbolized in transliteration by *-h-*, or else a long stop (or stop cluster) with a different phonational state, “*murmur*”, whereby the breathy release is an artifact of the phonational state. The latter interpretation is rather favored by such phenomena as the Rigvedic form *gdha* “*he swallowed*” which is morphologically a middle aorist (more exactly ‘*injunctive*’) to the root *ghas-* “*swallow*”, as follows: *ghs-t-a* > **gzdha* whence *gdha* by the regular loss of a sibilant between stops in Indic. While the idea of voicing affecting the whole cluster with the release feature conventionally called aspiration penetrating all the way to the end of the sequence is not entirely unthinkable, the alternative—the spread of a phonational state (but *murmur* rather than voice) through the whole sequence—involves one less step and therefore via Occam's Razor counts as the better interpretation.

Bartholomae's Law intersects with another Indic development, namely what looks like the deaspiration of aspirated stops in clusters with *s*: descriptively, Proto-Indo-European **leig'h-si* “*you lick*” becomes **leiksi*, whence Sanskrit *lekṣi*. However, Grassmann's Law, whereby an aspirated stop becomes non-aspirated before another aspirated stop (as in the example of *buddha-*, above), suggests something else. In late Vedic and later forms of Sanskrit, all forms behave as though aspiration was simply lost in clusters with *s*, so such forms to the root *dugh-* “*give milk*” (etymologically **dhugh-*) show the expected devoicing and deaspiration in, say, the desiderative formation *du-dhukṣ-ati* (with the root-initial *dh-* intact, that is, undissimilated). But the earliest passages of the Rigveda show something different: desiderative *dudukṣati*, aor. *dukṣata* (for later *dhukṣata*) and so on. Thus it is apparent that what went into Grassmann's Law were forms like **dhugzhata*, *dhudhugzha-* and so on, with aspiration in the sibilant clusters intact. The deaspiration and devoicing of the sibilant clusters were later and entirely separate phenomena – and connected with yet another suite of specifically Indic sound laws, namely a ‘*rule conspiracy*’ to eliminate all voiced (and murmured) sibilants. Indeed, even the example ‘*swallowed*’ given above contradicts the usual interpretation of devoicing and deaspiration: by such a sequence, **ghs-to* would have given, first, **ksto* (if the process was already Indo-European) or **ksta* (if Indo-Iranian in date), whence Sanskrit **kta*, not *gdha*.

II.1.2. CONSONANTS

¹ After vowels. ² Before a plosive (p, t, k). ³ Before an unstressed vowel (Verner's Law). ⁴ After a (Proto-Germanic) fricative (s, f). ⁵ Before a (PIE) front vowel (i, e). ⁶ Before or after a (PIE) u. ⁷ Before or after a (PIE) o, u. ⁸ Between vowels. ⁹ Before a resonant. ¹⁰ Before secondary (post-PIE) front-vowels. ¹¹ After r, u, k, i (RUKI). ¹² Before a stressed vowel. ¹³ At the end of a word. ¹⁴ After u, r or before r, l. ¹⁵ After n.

PIE	Skr.	Av.	OCS	Lith.	Arm.	Toch.	Hitt.	Gk.	Lat.	O.Ir	Gmc.	
*p	p [p]	p [p]	p [p]	p [p]	h [h]; w	p [p]	p [p]	p [p]	p [p]	∅; ch [x] ²	*f; *β ³ ;	
*t	t [t]	t [t]	t [t]	t [t]	t' [tʰ]	t [t]; c	t; z ⁵	t [t]	t [t]	t [t]; th [θ]	*θ; *ð ³ ;	
*Ṛ	ś [ç]	s [s]	s [s]	š [ʃ]	s [s]	k; ś [ç]	k [k]; ś [ç] ⁹	k [k]	k [k]	k [k]	c [k]; ch [x] ⁸	*x; *γ ³ ; k ⁴
*k	k [k]; c [c] ⁵	k [k]; c [ç] ⁵	k [k]; č [tʃ] ⁵ ; c [ts] ¹⁰	k [k]	k' [kʰ]	ku [kʷ]		p; t ⁵ ; k ⁶	qu [kʷ]; c [k] ⁷	c [k]; ch [x] ⁸	*xʷ; *γʷ; *w ³ ; kʷ ⁴	
*kʷ												
*b	b [b]	b [b]	b [b]	b [b]	p [p]	p [p]	p [p]	b [b]	b [b]	b [b]	*p	
*d	d [d]	d [d]	d [d]	d [d]	t [t]	ts [ts];	t [t]	d [d]	d [d]	d [d]; dh	*t	
*ǵ	j [j]	z [z]	z [z]	ž [ʒ]	c [ts]	k [k]; ś [ç] ⁹	k [k]	g [g]	g [g]	g [g]; gh [ɣ] ⁸	*k	
*g	g [g]; j [j] ⁵	g [g]; j [dʒ] ⁵	g [g]; ž [ʒ] ⁵ ; dz [dz] ¹⁰	g [g]	k [k]	ku [kʷ]	b [b]; d [d] ⁵ ; g [g] ⁶	u [w]; gu [gʷ] ¹⁵	b [b]; m, bh [w] ⁸	*kʷ		
*gʷ												
*bʰ	bh	b [b]	b [b]	b [b]	b [b]; w	p [p]	p [p]	ph [pʰ]	f [f]; b ⁸	b [b]; m, *	*β	
*dʰ	dh	d [d]	d [d]	d [d]	d [d]	t [t]; c	t [t]	th [tʰ]	f [f]; d ⁸ ; b	d [d]; dh	*ð	
*ǵʰ	h [h]	z [z]	z [z]	ž [ʒ]	j [dʒ]; z	k [k]; ś [ç] ⁵	k [k]	ch [kʰ]	h [h]; h [h]/g [g] ⁹	g [g]; gh [ɣ] ⁵	*γ	
*gʰ	gh	g [g]; ĵ [dʒ] ⁵	g [g]; ž [ʒ] ⁵ ; dz [dz] ¹⁰	g [g]	g [g]; ĵ [dʒ] ⁵	ku [kʷ]	ph [pʰ]; th [tʰ] ⁵ ; ch [kʰ] ⁶	f [f]; g [g] / u [w] ⁸ ; gu [gʷ] ¹⁵	g [g]	*γʷ		
*gʷʰ	[gʰ]; h [h] ⁵											
*s	s [s];	h [h, x];	s [s]; x	s [s]; š [ʃ]	h [h]; s	s [s]; ś [ç]	ś [s]	h [h]; s [s]	s [s]; r [r]	s [s]	*s; *z ³	
*m	m [m]	m [m]	m [m]; ˘	m [m]; n	m [m];	m [m];	m [m];	m [m]; n [n]	m [m]	b [b]; m,	*m; ∅ ¹³	
*n	n [n]	n [n]	n [n]	n [n]	n [n]	n [n]; ñ	n [n]	n [n]	n [n]	n [n]	*n	
*l	r [r]	r [r]	l [l]	l [l]	l [l], † [†]	l [l]	l [l]	l [l]	l [l]	l [l]	*l	
*r	r [r]	r [r]	r [r]	r [r]	r [r]	r [r]	r [r]	r [r]	r [r]	r [r]	*r	
*j	y [j]	y [j]	j [j]	j [j]	∅	y [j]	y [j]	z [ʔzd/dz > z] / h [h]; ∅ ⁸	i [j]; ∅ ⁸	∅	*j	
*u	v [v]	v [w]	v [v]	v [v]	g [g] / w [w]	w [w]	w [w]	w > h / ∅ [w > h / -]	u [w > v]	f [f]; ∅ / w [w] ⁸	*w	

II.1.3. VOWELS AND SYLLABIC CONSONANTS

PIE	Skr.	Av.	OCS	Lith.	Arm.	Toch.	Hitt.	Gk.	Lat.	O.Ir	Gmc.	
*e	a	a	e	e	e	ä	e, i	e	e	e	i; ai [ɛ] ²	
*a			o	a	a	ā	ha, a	a	a	a	a	
*o					o, a	a, e	a	o	o	o	o	
	a, ā ⁴	a, ā ⁴										
*e	i	i, ∅	∅	∅	a, ∅	ā	a	e	a	a	a, ∅	
								h	a			
									o			
*-	∅	∅			e (a?)	∅	a	e (o)	∅	∅	∅	
					a		ha	a				
					a		a, ha	o				
*ē	ā	ā	ě	é	i	a/e?; ā? ⁸	e, i	ē	ē	ī	ē	
*ā			a	o	a	a/o?	a, ah	ā > ē	ā	ā	ā	
*ō				uo	u	a/ā?; ū? ⁸	a	ō	ō	ā; ū ⁸		
*ī	i	i	ь	i	i	ā	i	i	i	i	i	
*ī	ī	ī	i	y [i:]		i		ī	ī	ī	ī	ei [i:]
				i or ōa? ⁷	yā			ī or ōā? ⁷				
								ī or ōō? ⁷				
*ei	ē	ōi, aē ⁴		ei, ie ⁵	i	e	ei	ī	īa, ē ⁶			
*oi			ě	ai, ie ⁵	e			oi	ū	oe	ai	
*ai								ay	ai	ae		ae
*ēi	āi; ā ⁸	āi; ā(i) ⁸	i					āi > ēi	ī?		ai	
*ōi			y; u ⁸	ai; ui ⁸			ai	āi > ēi	ō	u ⁸		

*āi			ě					āi > ēi	ae		ai
*u	u	u	ъ	u	u	ä	u	u	u	u; o ¹	u; au
*ū	ū	ū	y	ū		u		ū	ū	ū	ū
					u or (w)a? ⁷	wā		ū or (w)ā? ⁷			
								ū or (w)ō? ⁷			
*eu	ō	ēu, ao ⁴	ju	ia <u>u</u>	oy	u	u	eu	ū	ūa; ō ⁹	iu
*ou			u	au		o, au		ou			au
*au					aw			au	au		
*ēu	āu	āu	u	ia <u>u</u>					ū?		au
*ōu								ō			
*ṛ	a	a	ṛ	iṛṅ; uṛṅ ¹⁴	am	ām	am	a	em	em am	um
*ṛ	ā	ā		iṛṅ; ùṛṅ ¹⁴	ama	mā		mē, mā, mā	mā	mā	
*ṛm	am	am	ьm/ьm	im; um ¹⁴	am			am	em	am	
*ṛ	a	a	ṛ	iṛṅ; uṛṅ ¹⁴	an	ān	an	a	en	en an	un
*ṛ	ā	ā		iṛṅ; ùṛṅ ¹⁴	ana	nā		nē, nā, nō	nā	nā	
*ṛn	an	an	ьn/ьn	iṛṅ; uṛṅ ¹⁴	an			an	en	an	
*ṛ	ṛ	əṛə	ьṛ/ьṛ	iṛ; uṛ ¹⁴	al	āl	al	la	ol	li	ul
*ṛ	īṛ; ūṛ	arə		iṛ; ùṛ ¹⁴	ala	lā		lē, lā, lō	lā	lā	
*ṛl	ir; ur	ar	ьl/ьl	il; ul ¹⁴	al, la			al	el	al	
*ṛ	ṛ	əṛə	ьṛ/ьṛ	iṛ; uṛ ¹⁴	ar	ār	ar	ra	or	ri	aur
*ṛ	īṛ; ūṛ	arə		iṛ; ùṛ ¹⁴	ara	rā		rē, rā, rō	rā	rā	
*ṛr	ir; ur	ar	ьr/ьr	ir; ur ¹⁴	ar			ar	ar	ar	

¹ Before *wa*. ² Before *r*, *h*. ³ The existence of PIE non-allophonic *a* is disputed. ⁴ In open syllables (Brugmann's law). ⁵ Under stress. ⁶ Before palatal consonants. ⁷ The so-called breaking is disputed (typical examples are *proti-h₃k^wo- > Ved. *prātīkam* ~ Gk. *πρόσωπον*; *g^wih₃u^wo- > Ved. *jīvā-* ~ Arm. *keank'*, Gk. *ζωός*; *duh₂ro- > Ved. *dūrā-* ~ Arm. *erkar*, Gk. *δηρός*) ⁸ In a final syllable. ⁹ Before velars and unstressed ¹⁰ Before *ā* in the following syllable. ¹¹ Before *i* in the following syllable. ¹² In a closed syllable. ¹³ In the neighbourhood of labials. ¹⁴ In the neighbourhood of labiovelars.

II.2. DORSALS: THE PALATOVELAR QUESTION

1. Direct comparison in early IE studies, informed by the *Centum-Satem* isogloss, yielded the reconstruction of three rows of dorsal consonants in Late Proto-Indo-European by Bezzenberger (1890), a theory which became classic after Brugmann (*Grundriss*, 1879) included it in its 2nd Edition. The palatovelars [**kʰ**], [**gʰ**], and [**gʰh**] were supposedly [**k**]- or [**g**]-like sounds which underwent a characteristic phonetic change in the satemized languages – three original “velar rows” had then become two in all Indo-European dialects attested.

NOTE. It is disputed whether Albanian shows remains of two or three series (cf. Ölberg 1976, Kortlandt 1980, Pänzer 1982), although the fact that only the worst known (and neither isolated nor remote) IE dialect could be the only one to show some remains of the oldest phonetic system is indeed very unlikely.

After that original belief, then, The centum group of languages merged the palatovelars [**kʰ**], [**gʰ**], and [**gʰh**] with the plain velars [**k**], [**g**], and [**gʰh**], while the satem group of languages merged the labiovelars [**kʷ**], [**gʷ**], and [**gʷh**] with the plain velars [**k**], [**g**], and [**gʰh**].

NOTE. Such hypothesis would then support an evolution [**kʰ**] > [**k**] of *Centum* dialects before **e** and **i**, what is clearly against the general tendency of velars to move forward its articulation and palatalize in these environments.

2. The existence of the palatovelars as phonemes separate from the plain velars and labiovelars has been disputed. In most circumstances they appear to be allophones resulting from the neutralization of the other two series in particular phonetic circumstances. Their dialectal articulation was probably constrained, either to an especial phonetic environment (as Romance evolution of Latin [k] before [e] and [i]), either to the analogy of alternating phonetic forms. However, it is difficult to pinpoint exactly what the circumstances of the allophony are, although it is generally accepted that neutralization occurred after **s** and **u**, and often before **r**.

Many PIE linguists still believe that all three series were distinct in Late Proto-Indo-European, although newest research show that the palatovelar series were a later phonetic development of certain Satem dialects, later extended to others; this belief was originally articulated by Antoine Meillet in 1893, and was followed by linguists like Hirt (1899, 1927), Lehman (1952), Georgiev (1966), Bernabé (1971), Steensland (1973), Miller (1976), Allen (1978), Kortlandt (1980), Shields (1981), Adrados (1995), etc.

NOTE. There is, however, a minority who consider the labiovelars a secondary development from the pure velars, and reconstruct only velars and palatovelars (Kuryłowicz), already criticized by Bernabé, Steensland, Miller and Allen. Still less acceptance had the proposal to reconstruct only a labiovelar and a palatal series (Magnusson).

3. The original (logical) trend to distinguish between series of “satemizable” dorsals, called ‘palatovelars’, and “non-satemizable” dorsals, the ‘pure velars’, was the easiest explanation found by

neogrammarians, who apparently opened a different case for each irregularity they found. Such an initial answer should be considered erroneous today, at least as a starting-point to obtain a better explanation for this “phonological puzzle” (Bernabé).

NOTE. “Palatals” and Velars appear mostly in complementary distributions, what supports their explanation as allophones of the same phonemes. Meillet (1937) establishes the contexts in which there are only velars: before **a,r**, and after **s,u**, while Georgiev (1966) states that the palatalization of velars should have been produced before **e, i, j**, and before liquid or nasal or **w + e, i**, offering statistical data supporting his conclusions. The presence of palatalized velar before **o** is then produced because of analogy with roots in which (due to the apophonic alternance) the velar phoneme is found before **e** and **o**, so the alternance ***kje/*ko** would be leveled as ***kje/*kjo**.

Arguments in favor of only one series of velars include:

A) The existence of vacillating results between different so-called “*Satem dialects*”, as e.g.:

- **ak/ok**, *sharp*, cf. Lith. *akúotas*, O.C.S. *ostru*, O.Ind. *asrís*, Arm. *aseln*, but Lith. *asrùs*.
- **akmn**, *stone*, cf. Lith. *akmuõ*, O.C.S. *kamy*, O.Ind. *ásma*, but Lith. *ásmens*.
- **keu**, *shine*, cf. Lith. *kiáune*, Russ. *kuna*, O.Ind. *Svas*, Arm. *sukh*.
- **bhleg**, *shine*, cf. O.Ind. *bhargas*, Lith. *balgans*, O.C.S. *blagu*, but Ltv. *blâzt*.
- **gherdh**, *enclose*, O.Ind. *grhá*, Av. *g^or^oda*, Lith. *gardas*, O.C.S. *gradu*, Lith. *zardas*, Ltv. *zârdas*.
- **swékuros**, *father-in-law*, cf. O.Sla. *svekry*, O.Ind. *śvaśru*.
- etc.

B) The existence of different pairs (“*satemized*” and “*not-satemized*”) in the same language, as e.g.:

- **selg**, *throw*, cf. O.Ind. *srjāti*, *sargas*
- **kau/keu**, *shout*, cf. Lith. *kaukti*, O.C.S. *kujati*, Russ. *sova* (as Gk. *kauax*); O.Ind. *kauti*, *suka-*.
- **kleu**, *hear*, Lith. *klausyti*, *slove*, O.C.S. *slovo*; O.Ind. *karnas*, *sruti*, *srósati*, *śrnóti*, *sravas*.
- **leuk**, O.Ind. *rokás*, *ruśant-*.
- etc.

NOTE. The old argument proposed by Brugmann (and later copied by many dictionaries) about “*Centum loans*” is not tenable today. For more on this, see Szemerényi (1978), Mayrhofer (1952), Bernabé (1971).

C) Non-coincidence in periods and number of satemization stages; as, Old Indian shows two stages, 1) PIE **k** > O.Ind. *s*, and 2) PIE **qe, qi** > O.Ind. *ke, ki*, & PIE **ske, ski** > O.Ind. *c* (cf. *cim, candra*, etc.). In Slavic, however, three stages are found, 1) PIE **k** > *s*, 2) **qe, qi** > *č* (*čto, čelobek*), and 3) **qoi**>*koi*>*ke* gives *ts* (as Sla. *tsená*).

D) In most attested languages which present aspirated as result of the so-called “palatals”, the palatalization of other phonemes is also attested (e.g. palatalization of labiovelars before e, i, etc.), what may indicate that there is an old trend to palatalize all possible sounds, of which the palatalization of velars is the oldest attested result.

E) The existence of ‘Centum dialects’ in so-called Southern dialects, as Greek and some Paleo-Balkan dialects, and the presence of Tocharian, a ‘Centum dialect’, in Central Asia, being probably a northern IE dialect.

4. It is generally believed that Satemization could have started as a late dialectal ‘wave’ (although not necessarily), which eventually affected almost all PIE dialectal groups. The origin is probably to be found in velars followed by **e, i**, even though alternating forms like **gen/gon** caused natural analogical corrections within each dialect, which obscures still more the original situation. Thus, non-satemized forms in so-called Satem languages are actually non-satemized remains of the original situation, just as Spanish has *feliz* and not **heliz*, or *fácil* and not *hácil*, or French uses *facile* and *nature*, and not **fêle* or **nûre* as one should expect from its phonetic evolution. Some irregularities are indeed explained as borrowings from non-satemized dialects.

5. Those who support the model of the threefold distinction in PIE cite evidence from Albanian (Pedersen) and Armenian (Pisani) that they treated plain velars differently from the labiovelars in at least some circumstances, as well as the fact that Luwian apparently had distinct reflexes of all three series: **k^j > z* (probably [ts]); **k > k*; **k^w > ku* (possibly still [k^w]) (Craig Melchert).

NOTE. Also, one of the most difficult problems which subsist in the interpretation of the satemization as a phonetic wave is that, even though in most cases the variation **k^j/k* may be attributed either to a phonetic environment or to the analogy of alternating apophonic forms, there are some cases in which neither one nor the other may be applied. Compare for example *oktō(u)*, eight, which presents k before an occlusive in a form which shows no change (to suppose a syncope of an older **ok^jitō*, as does Szemerényi, is an explanation *ad hoc*). Other examples in which the palatalization cannot be explained by the next phoneme nor by analogy are *swekrū-*, *husband's mother*, *akmon*, *stone*, *peku*, *cattle*. Such (still) unexplained exceptions, however, are not sufficient to consider the existence of a third row of ‘later palatalized’ velars (Bernabé, Cheng & Wang), although there are still scholars who come back to the support of the three velar rows’ hypothesis (viz. Tischler 1990).

6. A system of two gutturals, Velars and Labiovelars, is a linguistic anomaly, isolated in the PIE occlusive subsystem – there are no parallel oppositions *b^w-b*, *p^w-p*, *t^w-t*, *d^w-d*, etc. Only one feature, their pronunciation with an accompanying rounding of the lips, helps distinguish them from each other. Labiovelars turn velars before **-u**, and there are some neutralization positions which help identify labiovelars and velars; also, in some contexts (e.g. before **-i**, **-e**) velars tend to move forward its articulation and eventually palatalize. Both trends led eventually to Centum and Satem dialectalization.

II.3. THE LARYNGEAL THEORY

1. The **laryngeal theory** is a generally accepted theory of historical linguistics which proposes the existence of a set of three (or up to nine) consonant sounds that appear in most current reconstructions of the Proto-Indo-European language (PIE). These sounds have since disappeared in all existing Indo-European languages, but some laryngeals are believed to have existed in the Anatolian languages, including Hittite.

NOTE. In this Modern Indo-European grammar, such uncertain sounds are replaced by the vowels they yielded in Late PIE dialects (an **-a** frequently substitutes the traditional *schwa indogermanicum*), cf. MIE **patér** for PIE **ph₂tér*, MIE **ōktō(u)**, *eight*, for PIE **h₃ekteh₃*, etc. Again, for a MIE based on the northwestern dialects, such stricter reconstruction would give probably a simpler language in terms of phonetic irregularities (*ablaut* or *apophony*), but also a language phonologically too different from Latin, Greek, Germanic and Balto-Slavic dialects. Nevertheless, reconstructions with laryngeals are often shown in this grammar as ‘etymological sources’, so to speak, as Old English forms are shown when explaining a Modern English word in modern dictionaries. The rest of this chapter offers a detailed description of the effects of laryngeals in IE phonology and morphology.

2. The evidence for them is mostly indirect, but serves as an explanation for differences between vowel sounds across Indo-European languages. For example, Sanskrit and Ancient Greek, two descendents of PIE, exhibit many similar words that have differing vowel sounds. Assume that the Greek word contains the vowel [e] and the corresponding Sanskrit word contains [i] instead. The laryngeal theory postulates these words originally had the same vowels, but a neighboring consonant which had since disappeared had altered the vowels. If one would label the hypothesized consonant as [h₁], then the original PIE word may have contained something like [eh₁] or [ih₁], or perhaps a completely different sound such as [ah₁]. The original phonetic values of the laryngeal sounds remain controversial (v.i.)

3. The beginnings of the theory were proposed by Ferdinand de Saussure in 1879, in an article chiefly devoted to something else altogether (demonstrating that **a* and **o* were separate phonemes in PIE). Saussure's observations, however, did not achieve any general currency until after Hittite was discovered and deciphered in the early 20th century. Hittite had a sound or sounds written with symbols from the Akkadian syllabary conventionally transcribed as *ḫ*, as in *te-iḫ -ḫi*, “*I put, am putting*”. Various more or less obviously unsatisfactory proposals were made to connect these (or this) to the PIE consonant system as then reconstructed. It remained for Jerzy Kuryłowicz (*Études indoeuropéennes I*, 1935) to propose that these sounds lined up with Saussure's conjectures. Since then, the laryngeal theory (in one or another form) has been accepted by most Indo-Europeanists.

4. The late discovery of these sounds by Indo-Europeanists is largely due to the fact that Hittite and the other Anatolian languages are the only Indo-European languages where at least some of them are attested directly and consistently as consonantal sounds. Otherwise, their presence is to be seen mostly

through the effects they have on neighboring sounds, and on patterns of alternation that they participate in; when a laryngeal is attested directly, it is usually as a vowel (as in the Greek examples below). Most Indo-Europeanists accept at least some version of laryngeal theory because their existence simplifies some otherwise hard-to-explain sound changes and patterns of alternation that appear in the Indo-European languages, and solves some minor mysteries, such as why verb roots containing only a consonant and a vowel have only long vowels e.g. **dō-* “give”; re-reconstructing **deh₃-* instead not only accounts for the patterns of alternation more economically than before, but brings the root into line with the basic consonant - vowel - consonant Indo-European type.

5. There are many variations of the Laryngeal theory. Some scholars, such as Oswald Szemerényi, reconstruct just one. Some follow Jaan Puhvel's reconstruction of eight or more (in his contribution to *Evidence for Laryngeals*, ed. Werner Winter). Most scholars work with a basic three:

- **h₁*, the “neutral” laryngeal
- **h₂*, the “a-colouring” laryngeal
- **h₃*, the “o-colouring” laryngeal

Many scholars, however, either insist on or allow for a fourth consonant, **h₄*, which differs from **h₂* only in not being reflected as Anatolian *ḫ*. Accordingly, except when discussing Hittite evidence, the theoretical existence of an **h₄* contributes little. Another such theory, but much less generally accepted, is Winfred P. Lehmann's view that **h₁* was actually two separate sounds, due to inconsistent reflexes in Hittite. (He assumed that one was a glottal stop and the other a glottal fricative.)

Some direct evidence for laryngeal consonants from Anatolian:

PIE **a* is a rarish sound, and in an uncommonly large number of good etymologies it is word-initial. Thus PIE (traditional) *anti*, in *front of and facing* > Greek *anti* “against”; Latin *ante* “in front of, before”; (Sanskrit *ánti* “near; in the presence of”). But in Hittite there is a noun *ḫants* “front, face”, with various derivatives (*ḫantezzi* “first”, and so on, pointing to a PIE root-noun **h₂ent-* “face” (of which **h₂enti* would be the locative singular).

NOTE. It does not necessarily follow that all reconstructed PIE forms with initial **a* should automatically be rewritten as PIE **h₂e*.

Similarly, the traditional PIE reconstruction for ‘sheep’ is **owi-*, whence Skt *ávi-*, Latin *ovis*, Greek *óis*. But now Luvian has *ḫawi-*, indicating instead a reconstruction **h₃ewi-*.

But if laryngeals as consonants were first spotted in Hittite only in 1935, what was the basis for Saussure's conjectures some 55 years earlier? They sprang from a reanalysis of how the patterns of vowel alternation in Proto-Indo-European roots of different structure aligned with one another.

6. A feature of Proto-Indo-European morpheme structure was a system of vowel alternations christened ablaut (*‘alternate sound’*) by early German scholars and still generally known by that term, except in Romance languages, where the term *apophony* is preferred. Several different such patterns have been discerned, but the commonest one, by a wide margin, is **e/o/zero** alternation found in a majority of roots, in many verb and noun stems, and even in some affixes (the genitive singular ending, for example, is attested as **-es**, **-os**, and **-s**). The different states are called ablaut grades; **e-grade** or “*full grades*”, **o-grade** and “*zero-grade*”.

Thus the root **sed-**, “*to sit (down)*” (roots are traditionally cited in the *e-grade*, if they have one), has three different shapes: **sed-*, **sod-*, and **sd-*. This kind of patterning is found throughout the PIE root inventory and is transparent:

- **sed-*: in Latin *sedeō* “am sitting”, Old English *sittan* “to sit” < **set-ja-* (with umlaut) < **sed-*; Greek *hédra* “seat, chair” < **sed-*.
- **sod-*: in Latin *solium* “*throne*” (Latin *l* sporadically replaces *d* between vowels, said by Roman grammarians to be a Sabine trait) = Old Irish *suideⁿ* /suð¹e/ “a sitting” (all details regular from PIE **sod-jo-m*); Gothic *satjan* = Old English *settan* “to set” (causative) < **sat-ja-* (umlaut again) < PIE **sod-eje-*. PIE **se-sod-e* “*sat*” (perfect) > Sanskrit *sa-sād-a* per Brugmann's law.
- **sd-*: in compounds, as **ni-* “*down*” + **sd-* = **nisdos* “*nest*”: English *nest* < Proto-Germanic **nistaz*, Latin *nīdus* < **nizdos* (all regular developments). The 3pl (third person plural) of the perfect would have been **se-sd-r̥* whence Indo-Iranian **sazdr̥*, which gives (by regular developments) Sanskrit *sedur* /sēdur/.

Now, in addition to the commonplace roots of consonant + vowel + consonant structure there are also well-attested roots like **dhē-* “*put, place*”: these end in a vowel, which is always long in the categories where roots like **sed-* have full grades; and in those forms where zero grade would be expected, before an affix beginning with a consonant, we find a short vowel, reconstructed as **ə*, or *schwa* (more formally, *schwa primum indogermanicum*). The cross-language correspondences of this vowel are different from the other five short vowels.

NOTE. Before an affix beginning with a vowel, there is no trace of a vowel in the root, as shown below.

Whatever caused a short vowel to disappear entirely in roots like **sed-/sod-/sd-*, it was a reasonable inference that a long vowel under the same conditions would not quite disappear, but would leave a sort of residue. This residue is reflected as *i* in Indic while dropping in Iranian; it gives variously *e*, *a*, *o* in Greek; it mostly falls together with the reflexes of PIE **a* in the other languages (always bearing in mind that short vowels in non-initial syllables undergo various adventures in Italic, Celtic, and Germanic):

• **dō-* “give”: in Latin *dōnum* “gift” = Old Irish *dán* /dān/ and Sanskrit *dāna-* (*â = ā* with tonic accent); Greek *dí-dō-mi* (reduplicated present) “I give” = Sanskrit *dádāmi*. But in the participles, Greek *dotós* “given” = Sanskrit *ditá-*, Latin *datus* all < **dā-tó-*.

• **stā-* “stand”: in Greek *hístēmi* (reduplicated present, regular from **si-stā-*), Sanskrit *a-sthā-* *t* aorist “stood”, Latin *testāmentum* “testimony” < **ter-stā-* < **tri-stā-* (“third party” or the like). But Sanskrit *sthitá-* “stood”, Greek *stasis* “a standing”, Latin supine infinitive *statum* “to stand”.

Conventional wisdom lined up roots of the **sed-* and **dō-* types as follows:

Full Grades	Weak Grades	
<i>sed-</i>, <i>sod-</i>	<i>sd-</i>	“sit”
<i>dō-</i>	<i>dā-</i>, <i>d-</i>	“give”

But there are other patterns of “normal” roots, such as those ending with one of the six resonants (**j w r l m n*), a class of sounds whose peculiarity in Proto-Indo-European is that they are both syllabic (vowels, in effect) and consonants, depending on what sounds are adjacent:

Root **b^her-/b^hor-/b^hr̥-* ~ *b^hr-* “carry”

• **b^her-*: in Latin *ferō* = Greek *phérō*, Avestan *barā*, Old Irish *biur*, Old English *bera* all “I carry”; Latin *ferculum* “bier, litter” < **b^her-tlo-* “implement for carrying”.

• **b^hor-*: in Gothic *barn* “child” (= English dial. *bairn*), Greek *phoréō* “I wear [clothes]” (frequentative formation, “carry around”); Sanskrit *bhāra-* “burden” (**b^hor-o-* via Brugmann's law).

• **b^hr̥-* before consonants: Sanskrit *bhṛ-tí-* “a carrying”; Gothic *gabaurþs* /gaborθs/, Old English *gebyrd* /yebürd/, Old High German *geburt* all “birth” < **gaburdi-* < **b^hr̥-tí-*

• **b^hr-* before vowels: Ved *bibhrati* 3pl. “they carry” < **b^hi-b^hr-ṅti*; Greek *di-phrós* “chariot footboard big enough for two men” < **dwi-b^hr-o-*.

Saussure's insight was to align the long-vowel roots like **dō-*, **stā-* with roots like **b^her-*, rather than with roots of the **sed-* sort. That is, treating “schwa” not as a residue of a long vowel but, like the **r* of **b^her-/b^hor-/b^hr̥-*, an element that was present in the root in all grades, but which in full grade forms coalesced with an ordinary *e/o* root vowel to make a long vowel, with ‘coloring’ (changed phonetics) of the *e*-grade into the bargain; the mystery element was seen by itself only in zero grade forms:

<i>Full Grades</i>	<i>Zero Grade</i>	
<i>b^her-</i>, <i>b^hor-</i>	<i>b^hr̥-</i> / <i>b^hr-</i>	“carry”
<i>deX</i>, <i>doX-</i>	<i>dǰ̥</i> / <i>dX-</i>	“give”

* **ǰ̥** = syllabic form of the mystery element

Saussure treated only two of these elements, corresponding to our **h*₂ and **h*₃. Later it was noticed that the explanatory power of the theory, as well as its elegance, were enhanced if a third element were added, our **h*₁, which has the same lengthening and syllabifying properties as the other two but has no effect on the color of adjacent vowels. Saussure offered no suggestion as to the phonetics of these elements; his term for them, “*coefficientants sonantiques*”, was not however a fudge, but merely the term in general use for glides, nasals, and liquids (i.e., the PIE resonants) as in roots like **b^her-*.

As mentioned above, in forms like **dwi-b^hr-o-* (etymon of Greek *diphros*, *above*), the new “*coefficientants sonantiques*” (unlike the six resonants) have no reflexes at all in any daughter language. Thus the compound **m̥s-d^heh-* “to ‘fix thought’, be devout, become rapt” forms a noun **m̥s-d^hh-o-* seen in Proto-Indo-Iranian **mazdha-* whence Sanskrit *medhá-* /*mēdha*/ “sacrificial rite, holiness” (regular development as in *sedur* < **sazdur*, above), Avestan *mazda-* “name (originally an epithet) of the greatest deity”.

There is another kind of unproblematic root, in which obstruents flank a resonant. In the zero grade, unlike the case with roots of the **b^her-* type, the resonant is therefore always syllabic (being always between two consonants). An example would be **b^hend^h-* “tie, bind”:

- **b^hend^h-*: in Germanic forms like Old English *bindan* “to tie, bind”, Gothic *bindan*; Lithuanian *beñdras* “chum”, Greek *peñsma* “rope, cable” /*pēsma*/ < **phenth-sma* < **b^hend^h-sm̥*.
- **b^hond^h-*: in Sanskrit *bandhá-* “bond, fastening” (**b^hond^h-o-*; Grassmann's law) = Old Icelandic *bant*, OE *bænd*; Old English *bænd*, Gothic *band* “he tied” < *(*b^he*)*b^hond^h-e*.
- **b^hṅd^h-*: in Sanskrit *baddhá-* < **b^hṅd^h-tó-* (Bartholomae's law), Old English *gebunden*, Gothic *bundan*; German *Bund* “league”. (English *bind* and *bound* show the effects of secondary (Middle English) vowel lengthening; the original length is preserved in *bundle*.)

This is all straightforward and such roots fit directly into the overall patterns. Less so are certain roots that seem sometimes to go like the **b^her-* type, and sometimes to be unlike anything else, with (for example) *long* syllabics in the *zero* grades while at times pointing to a two-vowel root structure. These roots are variously called “*heavy bases*”, “*dis(s)yllabic roots*”, and “*seṭ roots*” (the last being a term from *Pāṇini's grammar*. It will be explained below).

For example, the root “be born, arise” is given in the usual etymological dictionaries as follows:

A. *gen-, *gon-, *gṇn-

B. *genə-, *gonə-, *gṇ̄- (where ṇ̄ = a long syllabic ṇ)

The (A) forms occur when the root is followed by an affix beginning with a vowel; the (B) forms when the affix begins with a consonant. As mentioned, the full-grade (A) forms look just like the *bher- type, but the zero grades always and only have reflexes of syllabic resonants, just like the *b^hend^h- type; and unlike any other type, there is a second root vowel (always and only *ə) following the second consonant:

*gen(ə)-

- PIE *genos- neut s-stem “race, clan” > Greek (Homeric) *génos*, -eos, Sanskrit *jánas-*, Avestan *zanō*, Latin *genus*, -eris.
- Greek *gené-tēs* “begetter, father”; *géne-sis* < *genə-ti- “origin”; Sanskrit *jáni-man-* “birth, lineage”, *jáni-tar-* “progenitor, father”, Latin *genitus* “begotten” < *genatos*.

*gon(e)-

- Sanskrit *janayati* “beget” = Old English *cennan* /kennan/ < *gon-eje- (causative); Sanskrit *jána-* “race” (o-grade o-stem) = Greek *gónos*, -ou “offspring”.
- Sanskrit *jajāna* 3sg. “was born” < *ge-gon-e.

*gṇn-/ *gṇ̄-

- Gothic *kuni* “clan, family” = OE *cynn* /kynn/, English *kin*; Rigvedic *jajanúr* 3pl.perfect < *ge-gṇn- (a relic; the regular Sanskrit form in paradigms like this is *jajñur*, a remodeling).
- Sanskrit *jātá-* “born” = Latin *nātus* (Old Latin *gnātus*, and cf. forms like *cognātus* “related by birth”, Greek *kasí-gnētos* “brother”); Greek *gnésios* “belonging to the race”. (The ē in these Greek forms can be shown to be original, not Attic-Ionic developments from Proto-Greek *ā.)

NOTE. The Pāṇinian term “seṭ” (that is, sa-i-ṭ) is literally “with an /i/”. This refers to the fact that roots so designated, like *jan-* “be born”, have an /i/ between the root and the suffix, as we’ve seen in Sanskrit *jánitar-*, *jániman-*, *janitva* (a gerund). Cf. such formations built to “aniṭ” (“without an /i/”) roots, such as *han-* “slay”: *hántar-* “slayer”, *hanman-* “a slaying”, *hantva* (gerund). In Pāṇini’s analysis, this /i/ is a linking vowel, not properly a part of either the root or the suffix. It is simply that some roots are in effect in the list consisting of the roots that (as we would put it) ‘take an -i-’.

The startling reflexes of these roots in zero grade before a consonant (in this case, Sanskrit *ā*, Greek *nē*, Latin *nā*, Lithuanian *ìn*) is explained by the lengthening of the (originally perfectly ordinary) syllabic resonant before the lost laryngeal, while the same laryngeal protects the syllabic status of the preceding resonant even before an affix beginning with a vowel: the archaic Vedic form *jajanur* cited above is structurally quite the same (*ge-gṇh₁-r̥) as a form like *da-dṛś-ur “they saw” < *de-dṛk-r̥.

Incidentally, redesigning the root as **genh-* has another consequence. Several of the Sanskrit forms cited above come from what look like *o*-grade root vowels in open syllables, but fail to lengthen to *-ā-* per Brugmann's law. All becomes clear when it is understood that in such forms as **gonh-* before a vowel, the **o* is not in fact in an open syllable. And in turn that means that a form like O.Ind. *jajāna* “*was born*”, which apparently *does* show the action of Brugmann's law, is actually a false witness: in the Sanskrit perfect tense, the whole class of *seṭ* roots, en masse, acquired the shape of the *aniṭ* 3 sing. forms.

There are also roots ending in a stop followed by a laryngeal, as **pleth₂-*/**p_lth₂-* “*spread, flatten*”, from which Sanskrit *pr̥thú-* “*broad*” masc. (= Avestan *pərəθu-*), *pr̥thivī-* fem., Greek *platús* (zero grade); Skt. *prathimán-* “*wideness*” (full grade), Greek *platamón* “*flat stone*”. The laryngeal explains (a) the change of **t* to **th* in Proto-Indo-Iranian, (b) the correspondence between Greek *-a-*, Sanskrit *-i-* and no vowel in Avestan (Avestan *pərəθwī* “*broad*” fem. in two syllables vs Sanskrit *pr̥thivī-* in three).

Caution has to be used in interpreting data from Indic in particular. Sanskrit remained in use as a poetic, scientific, and classical language for many centuries, and the multitude of inherited patterns of alternation of obscure motivation (such as the division into *seṭ* and *aniṭ* roots) provided models for coining new forms on the “wrong” patterns. There are many forms like *tr̥ṣita-* “*thirsty*” and *tániman-* “*slenderness*”, that is, *seṭ* formations to to unequivocally *aniṭ* roots; and conversely *aniṭ* forms like *píparti* “*fills*”, *pr̥ta-* “*filled*”, to securely *seṭ* roots (cf. the ‘*real*’ past participle, *pūrṇá-*). Sanskrit preserves the effects of laryngeal phonology with wonderful clarity, but looks upon the historical linguist with a threatening eye: for even in Vedic Sanskrit, the evidence has to be weighed carefully with due concern for the antiquity of the forms and the overall texture of the data.

Stray laryngeals can be found in isolated or seemingly isolated forms; here the three-way Greek reflexes of syllabic **h₁*, **h₂*, **h₃* are particularly helpful, as seen below.

- **h₁* in Greek *ánemos* “*wind*” (cf. Latin *animus* “*breath, spirit; anger*”, Vedic *aniti* “*breathes*”) < **anə-* “*breathe; blow*” (now **h₂enh₁-*). Perhaps also Greek *híeros* “*mighty, super-human; divine; holy*”, cf. Sanskrit *iṣirá-* “*vigorous, energetic*”.
- **h₂* in Greek *patér* “*father*” = Sanskrit *pitár-*, Old English *fæder*, Gothic *fadar*, Latin *pater*. Also **megh₂* “*big*” neut. > Greek *méga*, Sanskrit *máhi*.
- **h₃* in Greek *árottron* “*plow*” = Welsh *aradr*, Old Norse *arðr*, Lithuanian *árklas*.

The Greek forms *ánemos* and *árottron* are particularly valuable because the verb roots in question are extinct in Greek as verbs. This means that there is no possibility of some sort of analogical interference, as for example happened in the case of Latin *arātrum* “*plow*”, whose shape has been distorted by the verb *arāre* “*to plow*” (the exact cognate to the Greek form would have been **aretrum*). It used to be

standard to explain the root vowels of Greek *thetós*, *statós*, *dotós* “put, stood, given” as analogical. Most scholars nowadays probably take them as original, but in the case of “wind” and “plow”, the argument can't even come up.

Regarding Greek *híeros*, the pseudo-participle affix *-ro- is added directly to the verb root, so **ish₁-ro-* > **isero-* > **ihero-* > *híeros* (with regular throwback of the aspiration to the beginning of the word), and Sanskrit *iṣirá-*. There seems to be no question of the existence of a root **ejsh-* “vigorously move/cause to move”. If the thing began with a laryngeal, and most scholars would agree that it did, it would have to be **h₁-*, specifically; and that's a problem. A root of the shape **h₁ejsh₁-* is not possible. Indo-European had no roots of the type **mem-*, **tet-*, **d^hred^h-*, i.e., with two copies of the same consonant. But Greek attests an earlier (and rather more widely-attested) form of the same meaning, *híaros*. If we reconstruct **h₁ejsh₂-*, all of our problems are solved in one stroke. The explanation for the *híeros/híaros* business has long been discussed, without much result; laryngeal theory now provides the opportunity for an explanation which did not exist before, namely metathesis of the two laryngeals. It's still only a guess, but it's a much simpler and more elegant guess than the guesses available before.

The syllabic **h₂* in **ph₂ter-* “father” is not really isolated. The evidence is clear that the kinship affix seen in “mother, father” etc. was actually **-h₂ter-*. The laryngeal syllabified after a consonant (thus Greek *patér*, Latin *pater*, Sanskrit *pitár-*; Greek *thugátēr*, Sanskrit *duhitár-* “daughter”) but lengthened a preceding vowel (thus say Latin *māter* “mother”, *frāter* “brother”) — even when the “vowel” in question was a syllabic resonant, as in Sanskrit *yātaras* “husbands' wives” < **j_ht-* < **j_h-h₂ter-*).

INFLUENCE IN MORPHOLOGY

Like any other consonant, Laryngeals feature in the endings of verbs and nouns and in derivational morphology, the only difference being the greater difficulty of telling what's going on. Indo-Iranian, for example, can retain forms that pretty clearly reflect a laryngeal, but there is no way of knowing which one.

The following is a rundown of laryngeals in Proto-Indo-European morphology.

**h₁* is seen in the instrumental ending (probably originally indifferent to number, like English expressions of the type *by hand* and *on foot*). In Sanskrit, feminine *i-* and *u-* stems have instrumentals in *-ī*, *-ū*, respectively. In the Rigveda, there are a few old *a-* stems (PIE *o-* stems) with an instrumental in *-ā*; but even in that oldest text the usual ending is *-enā*, from the *n-* stems.

Greek has some adverbs in *-ē*, but more important are the Mycenaean forms like *e-re-pa-te* “with ivory” (i.e. *elephantē?* -ě?)

The marker of the neuter dual was **-ih₁*, as in Sanskrit *bharatī* “two carrying ones (neut.)”, *nāmanī* “two names”, *yuge* “two yokes” (< *yuga-i?* **yuga-ī?*). Greek to the rescue: the Homeric form *ósse* “the (two) eyes” is manifestly from **h₃ek^w-ih₁* (formerly **ok^w-ī*) via fully-regular sound laws (intermediately **ok^wje*).

**-eh₁-* derives stative verb senses from eventive roots: PIE **sed-* “sit (down)”: **sed-eh₁-* “be in a sitting position” (> Proto-Italic **sed-ē-je-mos* “we are sitting” > Latin *sedēmus*). It is clearly attested in Celtic, Italic, Germanic (the Class IV weak verbs), and Baltic/Slavic, with some traces in Indo-Iranian (In Avestan the affix seems to form past-habitual stems).

It seems likely, though it is less certain, that this same **-h₁* underlies the nominative-accusative dual in *o*-stems: Sanskrit *vrkā*, Greek *lúkō* “two wolves”. (The alternative ending *-āu* in Sanskrit cuts a small figure in the Rigveda, but eventually becomes the standard form of the *o*-stem dual.)

**-h₁s-* derives desiderative stems as in Sanskrit *jighāṃsati* “desires to slay” < **g^{whi}-g^{wh}ṇ-h₂s-e-ti-* (root **g^{wh}en-*, Sanskrit *han-* “slay”). This is the source of Greek future tense formations and (with the addition of a thematic suffix **-je/o-*) the Indo-Iranian one as well: *bhariṣyati* “will carry” < **bher-h₁s-je-ti*.

-jeh₁-*/-ih₁-* is the optative suffix for root verb inflections, e.g. Latin (old) *siet* “may he be”, *sīmus* “may we be”, Sanskrit *syāt* “may he be”, and so on.

**h₂* is seen as the marker of the neuter plural: **-h₂* in the consonant stems, **-eh₂* in the vowel stems. Much leveling and remodeling is seen in the daughter languages that preserve any ending at all, thus Latin has generalized **-ā* throughout the noun system (later regularly shortened to *-a*), Greek generalized *-ǎ* < **-h₂*.

The categories “masculine/feminine” plainly did not exist in the most original form of Proto-Indo-European, and there are very few noun types which are formally different in the two genders. The formal differences are mostly to be seen in adjectives (and not all of them) and pronouns. Interestingly, both types of derived feminine stems feature **h₂*: a type that is patently derived from the *o*-stem nominals; and an ablauting type showing alternations between **-jeh₂-* and **-ih₂-*. Both are peculiar in having no actual marker for the nominative singular, and at least as far as the **-eh₂-* type, two things seem clear: it is based on the *o*-stems, and the nom.sg. is probably in origin a neuter plural. (An archaic trait of Indo-European morpho-syntax is that plural neuter nouns construe with *singular* verbs, and quite possibly **jugeh₂* was not so much “yokes” in our sense, but “yokage; a harnessing-up”.) Once that much is thought of, however, it is not easy to pin down the details of the “*ā*-stems” in the Indo-European languages outside of Anatolia, and such an analysis sheds no light at all on the **-jeh₂-*/**-ih₂-*

stems, which (like the **eh₂*-stems) form feminine adjective stems and derived nouns (e.g. Sanskrit *devī*- “goddess” from *deva*- “god”) but unlike the “*ā*-stems” have no foundation in any neuter category.

**eh₂*- seems to have formed factitive verbs, as in **new-eh₂*- “to renew, make new again”, as seen in Latin *novāre*, Greek *neáo* and Hittite *ne-wa-aḫ-ḫa-an-t-* (participle) all “renew” but all three with the pregnant sense of “plow anew; return fallow land to cultivation”.

**h₂*- marked the 1st person singular, with a somewhat confusing distribution: in the thematic active (the familiar *-ō* ending of Greek and Latin, and Indo-Iranian *-ā(mi)*), and also in the perfect tense (not really a tense in PIE): **-h₂e* as in Greek *oída* “I know” < **wojd-h₂e*. It is the basis of the Hittite ending *-ḫhi*, as in *da-aḫ-ḫi* “I take” < **-ḫa-i* (original **-ḫa* embellished with the primary tense marker with subsequent smoothing of the diphthong).

**eh₃* may be tentatively identified in a “directive case”. No such case is found in Indo-European noun paradigms, but such a construct accounts for a curious collection of Hittite forms like *ne-pi-ša* “(in)to the sky”, *ták-na-a* “to, into the ground”, *a-ru-na* “to the sea”. These are sometimes explained as *o*-stem datives in *-a* < **-ōj*, an ending clearly attested in Greek and Indo-Iranian, among others, but there are serious problems with such a view, and the forms are highly coherent, functionally. And there are also appropriate adverbs in Greek and Latin (elements lost in productive paradigms sometimes survive in stray forms, like the old instrumental case of the definite article in English expressions like *the more the merrier*): Greek *ánō* “upwards”, *kátō* “downwards”, Latin *quō* “whither?”, *eō* “to that place”; and perhaps even the Indic preposition/preverb *â* “to(ward)” which has no satisfactory competing etymology. (These forms must be distinguished from the similar-looking ones formed to the ablative in **-ōd* and with a distinctive “fromness” sense: Greek *ópō* “whence, from where”.)

APPENDIX III: THE PROTO-INDO-EUROPEANS

III.1. PEOPLE

The **Proto-Indo-Europeans** are the speakers of the reconstructed Proto-Indo-European language, a prehistoric people of the Chalcolithic and early Bronze Age. They are a group of people whose existence from around 4000 BCE is inferred from their language, Proto-Indo-European.

Some things about their culture can be determined with confidence, based on the words reconstructed for their language:

- They used a kinship system based on relationships between men.
- The chief of their pantheon was **djéus patér** (lit. “*sky father*”) and an earth god.
- They composed and recited heroic poetry or song lyrics, that used stock phrases like *undying fame*.
- The climate they lived in had snow.
- They were both pastoral and nomadic, domesticating cattle and horses.
- They had carts, with solid wheels, but not yet chariots, with spoked wheels.
- What is known about the Proto-Indo-Europeans with any certainty is the result of comparative linguistics, partly seconded by archaeology. The following traits are widely agreed-upon, but it should be understood that they are hypothetical by their reconstructed nature.
 - The Proto-Indo-Europeans were a patrilineal society, probably semi-nomadic, relying on animal husbandry (notably cattle and sheep). They had domesticated the horse (**ékwos**). The cow (**cóus**) played a central role, in religion and mythology as well as in daily life. A man's wealth would have been measured by the number of his animals (**péku**, the word for small livestock, acquired a meaning of “*value*” in both English *fee* and in Latin *pecunia*).
 - They practiced a polytheistic religion centered on sacrificial rites, probably administered by a priestly caste. The Kurgan hypothesis suggests burials in barrows or tomb chambers. Important leaders would have been buried with their belongings, and possibly also with members of their household or wives.
 - There is evidence for sacral kingship, suggesting the tribal king at the same time assumed the role of high priest. Many Indo-European societies know a threefold division of a clerical class, a warrior class and a class of peasants or husbandmen. Such a division was suggested for the Proto-Indo-European society by Georges Dumézil.
 - If there had been a separate class of warriors, then it would probably have consisted of single young men. They would have followed a separate warrior code unacceptable in the society outside their peer-

group. Traces of initiation rites in several Indo-European societies suggest that this group identified itself with wolves or dogs (cf. Berserker, werewolf).

- Technologically, reconstruction suggests a culture of the early Bronze Age: Bronze was used to make tools and weapons. Silver and gold were known. Sheep were kept for wool, and weaving was practiced for textile production. The wheel was known, certainly for ox-drawn carts, and late Proto-Indo European warfare may also have made use of horse-drawn chariots.

- The native name of this people cannot be reconstructed with certainty. *Aryō-*, sometimes upheld as a self-identification of the Indo-Europeans, is attested as an ethnic designation only in the Indo-Iranian subfamily, while **téuta**, “*people*”, seems to have been lost in some dialects.

- The scholars of the 19th century that originally tackled the question of the original homeland of the Indo-Europeans (also called *Urheimat* after the German term), were essentially confined to linguistic evidence. A rough localization was attempted by reconstructing the names of plants and animals (importantly the beech and the salmon) as well as the culture and technology (a Bronze Age culture centered on animal husbandry and having domesticated the horse). The scholarly opinions became basically divided between a European hypothesis, positing migration from Europe to Asia, and an Asian hypothesis, holding that the migration took place in the opposite direction.

NOTE. However, from its early days, the controversy was tainted by romantic, nationalistic notions of heroic invaders at best and by imperialist and racist agendas at worst. It was often naturally assumed that the spread of the language was due to the invasions by some superior Aryan race. Such hypotheses suffered a particularly severe distortion for purposes of political propaganda by the Nazis. The question is still the source of much contention. Typically, nationalistic schools of thought either claim their respective territories for the original homeland, or maintain that their own culture and language have always been present in their area, dismissing the concept of Proto-Indo-Europeans altogether.

III.1.1. ARCHAEOLOGY

There have been many attempts to claim that particular prehistorical cultures can be identified with the PIE-speaking peoples, but all have been speculative. All attempts to identify an actual people with an unattested language depend on a sound reconstruction of that language that allows identification of cultural concepts and environmental factors which may be associated with particular cultures (such as the use of metals, agriculture vs. pastoralism, geographically distinctive plants and animals, etc).

In the twentieth century Marija Gimbutas created a modern variation on the traditional invasion theory, the Kurgan hypothesis, after the Kurgans (burial mounds) of the Eurasian steppes, in which the Indo-Europeans were a nomadic tribe in Eastern Ukraine and southern Russia and expanded on horseback in several waves during the 3rd millennium BC. Their expansion coincided with the taming of the horse. Leaving archaeological signs of their presence, they subjugated the peaceful European

Neolithic farmers of Gimbutas's Old Europe. As Gimbutas's beliefs evolved, she put increasing emphasis on the patriarchal, patrilinear nature of the invading culture, sharply contrasting it with the supposedly egalitarian, if not matrilinear culture of the invaded, to a point of formulating essentially feminist archaeology.

Her theory has found genetic support in remains from the Neolithic culture of Scandinavia, where bone remains in Neolithic graves indicated that the megalith culture was either matrilinear or matrilineal as the people buried in the same grave were related through the women. Likewise there is evidence of remaining matrilinear traditions among the Picts. A modified form of this theory by JP Mallory, dating the migrations earlier to around 4000 BC and putting less insistence on their violent or quasi-military nature, is still widely held.

Colin Renfrew is the leading propagator the “Anatolian hypothesis”, according to which the Indo-European languages spread peacefully into Europe from Asia Minor from around 7000 BC with the advance of farming (*wave of advance*). That theory is contradicted by the fact that ancient Anatolia is known to be inhabited by non-Indo-European people, namely the Hattians, Khalib/Karub, and Khaldi/Kardi. However, that does not preclude the possibility that those people in some way contributed to the proto-Indo-Europeans, especially since they were in close proximity to the early Kurgan cultures.

Yet another theory is connected with the Black Sea deluge theory, suggesting that PIE originated as the language of trade between early Neolithic Black Sea tribes. Under this hypothesis University of Pennsylvania archaeologist Fredrik T. Hiebert hypothesizes that the transition from PIE to IE dispersion occurred during an inundation of the Black Sea in the mid 6th millennium BC.

III.1.2. GENETICS

The rise of Archaeogenetic evidence which uses genetic analysis to trace migration patterns also added new elements to the puzzle. Luigi Luca Cavalli-Sforza, one of the first in this field, in the 1990s used genetic evidence to combine, in some ways, Gimbutas's and Colin Renfrew's theories together. Here Renfrew's agricultural settlers, moving north and west, partially split off eventually to become Gimbutas's Kurgan culture which moves into Europe.

In any case, developments in genetics take away much of the edge of the sometimes heated controversies about invasions. They indicate a strong genetic continuity in Europe; specifically, studies by Bryan Sykes show that about 80% of the genetic stock of Europeans goes back to the Paleolithic, suggesting that languages tend to spread geographically by cultural contact rather than by invasion and extermination, i.e. much more peacefully than was described in some invasion scenarios, and thus the genetic record does not rule out the historically much more common type of invasions where a new

group assimilates the earlier inhabitants. This very common scenario of successive small scale invasions where a ruling nation imposed its language and culture on a larger indigenous population was what Gimbutas had in mind:

The Process of Indo-Europeanization was a cultural, not a physical transformation. It must be understood as a military victory in terms of imposing a new administrative system, language and religion upon the indigenous groups.

On the other hand, such results also gave rise to a new incarnation of the “European hypothesis” suggesting the Indo-European languages to have existed in Europe since the Paleolithic (the so-called Paleolithic Continuity Theory).

A component of about 28% may be attributed to the Neolithic revolution, deriving from Anatolia about 10,000 BCE. A third component of about 11% derives from Pontic steppe. While these findings confirm that there were population movements both related to the beginning Neolithic and the beginning Bronze Age, corresponding to Renfrew's and Gimbutas's Indo-Europeans, respectively, the genetic record obviously cannot yield any information as to the language spoken by these groups.

The spread of Y-chromosome DNA haplogroup R1a1 is associated with the spread of the Indo-European languages. Its defining mutation (M17) occurred about 10,000 years ago, before the PIE stage, so that its presence cannot be taken as a certain sign of Indo-European admixture.

III.1.3. GLOTTOCHRONOLOGY

Even more recently, a study of the presence/absence of different words across Indo-European using stochastic models of word evolution (Gray and Atkinson, 2003) suggests that the origin of Indo-European goes back about 8500 years, the first split being that of Hittite from the rest (the so-called *Indo-Hittite* hypothesis). Gray and Atkinson go to great lengths to avoid the problems associated with traditional approaches to glottochronology. However, it must be noted that the calculations of Gray and Atkinson rely entirely on Swadesh lists, and while the results are quite robust for well attested branches, their calculation of the age of Hittite, which is crucial for the Anatolian claim, rests on a 200 word Swadesh list of one single language and are regarded as contentious. Interestingly, a more recent paper (Atkinson et al, 2005) of 24 mostly ancient languages, including three Anatolian languages, produced the same time estimates and early Anatolian split.

A scenario that could reconcile Renfrew's beliefs with the Kurgan hypothesis suggests that Indo-European migrations are somehow related to the submersion of the northeastern part of the Black Sea around 5600 BC: while a splinter group who became the proto-Hittite speakers moved into northeastern Anatolia around 7000 BC, the remaining population would have gone northward, evolving

into the Kurgan culture, while others may have escaped far to the northeast (Tocharians) and the southeast (Indo-Iranians). While the time-frame of this scenario is consistent with Renfrew, it is incompatible with his core assumption that Indo-European spread with the advance of agriculture.

III.1.4. GEOGRAPHY

The Proto-Indo-European homeland north-east of the Black Sea has a distinctive climate, which largely results from the area being inland. The region has low precipitation, but not low enough to be a desert. It gets about 38 cms (15 inches) of rain per year. The region has a high temperature difference between summer and winter of about 33°C (60°F).

III.2. SOCIETY

The society of the Proto-Indo-Europeans has been reconstructed through analyses of modern Indo-European societies as well as archaeological evidence. PIE society was most likely patrilineal, and probably semi-nomadic, relying on animal husbandry.

The native name with which these people referred to themselves as a linguistic community, or as an ethnic unity of related tribes cannot be reconstructed with certainty.

There is evidence for sacral kingship, suggesting the tribal chief at the same time assumed the role of high priest. Many Indo-European societies still show signs of an earlier threefold division of a clerical class, a warrior class and a class of farmers or husbandmen. Such a division was suggested for the Proto-Indo-European society by Georges Dumézil.

If there was a separate class of warriors, it probably consisted of single young men. They would have followed a separate warrior code unacceptable in the society outside their peer-group. Traces of initiation rites in several Indo-European societies suggest that this group identified itself with wolves or dogs.

The people were organized in settlements (IE **wéiks**, English *-wick* “village”), probably each with its chief (IE **rēgs**). These settlements or villages were further divided in households (IE **dómos**), each headed by a patriarch, IE **dems-póts**, “house-master”, cf. Gk. *despotes*, Skr. *dampati*, also found as IE **weiks-póts**, “clan-master”, *landlord*, both compounds similar to IE **ghos-póts**, “guest-master”, *host*, in turn similar to the term “*aryan*”, IE **alienós**, originally “stranger”, hence “guest”, later used (with a semantic evolution) for “*host, master*”, by Indo-Iranians to refer to themselves.

III.2.1. TECHNOLOGY

Technologically, reconstruction suggests a culture of the Bronze Age: Words for Bronze can be reconstructed (**ájos**) from Germanic, Italic and Indo-Iranian, while no word for Iron can be dated to the proto-language. Gold and Silver were known.

An **nsis** was a bladed weapon, originally a dagger of Bronze or in earliest times of bone. An **íkmos** was a spear or similar pointed weapon. Words for axe are **ácsī** (Germanic, Greek, Italic) and **pélekus** (Greek, Indo-Iranian); these could have been either of stone or of bronze.

The wheel, **qéqlos** or **rótā**, was known, certainly for ox-drawn carts. Horse-drawn chariots developed after the breakup of the proto-language, originating with the Proto-Indo-Iranians around 2000 BC.

Judging by the vocabulary, techniques of weaving, plaiting, tying knots etc. were important and well-developed and used for textile production as well as for baskets, fences, walls etc. Weaving and binding also had a strong magical connotation, and magic is often expressed by such metaphors. The bodies of the deceased seem to have been literally tied to their graves to prevent their return.

III.2.2. SUBSISTENCE

Proto-Indo-European society depended on animal husbandry. Cattle (**cóus, stáuros**) were the most important animals to them, and a man's wealth would be measured by the number of cows he owned. Sheep (**ówis**) and goats (**gháidos**) were also kept, presumably by the less wealthy. Agriculture and catching fish (**pískos**) were also practiced.

The domestication of the horse may have been an innovation of this people and is sometimes invoked as a factor contributing to their rapid expansion.

III.2.3. RITUAL AND SACRIFICE

They practiced a polytheistic religion centered on sacrificial rites, probably administered by a class of priests or shamans.

Animals were slaughtered (**chntós**) and dedicated to the gods (**djéus**) in the hope of winning their favour. The king as the high priest would have been the central figure in establishing favourable relations with the other world.

The Kurgan hypothesis suggests burials in barrows or tomb chambers. Important leaders would have been buried with their belongings, and possibly also with members of their household or wives (human sacrifice, *sati*).

III.2.4. NAMES

The use of two-word compound words for personal names, typically but not always ascribing some noble or heroic feat to their bearer, is so common in Indo-European languages that it seems certainly inherited. These names are often of the class of compound words that in Sanskrit are called *bahuvrihis*, already explained.

They are found in in Ger. *Alf-red*, “elf-counsel”, O.H.G. *Hlude-rīch*, “rich in glory”, O.Eng. *God-gifu*, “gift of God” (Eng. *Godiva*), Gaul. *Orgeto-rix*, “king who harms”, Gaul. *Dumno-rix*, “king of the world”, Gaul. *Epo-pennus*, “horse’s head”, O.Ir. *Cin-néide* (Eng. *Kennedy*) “ugly head”, O.Ind. *Asva-ghosa*, “tamer of horses”, O.Ind. *Asvá-medhas*, “who has done the horse sacrifice”, O.Pers. *Xša-yāršā* (Gk. *Xérxēs*) “ruler of heroes”, O.Pers. *Arta-xšacā*, “whose reign is through truth/law”, Gk. *Sō-krátēs*, “good ruler”, Gk. *Mene-ptólemos*, “who faces war”, Gk. *Hipp-archus*, “horse master”, Gk. *Cleo-patra*, “from famous lineage”, Gk. *Arkhé-laos*, “who governs the people”, O.Sla. *Bogu-milŭ*, “loved by god”, Sla. *Vladi-mir*, “peaceful ruler”, from *volodi-mirom*, “possess the world”.

Patronymics such as Germanic *Gustafson*, “son of Gustav”, Romance *Gonzales*, “(son) of Gonzalo”, Gaelic *McCool*, Slavic *Mazurkiewicz*, etc. are also frequently encountered in Indo-European languages.

III.2.5. POETRY

Only small fragments of Proto-Indo-European poetry may be recovered. What survives of their poetry are stock phrases of two or three words, like *undying fame* and *immortal gods*, that are found in diverse ancient sources. These seem to have been standard building blocks for song lyrics.

Inferring chiefly from the Vedas, there would have been sacrificial hymns, creation myths, such as the common myths of a world tree, and hero tales, like the slaying of a serpent or a dragon (**q̑rmis**) by a heroic man or god.

Probably of the greatest importance to the Indo-Europeans themselves were songs extolling great deeds by heroic warriors. In addition to perpetuating their glory (**kléwos**), such songs would also temper the warriors' behavior, since each needed to consider whether his *undying fame* would be honorable or shameful.

III.2.6. PHILOSOPHY

Some words connected with PIE world-view:

- **ghosti-**, concerned mutual obligations between people and between worshipers and gods, and from which *guest* and *host* are derived. Cf. also **alieno-**, *foreigner* and *host*, in Ind.-Ira. ‘arya-’.
- **r̥-tu-**, **r̥-to-**, “*fitting, right, ordered*”, also “*right time, ritually correct*”, related to the order of the world (Avestan *asha*, Vedic *rta-*, *rtu-*), cf. **reg-tó-**, as in Germanic *right*, Lat. (*de-*)*rectus*.
- **ap-**, **aq̥a-** and **wodr-**, **pawr-** and **egni-**, reveal a differentiated concept of water as an inanimated substance and as an animated being.

III.3. RELIGION

The existence of similarities among the deities and religious practices of the Indo-European peoples allows glimpses of a common Proto-Indo-European religion and mythology. This hypothetical religion would have been the ancestor of the majority of the religions of pre-Christian Europe, of the Dharmic religions in India, and of Zoroastrianism in Iran.

Indications of the existence of this ancestral religion can be detected in commonalities between languages and religious customs of Indo-European peoples. To presuppose this ancestral religion did exist, though, any details must remain conjectural. While similar religious customs among Indo-European peoples can provide evidence for a shared religious heritage, a shared custom does not necessarily indicate a common source for such a custom; some of these practices may well have evolved in a process of parallel evolution. Archaeological evidence, where any can be found, is difficult to match to a specific culture. The best evidence is therefore the existence of cognate words and names in the Indo-European languages.



Figure 54. Ancient anthropomorphic Ukrainian stone stela (Kernosovka stela), possibly depicting a Late PIE god, most likely Djeus

III.3.1. PRIESTS

The main functionaries of the hypothetical Proto-Indo-European religion would have been maintained by a class of priests or shamans. There is evidence for sacral kingship, suggesting the tribal king at the same time assumed the role of high priest. This function would have survived as late as 11th century Scandinavia, when kings could still be dethroned for refusing to serve as priests. Many Indo-European societies know a threefold division of a clerical class, a warrior class and a class of peasants or husbandmen. Such a division was suggested for the Proto-Indo-European society by Georges Dumézil.

Divination was performed by priests, e.g. from parts of slaughtered animals (for animal sacrifice, cf. Lat. *haruspex*). Birds also played a role in divination, as Lat. *augur*, language of the birds.

Examples of the descendants of this class in historical Indo-European societies would be the Celtic Druids, the Indian Brahmins, the Latin Flamines and the Persian Magi. Historical Indo-European religions also had priestesses, either hierodoules (temple prostitutes), dedicated virgins, or oracles, e.g. the Roman Vestal Virgins, the Greek Sibyls or the Germanic Völvas.

III.3.2. PANTHEON

Linguists are able to reconstruct the names of some deities in Proto-Indo-European language (PIE) from names occurring in widely spread, old mythologies. Some of the proposed deities are more readily accepted among scholars than others.

The Proto-Indo-Europeans may have distinguished between different races of gods, like the Aesir, and Vanir of Norse mythology and the Titans and Olympians of Greek mythology. Possibly, these were the **Djeus**, literally “*celestial, those of the sky/daylight*” (cf. *Deus, Zeus, Deva, Tiv*) and the **Ansu-**, literally “*spirits, those with vital force*” (cf. *Aesir, Asura, Ahura*).

WIDELY ACCEPTED DEITIES

- **Djéus Patér** is believed to have been the original name of God of the Daylight Sky and the chief god of the Indo-European pantheon. He survives in Greek *Zeus* (genitive case *Diòs*), Latin *Jupiter*, Sanskrit *Dyaus/Dyaus Pita*, Baltic *Dievas*, Germanic *Tiwaz* (ON *Tyr*, OHG *Ziu*), Armenian *Astwatz*, and the Gaulish *Dispater* (c.f. also *deus pater* in the Vulgate, e. g. Jude 1:1).

- **Pltawí Mātér (Dhghōm)** is believed to have been the name of an Earth Mother goddess, Skr. *Prthivi*. Another name of the Indo-European Mother-Earth would be **Dhghōm Mātér**, as in Albanian *Dhe Motë*, Avestan *Zamyat*, Slavic *Mati Zemlja*, Lithuanian *Žemyna*, Latvian *Zemes Mate*, maybe Greek *Dēmēter*.

- A Thunder God, possibly associated with the oak, and in some traditions syncretized with **Djéus**. A name **Pérquonos** root *per-q-* or *per-g-* is suggested by Balto-Slavic **Perkúnos*, Norse *Fjörgyn*, Albanian *Perëndi* and Vedic *Parjanya*. An onomatopoeic root **tar** is continued in Gaulish *Taranis* and Hittite *Tarhunt*. A word for “thunder” itself was *(s)tene-*, continued in Germanic **Þunraz* (thunder personified), and became Thor.

- **Áusōs** is believed to have been the goddess of dawn, continued in Greek mythology as *Eos*, in Rome as *Auror-a*, in Vedic as *Ushas*, in Lithuanian mythology as *Aušra* or *Auštaras*, in Armenian as *Astghik* and possibly also in Germanic mythology as *Eastre*.

SPECULATIVE PROPOSALS

Additional gods may include:

- Greek Poseidon was originally a chthonic god, either a god of the earth or the underworld, from *poti daon* “lord of Da”, cf. *Demeter* from *Da mater* “Mother Da”. Another etymology may be proposed, **don** referring to “the waters”, as the Vedic goddess of the rivers, *Danu*, who shares a name with the Celtic mother god. Poseidon being “the master of the waters”, more conform to the functions of a god of the sea (and possibly also the supposed celestial ocean or watery abyss).

- **Wélnos**, maybe a god of the night sky, or of the underworld, continued in Sanskrit *Varuna*, Greek *Uranos* (which is also a word for *sky*), Slavic *Veles*, Armenian *Aray* and Lithuanian *Velnias*.

- Divine twins, brothers of the Sun Maiden or Dawn goddess, sons of the Sky god.

- There may have been a sea-god, in Persian and Vedic known as *Apam Napat*, in Celtic as *Nechtan*, in Etruscan as *Nethuns*, in Germanic as *Njord* and in Latin as *Neptune*, possibly called **Néptonos** (originally from *neq-t-?*). This god may be related to the Germanic water spirit, the *Nix*.

- The Sun, **Sáwel**, and the Moon **Ménōts/Men-** deities, possibly twin children of the supreme sky-god **Djéus**, continued in Hindu religion as *Surya* and *Mas*, in Iranian religion as *Hvar* and *Mah*, in Greek as *Helios* and *Selene* (these were later pushed out by imported Anatolian deities *Apollo* and *Artemis*), in Latin mythology as *Sol* and *Luna*, in German mythology as *Sol* and *Mani*, in Baltic mythology as **Saulē* and **Mēnō*. The usual scheme is that one of these celestial deities is male and the other female, though the exact gender of the Sun or Moon tend to vary among subsequent Indo-European mythologies.

FANTALOV'S REDUCTION

According to the Russian scholar Alex Fantalov, there are only five main archetypes for all gods and goddesses of all Indo-European mythologies. He also proposes that these five archetypes were possibly the original deities of the pre-PIE pantheon. These, according to Fantalov, are:

- God of the Sky
- God of Thunder
- God of the Earth/Underworld
- Cultural hero
- Great goddess

The sky and thunder gods were heavenly deities, representing the ruling class of society, and in subsequent cultures they were often merged into a single supreme god. On the other hand, the Earth god and the Cultural Hero were earthly gods, tied to nature, agriculture and crafts, and in subsequent cultures they were often split into more deities as societies grew more complex. And while it seems there existed some enmity between the Thunderer and the God of the Earth (which may be echoed in myths about battle of various thunder gods and a serpentine enemy, v.i.), the Cultural Hero seems to be a sort of demigod son of either the sky god or the thunder god, and was considered to be the ancestor of the human race, and the psychopomp. Together with the character of Great goddess, who was a wife of the ruling sky god, the cultural hero thus balanced between the heavenly god of the sky/thunder and the more chthonic god of the earth/underworld.

III.3.3. MYTHOLOGY

There seems to have been a belief in a world tree, which in Germanic mythology was an ash tree (Norse Yggdrasil; Irminsul), in Hinduism a banyan tree, in Lithuanian mythology Jievaras, and an oak tree in Slavic mythology, and a hazel tree in Celtic mythology. In classical Greek mythology, the closest analogue of this concept is Mount Olympus; however, there is also a later folk tradition about the World Tree, which is being sawed by the Kallikantzaroi (Greek goblins), perhaps borrowed from other peoples.

One common myth which can be found among almost all Indo-European mythologies is a battle ending with the slaying of a serpent, usually a dragon of some sort: examples include Thor vs. Jörmungandr, Sigurd vs. Fafnir in Scandinavian mythology; Zeus vs. Typhon, Kronos vs. Ophion, Apollo vs. Python, Heracles vs. the Hydra and Ladon, Perseus vs. Ceto in Greek mythology; Indra vs. Vritra in the Vedas; Perun vs. Veles, Dobrynya Nikitich vs. Zmey in Slavic mythology; Teshub vs. Illuyanka of Hittite mythology; Өraētaona, and later Kərəsāspa, vs. Aži Dahāka in Zoroastrianism and Persian mythology.

There are also analogous stories in other neighbouring mythologies:

- Anu or Marduk vs. Tiamat in Mesopotamian mythology;
- Baal or El vs. Lotan or Yam-Nahar in Levantine mythology;
- Yahweh or Gabriel vs. Leviathan or Rahab or Tannin in Jewish mythology;
- Michael the Archangel and, Christ vs. Satan (in the form of a seven-headed dragon),
- Virgin Mary crushing a serpent in Roman Catholic iconography,
- Saint George vs. the dragon in Christian mythology.

The myth symbolized a clash between forces of order and chaos (represented by the serpent), and the god or hero would always win. It is therefore most probable that there existed some kind of dragon or serpent, possibly multi-headed (cf. *Šeša*, the *hydra* and *Typhon*) and likely linked with the god of underworld and/or waters, as serpentine aspects can be found in many chthonic and/or aquatic Indo-European deities, such as for example the many Greek aquatic deities, most notably *Poseidon*, *Oceanus*, *Triton*, *Typhon* (who carries many chthonic attributes while not specifically linked with the sea), *Ophion*, and also the Slavic *Veles*. Possibly called **q̄rmis**, or some name cognate with **Welnos** or the root **wel-** (cf. Skr. *Varuna*, who is associated with the serpentine naga, *Vala* and *Vṛtra*, Sla. *Veles*, Bal. *velnias*), or “serpent” (Hittite *Illuyanka*, Skr. *Ahis*, Ira. *azhi*, Gk. *ophis* and *Ophion*, and Lat. *anguis*), or the root **dheubh-** (Greek *Typhon* and *Python*).

Related to the dragon-slaying myth is the “*Sun in the rock*” myth, of a heroic warrior deity splitting a rock where the Sun or Dawn was imprisoned. Such a myth is preserved in Rigvedic *Vala*, where *Ushas* and the cows, stolen by the *Panis* were imprisoned, connected with other myths of abductions into the netherworld such as the mysteries of *Eleusis* connected with *Persephone*, *Dionysus* and *Triptolemus*.

There may have been a sort of nature spirit or god akin to the Greek god *Pan* and the *Satyrs*, the Roman god *Faunus* and the *Fauns*, the Celtic god *Cernunnos* and the *Dusii*, Slavic *Veles* and the *Leszi*, Vedic *Pashupati*, *Prajapati* and *Pushan*, the Germanic *Woodwose*, *elves* and *dwarves*.

There may also have been a female cognate akin to the Greco-Roman *nymphs*, Slavic *vilas*, the *Huldra* of Germanic folklore, the Hindu *Apsaras*, the Persian *Peri*. A possibly similar type of spirit may be found in Jewish mythology, *Azazel* and the *Se'irim*, as well as in Arabic mythology, the *Jinn*.

There may have been a savage dog or wolf guarding the underworld, as Greek *Kerberos*, Norse *Garm*.

It is also likely that they had three fate goddesses, see the *Norns* in Norse mythology, *Moirae* in Greek mythology, *Sudjenice* of Slavic folklore and *Deivės Valdytojos* in Lithuanian mythology.

The first ancestor of men was called **Mánus**, cf. Germanic *Mannus*, Hindu *Manu*.

The Sun was represented as riding in a chariot.

APPENDIX IV. PIE REVIVAL FOR A COMMON EUROPE

Carlos Quiles, Chair, Last year student of Law and Economics, University Carlos III of Madrid.

María Teresa Batalla, Vice-Chair, Doctorate Student, Library Science and Documentation.

Neil Vermeulen, International Director, DPhil in English, expert in modern linguistics, English professor.

Fatima Calvin, Executive Secretary, English Philologist, specialized in Old English and mediaeval languages, English professor.

Supporters:

❖ Theoretical Foundations:

Department of Classical Antiquity, University of Extremadura.

Antonio Muñoz, Vice-Dean of Administrative Affairs and Prof.Dr. in UEx, Faculty of Library Science, expert in Administration and e-Administration.

University of Extremadura, supporter of the project under the first competition of Entrepreneurial Innovation in the Imagination Society, 2006.

❖ Economic Foundations:

Luis Fernando de la Macorra, Prof.Dr. in Economics, University of Extremadura, expert in interregional economy, specialized in the concept of Eurocity Badajoz(Es)-Elvas(Pt).

Regional Government of Extremadura, supporter of the project under the first competition of Entrepreneurial Innovation in the Imagination Society, 2006.

❖ Practical Implementation:

Cabinet of Young Initiative, supporter of the project under the first competition of Entrepreneurial Innovation in the Imagination Society, 2006.

Academia Biblos, S.L.U., which supports our private research with continued donations.

IV.1. MODERN INDO-EUROPEAN OR THE REVIVED PIE LANGUAGE

The idea arose in Easter 2004. I was studying at the Public Library of Badajoz with Mayte and some friends, and I kept reading some books about the Pre-Roman peoples of the Iberian Peninsula. The Lusitanians draw my attention, not only because they lived in our southwestern Iberian lands some millennia before us, but also because their old inscriptions were easily understood for somebody with little knowledge of Latin, and still it was classified as a “*Celtic-like Indo-European dialect*” by the author. I took some more books about Proto-Indo-European history, culture and language, and made my first notes about how could it be to inflect nouns and conjugate verbs in such an old language... and it didn't sound that strange.



Figure 55. European Union depicted as a single country.

Three years later, after months of (irregular) study and work, the enterprise I eventually decided to undertake is finished, the basis for a complete grammatical system is more or less done, and the websites are working. It doesn't matter whether Indo-European revival succeeds or not, my personal objective is achieved; at least the farthest I've been able to carry it.

However, I can't stop thinking about how to make good use of this work, how to benefit those who worked, work and will work on this project, as well as the European Union, turning this personal project into different not-for-profit businesses (*job-maker* corporations, so to speak), e.g. in the Badajoz-Elvas Eurocity, mainly for specialized workers, philologists, translators and interpreters, computer engineers, etc. I can only imagine two possible situations of success for the Indo-European language revival: either some regional, national or European public or private institutions support the project, and it is implemented and institutionalized in order; or, as it was originally planned, this turns to be an Open Source social movement, and consequently everyone tries to make a better project, with many different independent groups – institutions or individuals with limited resources –, which somehow manage to lead a disorderly revival.

I think that, if it eventually succeeds, and if Europe manages to profit from these first confusing moments to keep all possible niches of this future market of Modern Indo-European, the output could be a radical change in the situation of the European economy in relation with the United States and other English-speaking countries, and especially a change in the perception that Europeans have of their Community and its peoples.

If we had to compare this project with traditional investments, we should say that, while the investment of public institutions in agrarian and industrial projects – or the investing of time and efforts of an individual in public competitions to become a civil servant – is like a guaranteed fixed deposit; to bet on this project – as an individual or an institution – is like investing in tiny and risky securities of a local Asian Stock Exchange. In the first case, the benefit is certain and well-known, whilst the second is a lottery, in which the amount invested can be completely lost or doubled with – apparently – the same probability.

The only reason why people would invest in such a lottery is because it is not only a matter of chance. We at Dnghu have believed in it, and still believe, investing a lot of time and money. I hope you believe in it too.

Carlos Quiles

Co-founder of Dnghu

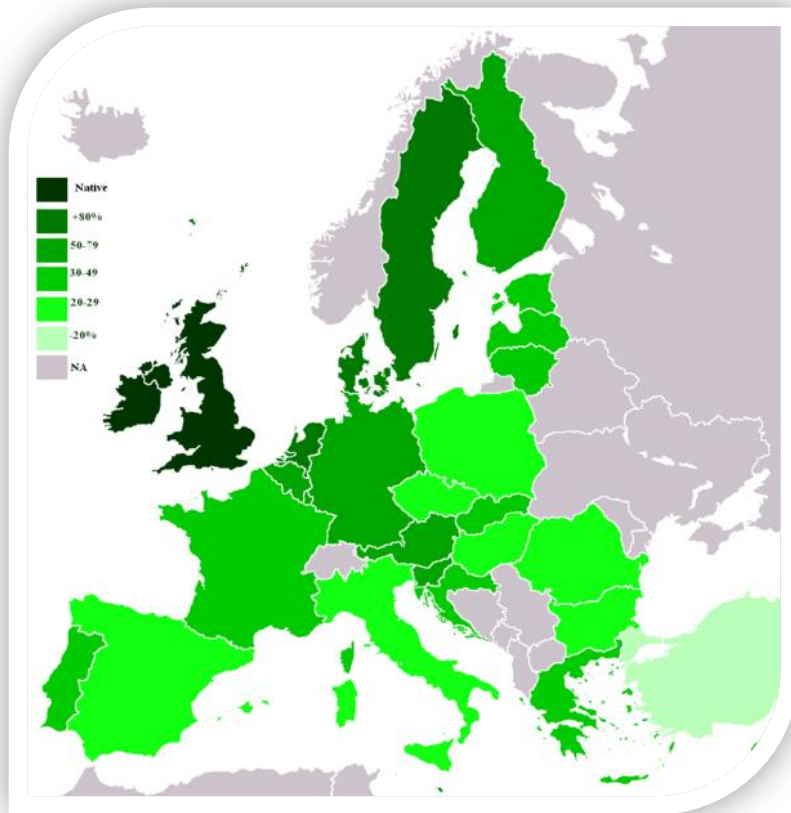


Figure 56. Real knowledge of English within the European Union. Differently as what happens in Israel or the United States, the “common” language studied in almost every school and high school within the EU, English, is not learned as well as the own language. Whatever the sociological, cultural, anthropological, political and/or psychological reasons behind such behaviour, it is clear that Latin or artificial languages as Esperanto couldn’t solve this situation, either. Modern Indo-European, on the other hand, is a new possibility which could change completely our concept of a united Europe.

IV.2. EUROPEAN UNION INEFFICIENCIES

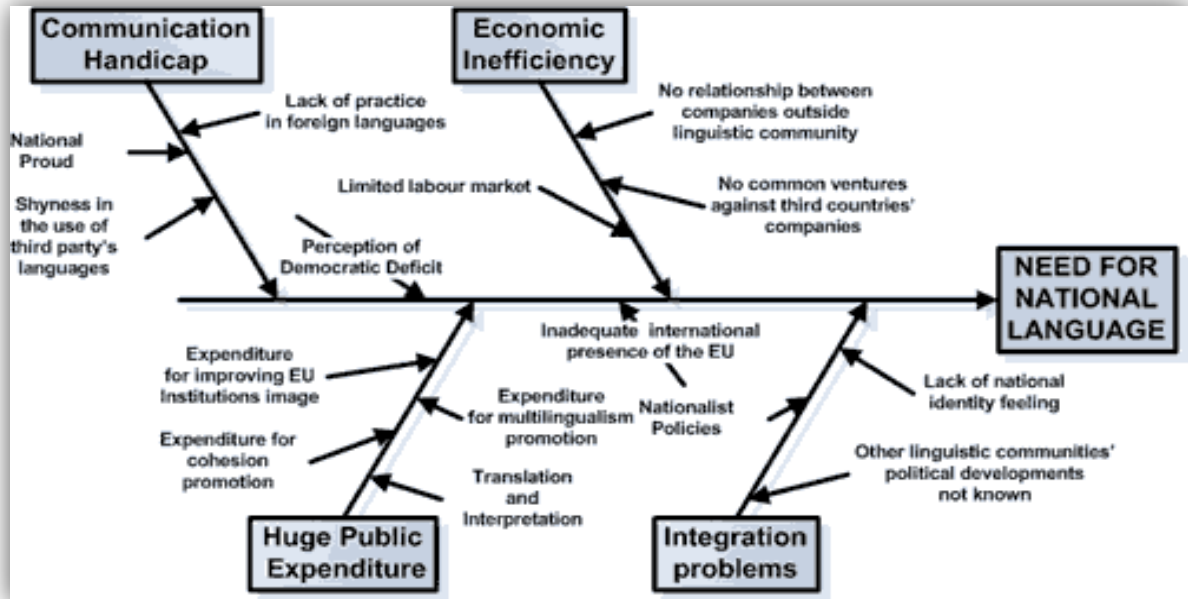


Figure 57. Simplified Cause and Effect Diagram of Present-Day European Union Problems'

Some of the problems derived from the lack of one national language for the EU can be seen in this cause and effect diagram. This inefficient situation, already pointed out long ago, hadn't until recently any stable solution.

The revival of the Proto-Indo-European language makes it possible, with adequate linguistic policy and planning, to put an end to many of these problems and to open a new horizon for integration and collaboration between the citizens and regions of the European Union.

Since the very beginnings of the EEC, the three main languages (*working languages*), English, French and German, were used for every communication, while English was unofficially the *lingua franca* used by all in direct conversations and other immediate communication needs.

This model, the most logical and simple in the initial small European Community after WWII, has become obsolete, with the increase in the number of official languages and, at the same time, the growth of political demands for more presence in European institutions among defenders of national and regional or co-official languages.

It seems today that every hope of achieving a USA-like system – where English is the only official language for the Federation – is discarded: while in US history English has won in every Federal State

– although there is also co-officiality in some of them, like Spanish in New Mexico or French in Louisiana –, in Europe the Union does not lay its foundations on some English-speaking colonies of immigrants. On the contrary, the only reason why English is spoken as the European Union *lingua franca* is the predominant position of the United States within the international community since the foundation of the ECSC until today.

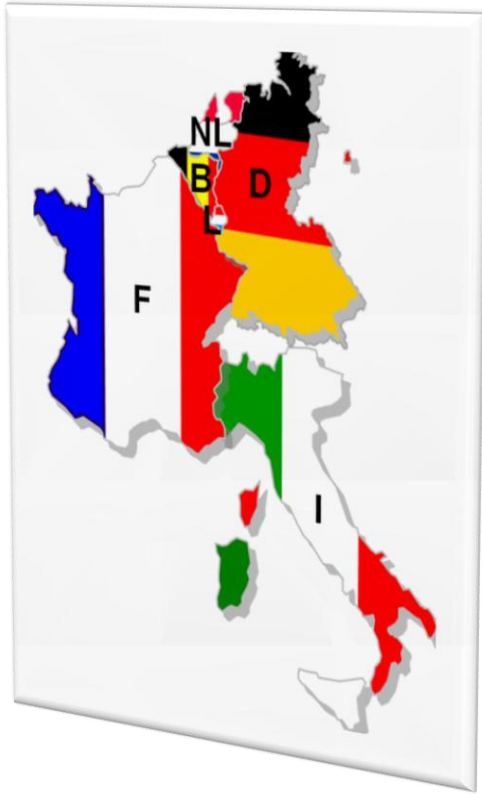


Figure 58. In the beginnings of the EEC, English as a *lingua franca* was the best linguistic policy.

The choice of English as the only official language for a future EU Federation is discarded; countries like France or Germany – and possibly Spain, Italy or Poland –, among others, would not accept it, as it would mean to abandon legitimate linguistic rights in favour of other States, without a sufficient justification in terms of population, political or economical relevance. The existence of a Nation with at least 25 official languages where none is over the others is a beautiful idea, and also an obvious utopia. At present, 23 languages – and four at least to come – are official, some semi-official (like Basque or Catalan), 3 of them *working languages* - i.e., *officially more important than the rest*-, and one, English, serves (unofficially) for general communication. This does not seem the best of the possible solutions: it lacks the European spirit necessary for correct integration between the different nations in a common country, and is clearly inefficient.

To date, only some isolated proposals had claimed to be intermediate solutions, as the adoption of Latin, or the use of supposedly ‘neutral’ invented languages (as Esperanto, Ido, Interlingua, etc.). In both cases, the main supposed advantage consists in not being any of the present European Union languages and, because of that, not having theoretical cultural barriers for its acceptance. Latin has been Europe’s *lingua franca* for centuries – before being substituted by French in the 18th century –, while Volapük and its following clones and remakes (as Esperanto and the like) were invented by individuals with an international vocation, aimed at (above all) being easy to learn. However, as both solutions are not living languages, and because they are obviously unable to become EU’s national language, the Europeans’ answer has been at best of indifference to such proposals, thus accepting the deficient linguistic *statu quo*.

MODERN HEBREW AND THE LAND OF ISRAEL

The language of Israel is Modern Hebrew: it is not their only language, as many old Israelis still speak better their old languages – like Judeo-Spanish or Yiddish (Judeo-German) – than modern Hebrew, and it is certainly not a very practical language from an international point of view. However, the Land of Israel needed a language, and even though they also had the possibility of choosing between different alternatives, as international languages (like French, English or Turkish), death languages (like Latin or its *equivalent*ⁱ to Hebrews, Aramaic), or even artificial language systems (as Volapük or Esperanto), they chose the historical language of Israel, Hebrew, a language dead 2.500 years before – after the conquest of Jerusalem by the Babilonians under Nebuchadnezzar II –, and whose texts, mainly orally transmitted and very formal religious writings, are deemed 500 years older. Hebrew could only be reconstructed with limited exactitude, and at first opposition to the language was generalized, mainly because of religious concerns; but, in practice, it was a language that united tradition as many Jews learned (and still in European countries still have subjects in High School) in old Hebrew, just as many Latin and Greek as obligatory



Figure 59. 11th century Targum. Mediaeval remains are the oldest writings of Old Hebrew.

Europe faces today a similar decision. We don't have to defend more European integration; the current customs union is maybe all we can achieve in our Union of countries, just a supranational entity with some delegated legislative powers. But if we want, as it seems, to achieve a Confederation-like State (like Switzerland) or even a European Federation (as the US or Germany), then the only linguistic non-utopic solution, which unites tradition and ease of use and learning, is Modern Indo-European or the revived Proto-Indo-European language, because it is the *grandmother* of the languages of almost all citizens of the EU. Modern Indo-European is free of regional meaning –that could hurt the national proud of the others –, and, at the same time, full of European common significance.

ⁱ Before the Jews were expelled from their homeland, they spoke Aramaic, which substituted Old Hebrew after the fall of Jerusalem.

IV.3. MORE THAN JUST A *LINGUA FRANCA*, EUROPE'S NATIONAL LANGUAGE

The game theory is a branch of applied mathematics that studies strategic situations where players choose different actions in an attempt to maximize their returns. It studies optimal strategies of foreseen and observed behaviour of individuals in such games; it studies, then, the choice of the optimal behaviour when costs and benefits of each option are not fixed, but depend on the choice of the other players.

The following table is based on "Special Eurobarometer 243" of the European Commission with the title "Europeans and their Languages" ([summary](#)), published on February 2006 with research carried out on November and December 2005. The survey was published before the 2007 Enlargement of the European Union, when Bulgaria and Romania acceded. This is a poll, not a census. 28,694 citizens with a minimum age of 15 were asked in the then 25 member-states as well as in the then future member-states (Bulgaria, Romania) and the candidate countries (Croatia, Turkey) at the time of the survey. Only citizens, not immigrants, were asked.

The first table shows what proportion of citizens said that they could have a conversation in each language as their mother tongue and as a second language or foreign language (only the languages with at least 2% of the speakers are listed):

Language	Mother Tongue	Not Mother Tongue	Total Proportion
English	13%	38%	51%
German	18%	14%	32%
French	12%	14%	26%
Italian	13%	3%	16%
Spanish	9%	6%	15%
Polish	9%	1%	10%
Dutch	5%	1%	6%
Russian	1%	6%	7%
Swedish	2%	1%	3%
Greek	3%	0%	3%
Czech	2%	1%	3%
Portuguese	2%	0%	2%
Hungarian	2%	0%	2%
Slovak	1%	1%	2%
Catalan	1%	1%	2%

Languages spoken within the European Union (more than 2%). Data for EU25.

The European Union’s Linguistic Policy game is depicted here in extensive form, with a decision tree, where each vertex (or node) represents a point of choice for a player. The player is specified by a number listed by the vertex. The lines out of the vertex represent a possible action for that player. The payoffs are specified at the bottom of the tree.

In this simplified game there are 2 players. Player 1, who represents any linguistic community within the EU, moves first and choose between two options; one, (E) *Egoistical*, consists in favouring the own language, and the other (R), consists in *Renouncing* the own language in favor of any other option. Player 2, who represents other linguistic community within the EU, sees the move of player 1 and choose in turn E or R. For example, if player 1 chooses E and then player 2 chooses R, player 2 obtains 2 points and player 1 obtains 5 points; if he chooses E, both obtain 3 points each. The payoff of being able to speak the own language with better status than the other is then 5 -due to, say, national proud-, and the contrary -for the same reason- has a value of 2, while speaking both languages at the same level has a payoff of 3.

This – simplistically depicted – game is constantly played within the EU by the different linguistic communities: UK and Ireland for English, Germany and Austria mainly for German, France and Belgium for French,etc.

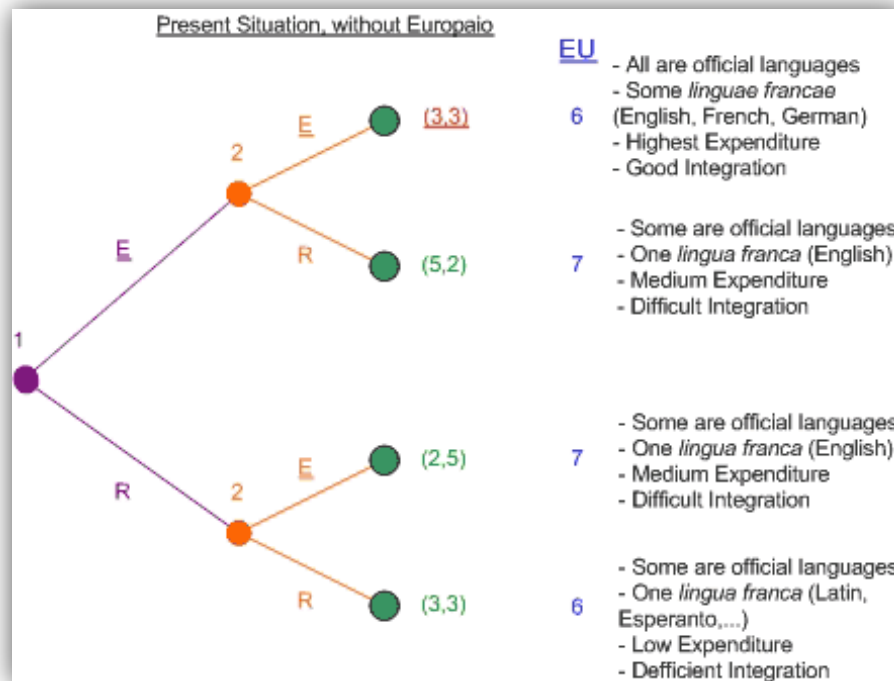


Figure 60. Present Situation of the linguistic policy in the EU, without Modern Indo-European.

The equilibrium obtained in this game is always the same, as every pair of players has in the *Egoistic* the best of their possible decisions. Player 1, which is the first to decide – let’s say he decides first because he represents an important linguistic community, like the English, or a majority, like the German – obtains 5 or 3 points if he behaves *Egoistically*, but 3 or 2 points if he *Renounces* his linguistic rights. The first option (underlined) is the best in any of the possible events. For the second player, the payoff of behaving *Egoistically* is 3 or 5, while *Renouncing* his rights would give him 2 or 3 points. Again, the *Egoistical* behaviour is the best.

It is obvious, however, that this output (3,3) is inefficient for the EU, which would benefit from the sacrifice of some linguistic communities to obtain a better situation, although none is prepared to give up. Hence the unstable equilibrium, where everybody has an interest in changing the final output, in negotiations where the EU looks for the optimal punctuation of the scheme (7 points), with less languages – in the real world the EU chooses unofficially English as *lingua franca* and French and German for some other *working issues* –, while every community has an incentive to behave *Egoistically* to be, in a hypothetical situation, the one to enjoy the maximum output of 5 points.

After the introduction of Modern Indo-European (a systematized Proto-Indo-European), the payoff of the option in which both players renounce their linguistic rights change, but the solution of the game (at

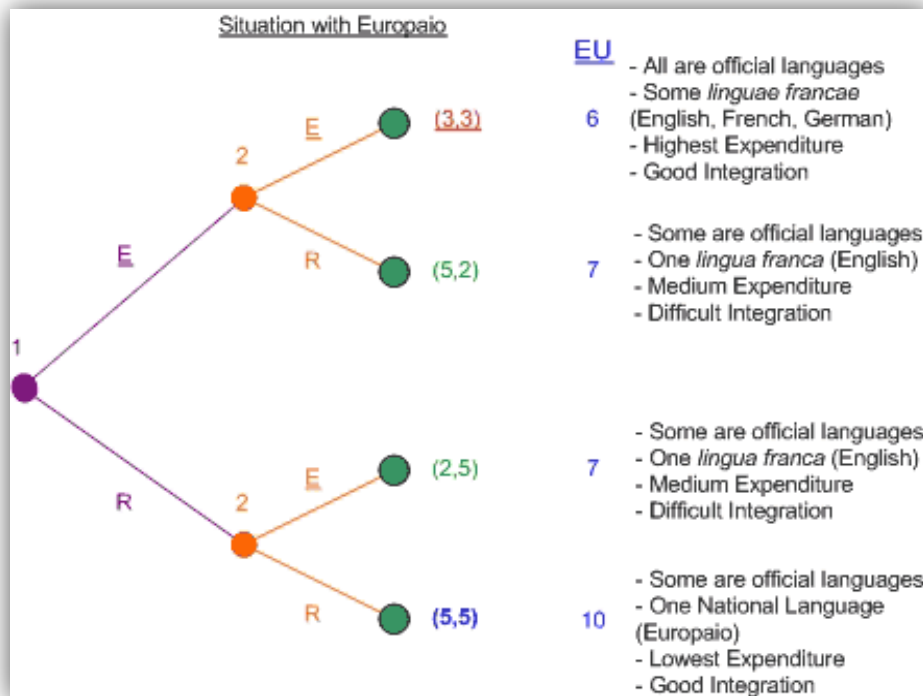


Figure 61. European Union linguistic policy after the introduction of Modern Indo-European

least in theory), paradoxically, not.

The payoff of behaving *Egoistically* for both players is 3 or 5 points, while that of *Renouncing* is 2 or 5. Then, even after the introduction of *Europaio* as the alternative, the output of the game will still be the *Egoistic* one.

The global situation is completely different, though, as the equilibrium sought by the European Union is that which will give the maximum global payoff, 10; once obtained this equilibrium, no player will have incentives to change his decision, because his situation will not be better off. The game has, then, only one Nash Equilibrium, Pareto optimal, and the players (which are, in general, rational) will choose the strategies that agree with it.

Figure 62. The European Parliament. Can you imagine how European Parliamentary sessions are driven and followed by its multilingual members without a common national language? How can we expect a more democratic Europe without a common language for the Legislative, for the Executive, for Justice, for the Administration?



IV.4. DNGHU, THE INDO-EUROPEAN LANGUAGE ASSOCIATION

Language planning refers to the deliberate efforts to influence the behaviour of others with respect to the acquisition, structure, or functional allocation of language. Typically it will involve the development of goals, objectives and strategies to change the way language is used. At a governmental level, language planning takes the form of language policy. Many nations have language regulatory bodies which are specifically charged with formulating and implementing language planning policies.

Language planning can be divided into three sub-dimensions:

Corpus planning refers to intervention in the forms of a language. This may be achieved by creating new words or expressions, modifying old ones, or selecting among alternative forms. Corpus planning aims to develop the resources of a language so that it becomes an appropriate medium of communication for modern topics and forms of discourse, equipped with the terminology needed for use in administration, education, etc. Corpus planning is often related to the standardization of a language, involving the preparation of a normative orthography, grammar, and dictionary for the guidance of writers and speakers in a speech community. Efforts at linguistic purism and the exclusion of foreign words also belong to corpus planning, and for a previously unwritten language, the first step in corpus planning is the development of a writing system.

Status planning refers to deliberate efforts to allocate the functions of languages and literacies within a speech community. It involves status choices, making a particular language or variety an 'official language', 'national language', etc. Often it will involve elevating a language or dialect into a prestige variety, which may be at the expense of competing dialects. Status planning is part and parcel of creating a new writing system since a writing system can only be developed after a suitable dialect is chosen as the standard.

Acquisition planning concerns the teaching and learning of languages, whether national languages or second and foreign languages. It involves efforts to influence the number of users and the distribution of languages and literacies, achieved by creating opportunities or incentives to learn them. Such efforts may be based on policies of assimilation or pluralism. Acquisition planning is directly related to language spread. While acquisition planning is normally the province of national, regional, or local governments, bodies such as the British Council, Alliance française, Instituto Cervantes and Goethe-Institut are also very active internationally promoting education in their respective languages.

The main objective of the Dnghu Association is exactly to make use of its pioneering role in reviving the Indo-European language to become the reference institution for the development of Modern Indo-European or the revived Proto-Indo-European language, a set of grammatical rules necessary for proper communication in present-day Europe. This role includes:

A. Administering a group of experts in Indo-European linguistics, who should develop thoroughly the Corpus linguistics of Modern Indo-European, through a Consortium of universities and other renowned linguistic institutions, establishing guidelines and recommendations to be accepted by all. The Consortium should be located in some clearly Europeanist city, like Brussels, Strasbourg, Bologna, or otherwise where the first important university of Central Europe joins.

B. Also, as many resources as possible should be used to promote the birth of a social movement for revival: we called those projects “**Europaio**” – which is the easily recognizable name of the language system –, comprising Open Source software and other works and Wiki websites’ content under *Copyleft* licenses, to attract everyone to participate and join; and also – being consistent with real *Copyleft* premises – allowing everyone to develop their own projects in case they don’t like ours. This way, Indo-European revival is the only secured beneficiary of the community efforts (whether united or dispersed), and Indo-European has a bigger chance to become the future official language of the EU.

C. Lastly, incorporating a legal framework, the

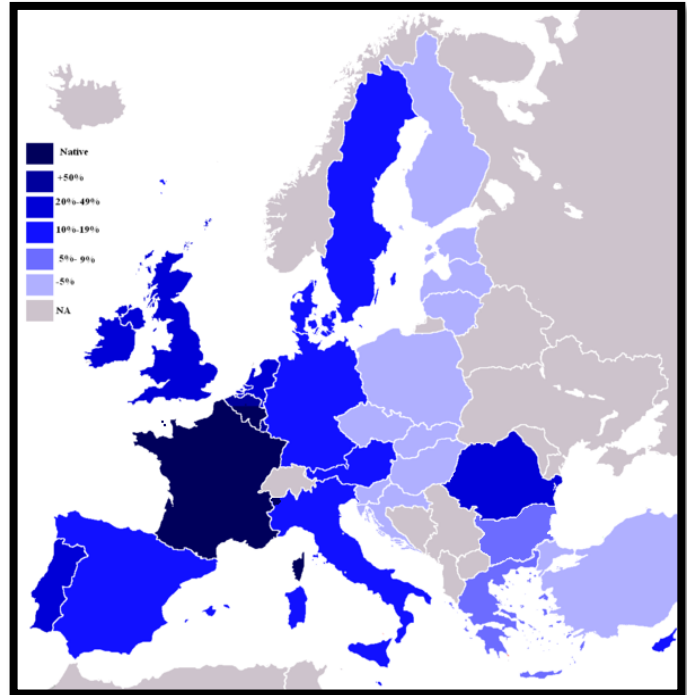


Figure 63. Knowledge of French in the European Union. Along with the knowledge of German, Spanish or Russian, all those who know at least English and French have it easier to learn the reconstructed Proto-Indo-European. If they learn Latin and Greek, they will have it still easier.

Indo-European Language Association, to manage and administer the aforementioned projects of language planning, dividing its activities into different zones, and trying to:

1. Publish grammars, referente guides, dictionaries, specialized reviews in Indo-European linguistics, collaborating with experts in Proto-Indo-European, and also arranging conferences and workgroups. Dnghu would be, then, a reference for works in or about the Indo-European language.
2. Publish learning methods, whether official or not, either free or proprietary, like manuals for school, high school or university students; CD-ROMs and other multimedia learning tools; distance courses through e-learning; translation software for individuals and professionals, etc.

3. Translate literary works, promote literary or general artistic creations, work in subtitles and dubbing of films, and all kinds of promotional activities addressed to the public, with a market of more than 400 million Europeans.

4. Organize language courses for individuals and companies, taught in every Dnghu center, with some special locations for intensive and summer courses under a only-Indo-European-spoken-here rule.

5. Broadcasting of news, television and radio programs in Indo-European, making use of the Internet and new multimedia technologies, trying to become a reference source for independent news, the way the BBC and the Deutsche-Welle are in their languages.

6. Receive public subsidies from the EU and the regions that host the Indo-European revival projects. Promote donations of individuals as a logical means to fund new technologies and free licences.

7. Function as Think Tank in Brussels, influencing the policies of the European Union with legal and legitimate means, pushing for a more pro-Europeanist approach and the Indo-European language adoption as the national language.

Figure 64. However detailed the European Union budget is, one cannot actually calculate the annual costs of not having a common national language as Modern Indo-European.

EU budget 2007 in figures

Expenditure estimates for EU policies (in billion EUR)	Budget 2007	Change from 2006
Sustainable growth	54.9	15.4 %
Competitiveness, including:	9.4	18.6 %
Education and training	0.9	31.0 %
Research	5.5	3.1 %
Competitiveness and innovation	0.4	53.6 %
Energy and transport networks	1.0	32.9 %
Social policy agenda	0.2	8.6 %
Cohesion, including:	45.5	14.8 %
Convergence	35.3	16.8 %
Regional competitiveness and employment	9.0	11.5 %
Territorial cooperation	1.1	-11.7 %
Natural resources, including:	56.3	1.0 %
Environment	0.2	17.9 %
Agricultural expenditure and direct aids	42.7	0.6 %
Rural development	12.4	3.0 %
Freedom, security and justice (including fundamental rights and justice, security and liberties, migration flows)	0.6	12.8 %
Citizenship (including culture, media, public health and consumer protection)	0.6	0.8 %
EU as a global player, including:	6.8 (*)	4.5 % (*)
Pre-accession	1.3	16.5 % (*)
European neighbourhood	1.4	11.1 %
Development cooperation	2.2	-5.4 % (*)
Humanitarian aid	0.7	3.1 %
Democracy and human rights	0.1	9.6 %
Common foreign and security policy	0.2	55.2 %
Stability instrument	0.1	143.6 %
Administration, including:	6.9	5.1 %
European Commission	3.3	5.3 %
Other institutions	2.6	4.8 %
Compensations to new EU countries (*)	0.4	-58.6 %
Total	126.5	5.0 %

(*) Including Emergency Aid Reserve.
 (**) Excluding Budgetary and Financials.
 (***) Reductions due to the exceptional amounts allocated in 2006 to the past financial, Afghanistan and Iraq reconstruction efforts.
 (****) Areas still held by the accession candidates.

EUROPEAN UNION EXPENDITURE

The actual costs that the European Union bears because of not having a common national language (apart from some officiously selected *lingua franca*) is incalculable; just compare how businesses, politics, students and people behave within the United States, and how they function within the EU. Without a common language, the Union is nothing more than a customs union, whatever the intention of its member states. There are some limited and intentionally obscure statistics, though, as to how the direct expenditure of the EU institutions are:

Beginning with the *Lingua programme* in 1990, the European Union invests more than €30 million a year (out of a €120 billion EU budget) promoting language learning through the *Socrates* and *Leonardo da Vinci* programmes in: bursaries to enable language teachers to be trained abroad, placing foreign language assistants in schools, funding class exchanges to motivate pupils to learn languages, creating new language courses on CDs and the Internet and projects that raise awareness of the benefits of language learning.

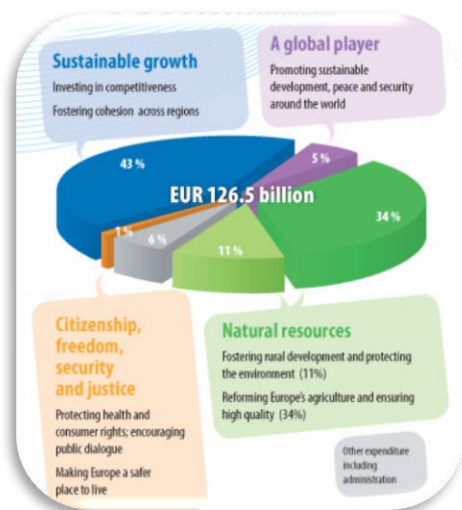


Figure 65. Expenses related to the lack of a common language are impossible to ascertain.

Also, 13% of the annual budget for administration (6% of the European Union total) is dedicated to translation and interpretation, with more than 2.000 public employers working to translate and interpret – whether immediately or not – the most they can to every language pair. Recent statistics talk about 1.123 million euros invested in translation and interpretation, a total of 1% of the total budget, “2,28 euros per capita”, as the European Union likes to point out, i.e., 1 of each 100 euros that we pay in taxes for the Union is dedicated exclusively to the translation of papers, websites, to the Europarliament sessions, etc. Furthermore, we are paying 25 million euros for each language made official; however, only English is really promoted

within the institutions, French is sometimes also used, and Germans complaint because they want their language to be at least as important as French... And all this for “just 2,28 euros per capita” annually; wow, what a bargain!

François Grin, specialist in economics of linguistics and linguistic policy, published in 2005 a report in which he pointed out that Great Britain, because of the predominance of its language within the Union, had between 17.000 y 18.000 million euros a year for language learning, thus profiting from the need of the other member states (imposed by our public institutions) to learn English. Not to talk about the

other English-speaking countries (as the US, Canada, Australia, South Africa, etc.), which profit from Europeans because of our own choice.

Both specialized industries, of translating-interpreting in Brussels, and of language teaching and learning in the UK, could adapt themselves and profit from the increase of businesses and jobs based on Indo-European language translation and learning needs.

The loss of thousands of jobs of EU's translators and interpreters, as well as the decrease in UK's GDP because of the adoption of MIE, are then not only avoidable, but even just another excuse – they are in fact in a better position to handle such a change than other national companies and institutions within the EU. It is, then, a question of willingness (of Brussels and England) to adopt a common natural language, beyond almost every other consideration.

IV.5. CONCLUSION

As a conclusion, we can only say that, paradoxically, even if this simple study was correctly made, there are three main factors which have determined the success of the Hebrew language revival, whilst other revival attempts, as that of Latin or Coptic, or artificial language adoptions (as Esperanto, Ido, Interlingua, Lojban, etc.) have completely failed:

1. The **real necessity** of a common language (not just a *lingua franca*) among tiny workgroups – as in the first schools of Israel, which needed a common language other than English or French to teach to multilingual pupils. Such immediate necessity could show the real need for a common language in Europe, and help boost the Indo-European language revival. As an example, compare that, even if mobile phones seem to be now a need for most people, fifteen years ago it was a luxury good, only owned by those who needed it the most, as brokers; it was because of that first step – with big economic efforts for a then still inaccurate technology – of those who needed it the most, that the rest of us realized the advantages of the new technology, and that it spread to reach everyone.

NOTE. As a first step toward the realizing of such actual need, we are currently implementing a change in European education for the next years – beginning with the Spanish education system in the 11th and 12th year –, namely the promotion of the teaching of a more general subject in the high school, “European Languages”, to substitute the current traditional optative/obligatory subjects “Latin”, “Greek” or “Classical Culture”, as well as third languages like “French”, “German”, “Russian”, “Italian”, etc.

The learning of such a subject (which would mainly give general notions on Proto-Indo-European and IE dialects of Europe like Latin, Germanic, Greek, Balto-Slavic, Celtic and Albanian) could easily demonstrate how those students who have passed it show 1) a greater understanding of foreign Indo-European languages of Europe, and especially 2) how they learn other European languages more easily, compared to those students who have

learnt merely a third IE language (either dead or alive), apart from the obligatory national and/or co-official and the second language.

2. The **individual will** of people to learn such a language. Unlike Esperanto, Latin, French or English, the Jews of Palestine learnt the reconstructed Modern Hebrew as an own language, not because of some external imposition, but mainly because of the thousands who (one-by-one or group-by-group) decided freely to learn it and use it openly with others. After more than a century of unending invented languages, there are still people who think that a language can be imposed by way of asserting the social advantages of its adoption – *viz.* ease of use, cultural ‘neutrality’, or even supposed “number of speakers”. However, their obvious lack of success, along with the boom of national and regional languages’ revival during the same period, shows that – whatever the underlying sociological and psychological foundations for such a behaviour –, it is not only cold reason and perfect philosophy what makes people learn and adopt a language as an own one, but also passion and desire, love for the own, interest for the old, maybe also fear for the foreign, etc.

3. The **support of public institutions**, from some point on, will also be necessary. However, we are convinced about its secondary role in the adoption of Modern Indo-European in Europe. With the television, the Internet, and other modern technologies, as well as *libre* culture and licences – and maybe also the growing culture of small private donations –, the support of the institutions of the European Union is not necessary in these first steps of the linguistic revival, until it becomes a language really used by young people within the Union.

NOTES

Vocabulary is one of the best reconstructed parts of the Proto-Indo-European language. Indo-European studies have extensively dealt with the reconstruction of common PIE words and its derivatives, and lots of modern dictionaries of IE languages as Latin, English, German, Greek, Sanskrit, etc. already give etymologies in PIE roots apart from the oldest forms in their languages.

These notes are not intended to substitute the existing reference works, and indeed not to substitute the common PIE vocabulary to be used in Modern Indo-European, but just to facilitate the comprehension of Proto-Indo-European roots in light of their derivatives (and related to the vocabulary used in this grammar), showing also IE forms based on the common English vocabulary.

Many reconstructed derivatives are then from Germanic or from international words of Graeco-Latin origin, but this doesn't imply we recommend their use over other common PIE words: for example, Latin loans **gnātionālis**, *national*, or **gnātionālitā**, *nationality*, are not used in some Germanic and Slavic languages, and should maybe be substituted by other, 'purer' or 'less biased' Proto-Indo-European terms. Also, non-IE suffixes Lat. *aiqi-*, *re-*, Gmc. *iso-*, "ice", Gk. *geo-*, *haimn-*, could be substituted by common PIE formations, as e.g. Lat. *re-* could be replaced by a 'purer' IE **ati-**, and suffix **-ti** could be used instead of secondary Ita., Arm. **-tio(n)**, etc.

1. Carlos Quiles, translated as Indo-European **Kárlos Kūriákī**:

a. *Carlos* is a popular Spanish name derived from Germanic *karlaz*, *kerlaz* (cf. O.N. *karl*, O.E. *céorl*), maybe originally "common person, free man", Modern Indo-European **Kárlos**. In Norse mythology, *Karl* was the name of the first free peasant, the son of Rig and Amma. Rig was the human form taken by the god Heimdall when he produced the progenitors of the three social classes (thralls, peasants and nobility) with three different women. In the Scandinavian languages, Karl retains its meaning "man". In German, the origin of the name *Karl* can be traced to the word *Kerl* which is still used to describe somewhat rough and common men. As in the words *churl* and *churlish* in English.

b. *Quiles* is a genitive, and means "(son) of quili" (cf. Spa. *Quílez*, Cat. *Quilis*, Ast. *Quirós*, Gal-Pt. *Quiris*). It comes, from mediaeval noun *Quirici*->*Quili* (shortened and with *r*->*l*), a loan word from Gk. *Κυριακος* (Indo-European **kūriákos**), from which It./Spa. *Quirico*, Gl.-Pt. *Queirici*, Cat. *Quirce*, Fr. *Quirice*, O.N. *kirkja*, Eng. *church*, Scots *kirk* or Ger. *Kirche*. PIE root **kew** means *swell*. IE **kūrios** means *master, lord*, as Gk. *κύριος*, and adjective *Kyriakos* was used as Roman cognomen *Cyriacos*. **Kūriákī** should then be the proper genitive of the MIE loan-translated Greek term.

2. For PIE root **bhā** (older **b^heh₂* colored into **b^hah₁*) compare modern derivatives: zero-grade (**bha**) suffixed **bháuknos**, *beacon, signal*, as Gmc. *bauknaz* (cf. O.E. *beacen*, O.Fris. *bacen*, M.Du. *bokin*, O.H.G. *bouhhan*, O.Fr. *boue*, "buoy"), **bhásiā**, *berry* ("bright-coloured fruit"), as Gmc. *bazjo* (cf. O.E. *berie*, *berige*, O.H.G. *beri*, Frank. *bram-besi* into O.Fr. *framboise*, "raspberry", MIE **bhrambhásiā**); **bhánduos**, *banner, identifying sign, standard*, hence "company united under a particular banner" as Gmc. *bandwaz* (cf. Goth. *banwa*, also L.Lat. *bandum* into Sp. *banda*); suffixed zero-grade **bháues**, *light*, as Gk. *φῶς, φωτός*, (MIE **bháues**, **bhauesós**), as in

common borrowings **bhawtoḡrbhīā** (see **gerbh**), *photography*, shortened **bhāwtos**, or **bhāuesphoros/phósphoros**, *bringing light, morning star, phosphorus*. See **bhā** for more IE derivatives.

3. Modern derivatives from IE **dṅghū-**, *language*, are usually feminine (as general **dṅghwā**), but for extended Slavic **dṅghwīks**, which is masculine (cf. Russ. *язык*, Pl. *język*, Cz. *jazyk*, Sr.-Cr., Slo. *jezik*, Bul. *език*). Compare, for the noun of the English (language), modern Indo-European words: neuter O.E. *Englisc*, Ger. *Englisch*, Du. *Engels*, Gk. n.pl. *Ἀγγλικά*; masculine is found in Scandinavian *engelsk*, in Romance – where the neuter merged with the masculine – Fr. *anglais*, It. *inglese*, Spa. *inglés*, Pt. *inglese*, as well as alternative Lat. *sermō latinus*, and Slavic (following the masculine of the word “*language*”), Russ. *английский* [*язык*], Pol. *język angielski*, Bul. *английски* [*език*], Sr.-Cro. *engleski* [*jezik*] etc.); feminine (following the gender of “*language*”) Lat. *anglica* [*lingua*], Rom. [*limba*] *engleză*, or Slavic Cz. *angličtina*, Slo. *angleščina*, Bel. *английская*; or no gender at all, as in Arm. *angleren* [*lezu*].

4. PIE root **wéro**, *speak*, (or **werh₃*), gives MIE **wṛdhom**, *word*, as Gmc. *wurdam*, (cf. Goth. *waurd*, O.N. *orð*, O.S., O.Fris., O.E. *word*, Du. *woord*, O.H.G., Ger. *wort*), and **wérdhom**, *word, verb*, as Lat. *uerbum*, as in **adwérdhiom**, *adverb*, or **prōwérdhiom**, *proverb*; also **wério**, *say, speak*, metathesized in Greek, as in **werioneiā**, as Gk. *εἰρωνεία*; also, suffixed variant form **wrētór**, *public speaker, rhetor*, as Gk. *ρήτωρ*, and **wrémn**, *rheme*. Compare also Umb. *uerfalem*, Gk. *εἶρω*, Skr. *vrata*, Av. *urvāta*, O.Pruss. *wīrds*, Lith. *vardas*, Ltv. *vārds*, O.C.S. *vračī*, Russ. *врать*, O.Ir. *fordat*; Hitt. *ueria*.

5. PIE base **jeug**, *join* (probably from a root **jeu**), evolved as O.H.G. [*untar*] *jauhta*, Lat. *jungō*, Gk. *ζεύγνυμι* O.Ind. *yunakti, yōjayati* (IE **jeugeieti**), Av. *yaoj-, yuj-*, Lith. *jūngiu, jūngti*; gives common derivatives **jugóm**, *joining, yoke*; cf. Gmc. *jukam* (cf. Goth. *juk*, O.N. *ok*, O.S. *juk*, O.E. *geoc*, Dan. *aag*, M.Du. *joc*, Du. *juk*, O.H.G. *juch*, Ger. *Joch*), Lat. *iugum*, Gk. *ζυγόν*, O.Ind. *yugám*, Skr. *yogaḥ*, Arm. *luc* (with *-l* influenced by *lucanem*, “*unyoke*”), Toch. *yokām*, O.C.S. *igo*, Russ. *obža*, Cz. *jho*, Welsh *iau*, O.Cor. *ieu*, Bret. *ieo*; Hett. *yugan*; **jéugos**, *yoke*, as Goth. *jukuzi*, M.H.G. *jūch*, Lat. *jūgerum* (from Lat. *jūgera*, IE **jóugesa**), Gk. *ζεύγος*, O.C.S. *ižesa*;

6. PIE adjective **néwos**, **-ā**, **-om**, gives Germanic *newjaz*, (cf. Goth. *niujis*, O.N. *nýr*, O.Eng. *niowe*, O.Fris. *nie*, O.H.G. *niuwi*, Du. *nieuw*, Dan., Swed. *ny*), Lat. *nouus*, Osc. *núvellum*, Gk. *νέος*, O.Ind. *návas, návyas*, Skr. *navah*, Av. *nava-*, O.Pers. *nau*, Toch. *ñu/ñuwe*, Thrac. *neos*, Arm. *նոր*, O.Pruss. *nauns* (due to analogy with *jauns*), O.Lith. *navas*, Lith. *naũjas*, Ltv. *nàujš*, O.C.S. *novŭ*, O.Russ. *новь*, Polish *nowy*, Gaul. *Novio-*, O.Ir. *nūē*, Welsh *newydd*, O.Bret. *neuued*, Kamviri *nuĩ*, Kashmiri *nōv*, O.Osset. *nog*; Hitt. *newash*, Luw. *nāw*.

It was probably a full grade of **nu**, *now*, as Gmc. *nu* (cf. Goth. *nu*, O.N. *nū*, O.E. *nū*, O.Fris. *nu*, O.Ger. *nu*, Du. *nu*, Ger. *nun*), Lat. *nunc*, Gk. *vv, vuv*, O.Ind. *nū*, Av. *nu*, O.Pers. *nūram*, Toch. *nuṃ/nano*, O.Pruss. *teinu*, Lith. *nū*, Ltv. *nu*, O.C.S. *nune*, O.Ir. *nu-*, Alb. *tani*; Hitt. *nuwa*, Luw. *nanun*.

7. Indo-European **médhjos** (from PIE **me**, v.i.) gives Gmc. *medjaz* (cf. Goth. *midjis*, O.N. *miðr*, O.S. *middi*, O.E. *midd*, O.Fris. *midde*, O.H.G. *mitti*), Lat. *medius*, Osc. *mefiái*, Gk. *μέσσος*, O.Ind. *mádhjam*, Skt. *mádhjah*, Av. *maidja-*, Pers. *mēān*, Illyr. *metu*, O.Arm. *mēj*, O.Pruss. *median*, Lith. *medis*, Ltv. *mežs*, O.C.S. *mežda*, O.Russ. *межу*, Polish *między*, Gaul. *Mediolānum*, O.Ir. *mid*, Welsh *mewn*, Kamviri *pāmüč*. West Germanic dialects have a common diminutive **medhjólós**, *middle*, as Gmc. *middilaz* (cf. O.E. *middel*, M.L.G., Du. *middel*, Ger. *Mittel*); Latin derivatives include **medhjálís**, *medial*, **medhjálíā**, *medal*, **medhjā**, *mediate*, **médhjom**, *medium*, **entermedhjā**, *intermediate*, **medhjaiwālís**, *medieval*, **medhittersaniós**, *mediterranean*, etc.

PIE **me**, in the middle of, gives suffixed formes **médhi-**, among, with, as Gmc. *mid-*, and **méta-**, between, with, beside, after, as Gk. *meta*.

For PIE **áiw-**, also **ájus**, vital force, life, long life, eternity, compare Gmc. *aiwi* (as in O.N. *ei*, Eng. *aye*, *nay*), suffixed **áiwom**, age, eternity, in **medhjáiowom**, Middle Ages, **medhjaiwális**, mediaeval, **prwimaiwális**, primeval, **dhlongháiwotā**, longevity; further suffixed **áiwotā**, age, and **aiwoternós**, eternal, as Lat. *aeternus*, in **aiwotérnitā**, eternity; suffixed **áiwēn**, age, vital force, eon, Gk. *aiōn*; zero-grade compound **júcjēs**, “having a vigorous life”, healthy (from **cei**, live), as Gk. *hugiēs*, in **júcjésinā (téksnā)**, “(art) of health”, hygiene, as Gk. *hugieinē (tekhne)*; o-grade **ójus**, life, health, as Skr. *āyuh*, or Gk. *ouk*, from (**ne**) **ojus (qid)**, “(not on your) life”, in **ojutópiā**, from Gk. *oú*, no, and *τόπος*, a place that doesn’t exist. See also **jeu**, vital force, youthful vigor.

8. PIE **ágros**, field, also pasture, land, plain, gives Gmc. *akraz* (cf. Goth. *akrs*, O.N. *akr*, O.E. *æcer*, O.Fris. *ekkr*, O.H.G. *achar*. Eng. *acre*), Lat. *ager*, Umb. *ager* (both from earlier Italic *agros*, district, property, field), Gk. *αγρός*, Skr. *ajras*, O.Arm. *art*.

9. Indo-European **sqálos**, *squalus*, shark, (cf. Lat. *squalus*) is probably cognate with **qálos**, whale, as in Gmc. *khwalaz* (cf. O.S. *hwal*, O.N. *hvalr*, O.E. *hwæl*, M.Du. *wal*, O.H.G. *wal*), possibly from an original (**s**)**qalos**, with a general meaning of “big fish”, then constrained in its meaning in individual dialects. See S-Mobile in § 2.8 for more on such related words.

10. Indo-European **áqiā**, “thing on the water”, “watery land”, island, is the source for Gmc. *aujō*, island (cf. Goth. *ahwa*, O.N. *á*, O.E. *īeg*, O.H.G. *aha*, O.Is. *ey*, M.H.G. *ouwe*, Eng. *is[land]*), as may be seen on **Skandináqiā**, Scandinavia L.Latin mistaken form of **Skadináqiā**, Scadinavia, “south end of Sweden”, loan-translation of Gmc. *skadinaujō*, “danger island” (cf. O.E. *Scedenig*, O.N. *Skaney*); first element is usually reconstructed as IE **skátom**, as in Gmc. **skathan*, meaning danger, scathe, damage (Goth. *scaþjan*, O.N. *skaða*, O.E. *sceapian*, O.Fris. *skethia*, M.Du. *scaden*, O.H.G. *scadon*), which could be related to Greek α-σκηθης (*a-skēthēs*), unhurt. The source for **áqiā** is PIE root **áqā**, water, cognate with Lat. *aqua*, Russ. *Oká* (name of a river) and, within the Anatolian branch, Hitt. *akwanzi*, Luw. *ahw-*, Palaic *aku-*.

English writing “island” was influenced by French *isle*, from Lat. *insula*, itself from MIE **énsalā** (from **en-salos**, “in the sea”, from **sáalom**, sea, v.i.), giving derivatives **ensalarís**, insular, **ensalanós**, islander, **ensalínā**, insuline, etc.

11. IE **léndhom**, land, soil, country, region, gave Gmc. *landom* (cf. Goth., O.N., O.E., O.Fris., Du., Ger. *land*), and is derived from PIE **lendh**, with the meaning of land, steppe; compare O.Pruss. *lindan*, O.C.S. *ledina*, Russ. *ljada*, Polish *ląd*, Gaul. *landa*, O.Ir. *land*, Welsh *llan*, Bret. *lann*.

12. For PIE root (**á**)**rbhi**, around, about, compare Gmc. (*um*)*bi* (cf. O.N. *um/umb*, O.E. *be/bi*, *yambe*, M.Du. *bie*, O.H.G. *umbi*, *bi*, Du. *bij*, Ger. *um*, *bei*), Lat. *ambi*, *amb*, Gk. *ἀμφι*, Skr. *abhi*, Celt. *ambi*. It is probably derived from **ant(i)-bhi**, lit. “from both sides”, hence older IE **ṛbʰi*. For PIE **ánti**, front, forehead, compare Gmc. *andja* (*end*, originally “the opposite side”, cf. Goth. *and*, O.N. *endr*, O.E. *ende*, O.Fris. *enda*, O.H.G. *endi*), Lat. *antiae*, Osc. *ant*, Gk. *ἀντι*, Toch. *ānt/ānte*, Lith. *ant*, O.Ir. *étan*. Anatolian Hitt. *ḫanta*, Luw. *hantili*, Lyc. *xñtawata* support the hypothesis of an earlier locative **h₂ént-i* – see **ant** and **ambhi**.

13. Proto-Indo-European **ag**, drive, draw, move, do, act, compare Lat. *agere*, Gk. *αγεiv*, O.Ir. *Ogma*, from which **agtiós**, weighty, as Gk. *αξιός*, **ágrā**, seizing, as Gk. *αγρα*, and **ágtos**, in **ambhágtos**, one who goes

around, from Lat. *ambactus*, a loan word from Celtic. Other common derivatives include **agtēiuós**, *active*, **agtuālis**, *actual*, **agtuariós**, *actuary*, **agtuā**, *actuate*, **agénts**, *agent*, **agilís**, *agile*, **agitā**, *agitate*, **ambhaguós**, *ambiguous*, **komágolom**, *coagulum*, **ekságiom**, *essay*, **eksagtós**, *exact*, **eksago**, *demand*, **ekságm̄n**, *swarm*, later *exam*, **eksagmnā**, *examine*, **eksagénts**, *exigent*, **eksaguós**, *exiguous*, **nawagā**, *navigate* (from **náus**), **dhūmagā**, *fumigate*, (from **dhúmos**, *smoke*) **fustagā**, *fustigate* (from Lat. *fustis*, “club”), **transago**, *compromise*, **ṛtransagénts**, *intransigent* (from **n-**, *un-*, see **ne**), **litagā**, *litigate* (from Latin loan **litágiom**, *litigation*), **prōdago**, *drive away, to squander*, (from **prō-d-es**, *be good*), **prōdagós**, *prodigal*, **redago**, *redact*, **retrōago**, *drive back*, **retrōagtēiuós**, *retroactive*, **transago**, *transact*; Greek **agogós**, *drawing off*, in **agógos**, *-agogue* (“leading, leader”), as in **dāmagógos**, “popular leader”, *demagogue* (from **dāmos**, *people*), **supnagogikós**, *hypnagogic* (from **swep**, *sleep*), **pawidagógos**, *pedagogue*, **protagonistā**, *protagonist* (Gk. πρωταγωνιστής), **komagógā**, *synagogue*; suffixed **agtiós**, “weighty”, as in **agtiós**, *worth, worthy, of like value, weighing as much*, as in **agtiómā**, *axiom*, Gk. ἀξιωμα, **agtiologíā**, *axiology*; suffixed **ágrā**, *driving, pursuing, seizing*, as in Gk. *agrā*, in **podágrā**.

For PIE **dhúmos**, *smoke*, Lat. *fumus*, Gk. *thymos*, Skt. *dhumaḥ*, O.Prus. *dumis*, Lith. *dumai*, O.C.S. *dymu*, M.Ir. *dumacha*.

Indo-European **swep**, *sleep*, gives **swópōs**, *deep sleep*, as Lat. *sopor*, in compound **swoposidhakós** (from **dhak**), *soporific*; **swópnos**, *sleep*, as Lat. *somnus*, **swópnołénts**, *somnolent*, or **ṛswópniom**, *insomnia*; zero-grade suffixed **súpnos**, Gk. *hypnos*, and in **supnótis**, *hypnosis*, **supnotikós**, *hypnotic*.

For Indo-European root **pau**, *few, little*, compare derivatives **pawós**, Gmc. *fawaz* (cf. Goth. *fawai*, O.N. *far*, O.E. *feawe*, Dan. *faa*, O.Fris. *fe*, O.H.G. *foh*) or **paukós**, as Lat. *paucus*; suffixed metathesized form **parwós**, *little, small, neuter parwom, little, rarely*; compound **pauparós**, *producing little, poor* (IE **parós**, *producing*), as in **depauparā**, *depauparate*, and **empauparā**, *impoverish*; suffixed zero-grade **púlā**, *young of an animal*, as Gmc. *fulōn* (cf. Goth., O.E. *fula*, O.N. *foli*, O.H.G. *folo*, O.Fris. *folā*, M.H.G. *vole*, Eng. *foal*, Ger. *Fohlen*); extended suffixed **pútslos**, *young of an animal, chicken*, as Lat. *pullus*, and diminutive **putslolós**, Lat. *pusillus*, in **putslolanamós**, *pusillanimous*; also, for words meaning “boy, child”, compare suffixed **púeros**, as Lat. *puer*, **pútos**, as Lat. *putus*, and **páwids**, as Gk. *παις* (stem *paid-*), in **pawideiā**, *education*, Gk. *παιδεία*, in **enq(u)qlopáwideiā**, *encyclopaedia*, from Modern Latin, itself from Greek “ἐγκύκλια παιδεία” “[well-]rounded education” (see IE **en, q’qlos**) meaning “a general knowledge”.

For IE **pero**, *produce, procure*, older **perh₂* (closely related to **pero**, both from **per**), compare Latin *par-* (from zero-grade), in **parā**, *try to get, prepare, equip*, in **adparā**, *prepare*, **adpáratos**, *apparatus, apparel*, **enparā**, *command*, **enparātór**, *emperor, imperator*, **enparatēiuós**, *imperative*, **preparā**, *prepare*, **reparā**, *repair*, **separā**, *separate, sever*; suffixed **pario**, *get, beget, give birth*, p.part. **partós**, in **partosiénts**, *parturient*, **pártom**, *birth*, **repario**, *find out*, **repartóriom**, *repertory*; parallel suffixed participial form **parénts**, *parent*, as Lat. *parēns*; suffixed form **-parós**, *producing*.

Indo-European **pero**, *grant, allot (reciprocally, to get in return)*, gives derivatives as **pártis**, *a share, part*, as Lat. *pars* (stem *part-*), in **partio**, *divide up, share*, **partitós**, *divided, share*, **partitos**, *division, party*, **partikolā**, *particle* (with dim. **partikillā**, *parcel*), **dwi-partitós**, *bipartite*, **kompartio**, *compart*, **enpartio**, *impart*, **repartio**, *repart*, **pártiōn**, *portion, a part*, Lat. *portiō*, in **prō partioní**, *in proportion, according to*

each part, into **prōpártiōn**, *proportion*; **pār**, *equal*, as in **páritā**, *parity*, **kompārā**, *comapare*, **npáritā**, *imparity*, etc.

14. PIE **māter** (also **mātēr**) gave Gmc. *mōdar*, (cf. ON *móðir*, O.E. *mōdor*, O.S. *modar*, O.H.G. *muoter*, M.Du. *moeder*), Lat. *māter*, Osc. *maatréis*, Umb. *matrer*, Gk. *μήτηρ*, O.Ind. *mātā*, Skr. *mātār-*, Av. *mātar-*, Pers. *mādar*, Phryg. *mater*, Toch. *mācar/mācer*, Arm. մայր (*mair*), Alb. *motër*, O.Pruss. *mūti*, Lith. *mótė*, Ltv. *māte*, O.C.S., O.Russ. *mamu*, Polish *matka*, Gaul. *mātir*, O.Ir. *máthir*, Welsh *modryb*, Kamviri *motr*, Osset. *madæ*.

IE ending **-ter** usually indicates kinship (see also **pa-ter**, **bhrā-ter**, **dhuga-ter**, **jena-ter**), whilst **ma-** (earlier IE **mah₂-*) is a baby like sound found in the word for “*mother*” in non-Indo-European languages; as, Estonian *ema*, Semitic *umm*, Chinese *māma*, Apache, Navajo *-ma*, Vietnamese *ma*, Korean *eomma*, Malayalam *amma*, Zulu *umama*, Basque *ama*, Hawaiian *makuahine*, etc.; also, compare IE-related Hitt. *anna*, Hung. *anya*.

Compounds include **māternós** (or Lat. **māternālis**), *maternal*, **māternitā**, *maternity*, **mātríkolā**, *list, register*, and verb **mātríkolā**, *matriculate*, **mātríks**, *matrix*, **mātrimóniom**, *matrimony*; also, **māteriā**, *tree trunk* (<“*matrix*”, the tree’s source of growth), hence “*hard timber used in carpentry*”, hence (calque of Gk. *hūlē*, “*wood, matter*”), *substance, stuff, matter*, as in **māteriālis**, *material*; **mātrópolis** (from **pólis**), *metropolis*, as Gk. μητρόπολις, as well as Greek goddess of produce (especially for cereal crops) *Demeter*, from **dē-māter**, which have been related to IE **de**, **da**, or **don**.

English “*wedding*” comes from O.E. *weddian* “*pledge, covenant to do something*” from Gmc. *wadjan* (cf. Goth. *ga-wadjon*, O.N. *veðja*, O.Fris. *weddia*, Ger. *Wette*), from PIE base **wadh-** “*to pledge, to redeem a pledge*”, as Lat. *vas* (gen. *vadis*), “*bail, security*”, Lith. *vaduoti* “*to redeem a pledge*”. Development to “*marry*” is unique to the English language.

15. PIE root **leuk-/louk-** means *bright, light, brightness*. Compare **léuktom**, *light*, as Gmc. *leukhtam* (cf. Goth. *liuhap*, O.N. *leygr*, O.E. *lēoht*, O.Fris. *liacht*, M.Du. *lucht*, O.H.G. *lōh*, O.Ice. *lōn*), or **léuktio**, *make light*, as Gmc. *leukhtjan* (cf. O.E. *lihtan*); **léuks**, *light*, as lat. *lūx*, as in **leukítheros**, “*light-bearer*”, *Lucifer* (from **bher**, *carry*, as Greek **bhóros**, by *samprasarana* the initial desinene is lost, cf. Lat. *uir*<*wiros*, Lat. *sacer*<*sakros* in *lapis níger*, etc.); suffixed **léuksmen**, *light, opening*, as Lat. *lūmen*, for common derivatives adj. **léuksmenónts(ós)**, *luminous*, **enléuksmenā**, *illuminate*, etc.; **léuksnā**, *moon*, as Lat. *lūna*, as in **leuksnālis**, *lunar*, **leuksnātikós**, *lunatic*, etc.; suffixed **léukstrom**, *purification*, as Lat. *lūstrum*; **leukstrā**, *purify, illuminate*, as Lat. *lustrare*, as in **enleukstrā**, *illustrate*; **leukodhrā**, *work by lamplight*, hence *lucubrate*, as Lat. *lūcubrāre*, as in **eghleukodhrā**, *lucubrate*, (see **eghs**) and **eghleukodhrātiōn**, *elucubration*; suffixed **leukós**, *clear, white*, as Gk. λευκός; o-grade **loukē**, *shine*, as Lat. *lūcēre*, in **loukénts**, *lucent*, **loukeitós**, *lucid*, **ekloukeitā**, *elucidate*, **reloukē**, *shine*, **reloukénts**, *relucent*, **transloukénts**, *translucent*; zero-grade suffixed **lúksnos**, *lamp*, as Gk. *lukhnos*; and also attributed by some to this root nasalized zero-grade Gk. λύγξ, -γκός, “*lynx*”, in any case MIE **lunks**. Common IE derivatives include Lat. *lux*, *lucere*, Osc. *lúvkis*, Umb. *vuvçis*, Gk. λευκός, O.Ind. *roká-*, Av. *raoçant*, Toch. *luk*, Arm. *lois*, *lusin*, Lith. *laukas*, Ltv. *lauks*, O.C.S. *luci*, Russ. *lug*, Gaul. *leux*, O.Ir. *luchair*, Welsh *llug*, Kamviri *luka*; Hitt. *lukezi*, Lyc. *luga*, Luw. *luha-*,

For PIE root **lech**, *light, having little weight*, compare Gmc. *likhtaz* (cf. Goth. *lihts*, O.N. *léttir*, O.E. *lēoht*, O.H.G. *liht*, Swed. *lätt*, O.Fris., M.Du. *licht*, Ger. *leicht*, Eng. *light*), Lat. *levis*, Gk. ἐλαχύς, Skr. *laghús*, *raghús*, Av. *raghu-*, *rāvī* (from **raghvī*), Kashmiri *lo.t*, Toch. *-/lankūtse*, O.Pruss. *lāngiseilingins*, Lith. *lengva*, Ltv. *liegs*, Sla. *lbǣtkǣ*

(cf. O.C.S., O.Russ. *лѣгкѣ*, Russ. *лѣгкѣйш*, Pol. *lekki*, Cz. *lehký*, Sr.-Cr. *ла̋к*), O.Ir. *lugu*, *laigiú* (from **lagiōs*), Welsh *llai*, Alb. *lehtë*. Common MIE derivatives include suffixed **léchtos**, *light*, and **lechtio**, *lighten*, as Gmc. *likhtjan*; **lechús**, *light* (extended in **-is** in Lat. *leuis*) into **lechuā**, *lighten, raise*, Lat. *leuāre*, as in **léghuitā**, *levity*, **adlechuā**, *alleviate*, **eklechuā**, *elevate*, **relechuā**, *relieve*, **relechuántis**, *relevant*; variant **lachs**, *small*, as O.Ir. *lū-*; nasalized zero-grade **línchs**, *lung*, “*light organ*”, as Gmc. *lungz* (cf. O.N. *lunge*, O.E., O.Fris. *lungen*, M.Du. *longhe*, Ger. *lunge*).

16. Adjective **čiwós**, *alive*, from zero-grade **g^wiH*, is the source for Gmc. *kwikwaz* (cf. Goth. *quis*, O.N. *kvikr*, O.E. *cwicu*, O.Fris. *quik*, O.H.G. *quec*, Ger. *keck*, possibly also O.E. *cwifer*, Eng. *quiver*), lat. *uīus*, Osc. *bivus*, O.Ind. *jīvati*, Av. *ǰvaiti*, O. Pruss. *ǰiwa*, Lith. *gyventi*, Ltv. *dzīvs*. It comes from PIE root **cei**, *live*, compare Gk. *βίος* (*bios*), *ζωή* (*zoé*), Pers. *gaithā*, Toch. *śo/śai*, O.Arm. *keam*, O.C.S. *жуму*, Russ. *жумь*, Polish *żyć*, Gaul. *Biturīges*, O.Ir. *bethu*, Welsh *byd*.

17. PIE root **léus**, *loosen, divide, cut apart*, gives extended verb **lusō**, *lose, forfeit*, Gmc. *lausan* (cf. O.N. *los*, O.E. *losian*, O.Is. *lyja*, Swe. *sofve*), with zero-grade part. **lusonós**, Gmc. *luzanaz*, (O.E., Du. *loren*, Ger. [*ver*]*loren*), **leusós**, *loose, untied*, Gmc. *lausaz* (cf. Goth. *laus*, O.N. *lauss*, O.E. *leas*, Dan. *løs*, M.Du., Ger. *los*). Compare also Lat. *luēs*, Gk. *λύω*, Skr. *lunāti*, Toch. *lo/lau*, O.Ir. *loë*, Alb. *laj*; Hitt. *luzzi*. It is derived from PIE **leu**.

18. For Indo-European (**á**)**rtkos**, *bear, big animal*, from older **h₂(é)rtcos* or *h₂(é)rtgos*, (cf. Hitt. *hartagga*), compare Lat. *ursus* (from Ita. *orsos*), Gk. *αρκτος*, Skr. *ṛkṣa*, Av. *aršam*, Pers. *xers*, Arm. *arj*, Gaul. *Artioni*, Welsh *arth*, Alb. *ari*, Kamviri *ic*, Osset. *ærs*. Common Modern borrowings include Latin **rtkinós**, *ursine*, **Artkikós**, *Arctic* (from ***Arktikós**), **Antartkikós**, *Antartic* (see **ánti**, *opposite, in front*), Welsh **Artkór(i)os**, *Arthur*.

19. Modern Indo-European **nōmn**, *name*, from an older IE II **h₁noh₃m̃*, compare Gmc. *namōn* (cf. Goth. *namō*, O.N. *nafn*, O.E. *nama*, O.Fris. *nama*, O.H.G. *namo*, Du. *naam*), Lat. *nōmen*, Umb. *nome*, Gk. *ονομα*, O.Ind. *nāma*, Skr. *nāman*, Av. *nāman*, O.Pers. *nāma*, Toch. *ñom/ñem*, Arm. *անուն* (*anun*), O.Pruss. *emmens* (from *emnes*), Sla. *jmę-jmēne* (cf. O.C.S. *imę*, Rus. *имя*, Polish *imię*) Alb. *emër/emën*, O.Ir. *ainmm*, O.Welsh *anu*, O.Corn. *hanow*, Bret. *ano*, Kamviri *nom*; Hitt. *lāman*. Common modern words include Latin (from *nomen*, “*name, reputation*”), **nomnālís**, *nominal*, **nomnā**, *nominate*, **dwinomniālís**, *binomial*, **konnóm̃n**, *cognomen*, **denomnā**, *denominate*, **ñnomniā**, *ignominy*, **nomnklatór**, *nomenclator*, **prāinóm̃n**, *praenomen*, **prōnóm̃n**, *pronoun*, **renóm̃n**, *renown*; from Greek are **nomnstikós**, *onomastic*, **-nomn**, *-onym*, **ñnomnós**, *anonymous*, **antinomnsiā** (from **anti**), *antonomasia*, **eponomnós**, *eponymous*, (**a**)**sunomnós**, *euonymus*, **snteronomnós**, *heteronymous*, **somonomnós**, *homonymous*, **mātronomnikós**, *matronymic*, **patronomnikós**, *patronymic*, **nomntoqoiweíā**, *onomatopoeia*, **paronomnós**, *paronymous*, **pseudonóm̃n**, *pseudonym* (from Gk. *pseudes*, “*false*”) **konnóm̃n**, *synonym*.

For PIE **qéi**, *pile up, build, make*, compare o-grade **qóios**, *body* (as in Eng. *cheetah*), as Skr. *kāyāḥ*; suffixed **qoiwós**, *making*, (after Pokorny Gk. **ποι-φό-ς*) in verb **qoiweio**, *make, create*, as Gk. *ποιεῖν*, **qoiwéitis**, *making*, and as Greek suffix **-qoiweitis**, *-poiesis*, Gk. *ποίησις*, also from Lat. **qoiweitiā**, *poesy*, **qoiweimn**, *poem* (Gk. *ποίημα*), **qoiwéitā**, *poet* (Gk. *ποιητής*), **qoiweitikós**, *poetic*, **epoqoiweíā**, *epopee*, etc..

Similar root PIE **qéi**, *pay, atone, compensate*, gives Gk. *time*, Skr. *cinoti*, Av. *kaena*, O.C.S. *cena*, Lith. *kaina*, as well as common MIE o-grade **qoiná**, *fine, penalty*, as Gk. *poinē* into Lat. *poena*, as in **qoinālis**, *penal*, **qoinālitā**, *penalty*, **ṛqóinitā**, *impunity*, **qoinologíā**, *penology*, **qoinitosíós**, *punitive*, **supqoiná**, *subpoena*.

20. For **-qe**, enclitic “and”, compare Goth, O.N. *-u(h)*, Lat. *-que*, Gk. *-τε*, Messap. *ti, si*, O.Ind., Ira. *-ca*, Phryg. *ke*, Ven. *kve*, Gaul. *-c*, O.Ir. *-ch-*; Hitt., Luw. *-ku*, Lyc. *-ke*.

For MIE non-clitic words meaning “and”, compare especially MIE **éti**, “out, further”, also “and”, as Goth. *iþ*, O.N. *i*, O.E. *edw*, O.H.G. *ita-*, Lat. *etiam, et* (cf. Fr. *et*, It. *ed*, Spa.,Ca., *i*, Gl.-Pt. *e*, Rom. *și*), Gk. *eti*, O.Ind. *ati*, Av. *aiti*, O.Pers. *atīy*, Phryg. *eti*, Toch. *atas, aci/*, O.Pruss. *et-, at-*, Gaul. *eti, etic*, O.Bret. *et-*, O.Welsh *et-, at-*.

Common Germanic *untha* (cf. O.N. *enn*, O.E. *and, ond*, O.S. *endi*, O.Fris. *anda*, M.Du. *ende*, O.H.G. *enti*, Ger. *und*), reconstructed as MIE **ńti**, is generally said to be ultimately from PIE **ánti**, *in front*, although more conceivably a zero-grade form of nasalized ***énti**, from the aforementioned PIE **éti** (Adrados). Also, O.E. *eac*, “also” (as Eng. *eke*), Ger. *auch*, are used as the common conjunction in Da.,No. *og*, Swe. *och*, from **aug**, *increase*.

Slavic “a” comes from IE adverb **ad**, (older **h₁d*), “and, then”, as Skr. *fat*, “afterwards, then, so”, Av. *fat*, “afterwards, then”, while Slavic “(h)i” comes from IE conjunction **ei**, *and, if*, as in Gk. *e*.

21. IE **-r**, enclitic “for”, cf. Gk. *ar, ara, rá* (Cypriot *er*), O.Ind. *-r*, Lith. *ir*, “and, also”, *ar* (interrogative).

22. The *Angles* are members of a Germanic tribe mentioned by Tacitus, O.E. *Angeln*, from Lat. *Anglii*, lit. “people of *Angul*” (cf. O.N. *Öngull*), a region in what is now Schleswig-Holstein, in Northern Germany. The adjectives for the older inhabitants could then be reconstructed as Modern Indo-European **Angliós**. Modern adjective *English* is a common Germanic formation, derived from IE suffix **-isko-**; as, **Angliskós**, **Germaniskós**, **Teutiskós** (along with ‘Classic’ Graeco-Latin **Anglós**, **Anglikós**, **Germanós**, **Germanikós**, **Teutón**, **Teutunikós**), etc.

The noun **Germániā** is from unknown origin. The Oxford English Dictionary records theories about the Celtic root *gair*. Another theory suggests *gar*, while the one that derive it from Gmc. *gaizo-* (cf. O.N. *geirr*, O.H.G. *ger*, O.E. *gar*, Ger. *Ger*) is one of the oldest theories proposed. It is still a common word in modern languages; as, Nor. *germansk*, Gk. *Γερμανός*, Rom. *german*, Ir. *Gearmáinis*, Sco. *Gearmailtis*, Arm. *germaneren*, Hindi *Jarman*, Alb. *gjermanishte*, etc. also in Non-Indo-European languages, like Maltese *Ġermaniż*, Hebrew *germani*, Georgian *germanuli*, Indonesian, Malay, Tagalog, Thai, Xhosa, *Jerman*, Amharic *järmän*.

23. For Indo-European **wíqos**, *wolf* (fem. **wíqiā/wíqī**), compare Gmc. *wulfaz* (cf. Goth. *wulfs*, O.S. *wulf*, O.N. *ulfr*, O.Fris., Du., O.H.G., Ger. *wolf*), Lat. *lupus*, Gk. *λύκος*, Skt. *vṛkas*, Av. *vehrka-*, O.Pers. *Varkana-* (*Hyrkania*, “wolf-land”, district southeast of the Caspian Sea), Albanian *ulk*, Lith. *vilkas*, O.C.S. *вѣлкѣ*; Rus. *волк*, Ukr. *вовк*. Closely related PIE words are **wail**, *wolf*, cf. O.Arm. *gayl*, O.Ir. *fáel*, and **wípēs**, *fox*, cf. Lat. *uulpēs*, Gk. *αλωπηξ*, Skr. *lopāsá*, Av. *urupis, raopis*, Pers. *rōbāh*, Arm. *aluēs*, lit. *lāpė*, Ltv. *lapsa*. Such animals are also a symbol of lust in many old Indo-European dialects.

24. PIE root **bher**, *bear, carry*, also *bear children*, gave Gmc. *beranan* (cf. Goth. *bairan*, O.N. *bera*, O.E., O.H.G. *beran*), Lat. *fero*, Umb. *fertu*, Gk. *φέρω*, O.Ind. *bhárati*, Av. *baraiti*, O.Pers. *baratuv*, Phryg. *ber*, Toch. *pär*, O.Arm. *berel*, Lith. *beriu*, Ltv. *beŗu*, O.C.S. *бѣрату*, Rus. *беру*, Polish *biorę*, O.Ir. *berim*, Welsh *cymmeryd*, Alb. *bie*, Kamviri *bor*. With the meaning of *give birth*, compare Eng. *birth*, Goth. *baurþei*, Ger. *Geburt*, Lat. *fors*, O.Ind. *bhṛtís*, *bibhrāṇas*, O.Ir. *brith*, O.C.S. *бѣранѣ*. Modern derivatives include **bhérā**, *bier*, Gmc. *bērō* (cf. O.N. *bara*, O.E. *ber*, O.Fr. *biere*, O.H.G. *bara*, O.Fris. *bere*, M.Du. *bare*, Eng. *bier*); o-grade **bhórnom**, *child*, Gmc. *barnam*

(cf. O.E. *bearn*, Scots *bairn*); suffixed zero-grade **(kom)bhrtis**, *birth*, as Gmc. *(ga)burthiz* (cf. Goth. *gabaurþs*, O.N. *byrðr*, O.E. *gebyrd*, Ger. *geburt*, Eng. *birth*), **bhrtinios**, *burden*, as Gmc. *burthinjaz* (cf. Goth. *baurþei*, O.N. *byrðr*, O.S. *burthinnia*, O.E. *byrðen*, Ger. *bürde*); compound root **bhrenko**, *bring* (from **bher+enk**, *reach*), as Gmc. *bregan* (cf. Goth. *briggan*, p.t. *brohte*, pp. *broht*, O.Fris. *brenge*, O.E. *bringan*, M.Du. *brenghen*, O.H.G. *bringan*); from Latin *ferre* are common MIE **-bher**, *-fer*, **bhertilis**, *fertile*, **adbherénts**, *afferent*, **kikrombheréntiā**, *circumference*, **kombhero**, *confer*, **kombheréntiā**, *conference*, **debhero**, *defer*, **disbhero**, *differ*, **ekbherénts**, *effluent*, **enbhero**, *infer*, **obhbhero**, *offer*, **prāibhero**, *prefer*, **probhero**, *proffer*, **rebhero**, *refer*, **supbhero**, *suffer*, **transbhero**, *transfer*, **woqibherā**, *vociferate*; prefixed and suffixed zero-grade **próbhrom**, *reproach*, in **obhpróbhriom**, *opprobrium*; suffixed zero-grade **bhrtus**, *chance* (from “a bringing, that which is brought”), as in **bhrtuitós**, *happening by chance, fortuitous*, **bhrtúnā**, *chance, good luck, fortune*; lengthened o-grade **bhōr**, *thief*, as in **bhortēiuós**, *furtive*, **bhorónkolos**, *furuncle*; from Greek *pherein* are o-grade noun **bhóros**, *carrying*, **-bhorā**, *-phore*, **-bhoretis**, *-phoresis*, **-bhoros**, *-phorous*, **am(bh)bhorā**, (from Lat., from Gk. **ambhibhoreus**), **anábhorā**, **diabhorétis**, **(a)subhoríā**, *euforia*, **metábhorā**, **peribhéreiā**, **bheromónā**, etc.; suffixed **bhérnā**, *dowry* (“something brought by a bride”), as in **parabhernáliā**.

IE **nek**, *reach, attain*, gives o-grade prefixed (with intensive **kom-**) **komnóko**, *suffice*, as Gmc. *ganakh-* (cf. Goth. *ganohs*, O.N. *gnogr*, O.E. *genog*, O.Fris. *enoch*, Ger. *genug*); variant Greek **enk**, *carry*, gives o-grade noun **ónkos**, *burden, mass*, hence *a tumor*, as Gk. ὄγκος, Skr. *aṃśaḥ*, as in **onkogénetis**, **onkologíā**; and Germanic **bhrénko**, *bring*, v.s.

Greek *eu* is usually compared with Hittite *assu* < **eh₂su* “good”, hence MIE **asu**, usually **su-** in compounds, cf. O.Ind. *su-*. The fact that all Greek dialects show the same evolution in this Indo-European root is considered a rare phenomenon.

25. Attested derivatives include zero-grade Greek **q'qlos/qúqlos**, *circle, cycle*, Gk. κύκλος, (from which L.Lat. *cyclus*, Eng. *cycle*), Toch. *kukäl/kokale*, e-grade **qéqlos**, *wheel*, as Gmc. *khwewlaz* (cf. O.N. *hvel*, O.E. *hwēol*, *hweogol*, O.S. *hiughl*, O.Fris. *hwel*, M.Du. *weel*), and Lith. *kāklas*, or neuter **qéqlom**, *chakra, circle, wheel*, as O.Ind. *cakram*, Av. *čaxra*, also found as metathesized **qélqos**, *charkha*, as Old. Pers. *čarka-*, or Osset. *calx*. Other derivatives from PIE verbal root **qel**, meaning *revolve, move around, sojourn, dwell*, include Lat. *colere*, “*till, cultivate, inhabit*”, not originally o-grade in PIE (from basic form PIE **qelo-** -> Lat. *cole-*), as in **qélōnos**, *setler*, **qélōniā**, *colony*, **qeltós**, *cultivated*, **qéltos**, *worship, cult*, **qeltēiuós**, *tilled*, **qeltēiūā**, *cultivate*, **qéltosā**, *culture*, **ṛqeltós**, *incult*, **ṛqélinos**, *inquiline*, etc; suffixed **qélōs**, “*completion of a cycle*”, *consummation, perfection, end, result, telos*, gives Gk. τέλος, -εος (remember that PIE [k^w] becomes Gk. [p] or [t] before certain vowels), giving **qeliós**, *perfect, complete*, from which **qeliologíā**, *teleology*, **qéliom**, *telium*, **qelio**, *consecrate, fulfill*, in turn giving **qelésmn**, *consecration ceremony*, from which **qelesmán** (through Arabic *tilasm*, then It. *talismano* or Spa. *talismán* into Fr. *talisman*); from o-grade **qólso-**, “*that on which the head turns*”, *neck, hals*, are **qólsos**, Gmc. *kh(w)alsaz* (cf. Goth., O.N., Dan., Swed., Du., Ger. *hals*), and **qólsom**, as Lat. *collum*, from which derivatives **qolsár**, *collar*, **deqolsā**, *decollate, behead*, etc.; suffixed **-qolā**, *-colous*, and **enqolā**, *inhabitant* a Lat. *-cola, incola*; **ánqolos**, “*one who bustles about*”, *servant*, as Lat. *anculus*, giving dim. f.

anqíllā, maidservant; **qólos**, axis of a sphere, pole, as Gk. πόλος, also **-qólos**, herdsman, as **couqólos**, cowherd, (from **cōus**, cow), as Gk. βουκόλος, giving **couqolikós**, bucolic; also, **qólōs**, wheel, as Slavic *kolo*, *koles* (cf. O.C.S. *коло*, Russ. *колесо*, Pol. *kolo*); suffixed o-grade **qólenos**, traffic, as O.Ira. *-carana*, as in **wésāqólenos**, “sale-traffic”, bazaar, as O.Ira. *vahacarana* (see **wes**), Pers. *bāzār*, hence also MIE partial loan **wesár** or loan **bazár**, bazaar. Compare also O.N. *hjōl*, Skr. *cáratī*, Av. *caraitī*, Old Prussian *-kelan*, Lith. *kelias*, O.Ir. *cul*, Alb. *sjell*; Luw. *kaluti-*; zero-grade variant **qín**, again, as Gk. πάλιν, as in **qlíndromos** (from Gk. -δρόμος, racecourse), *palindrome*, **qlímpsēstos**, *palimpsest*, Gk. παλίμψηστος (from Gk. *psēn*, “scrape”).

A common word for wheel is **rótā**, from which Gmc. *radō* (cf. ON *roðull*, O.E. *rodur*, O.H.G. *rad*), Lat. *rota*, Skr. *ratha*, Av. *radha*, Lith. *ratas*, Ltv. *rats*, Gaul. *Roto-*, Ir. *rath*, Welsh *rhod*, Alb. *rrath*. Known modern derivatives are Celtic loan word *to-wó-rets*, formed by IE “**do-upo-réts**”, “a running up to”, which gives Mod. Eng. *tory*, from O.Ir. *tōir*, “pursuit”; also, **retondós**, rolling, which gave **rotondós**, round, rotund, as Lat. *rotundus*.

26. Compare for PIE **ghóstis**, stranger, guest, Gmc. *gastiz* (cf. Goth. *gasts*, O.N. *gestr*, O.E. *gæst*, O.Fris. *jest*, O.H.G. *gast*), Lat. *hostis*, *hospes* (*hostis-potes*) O.C.S. *gosti*, OCS *gostĭ*, Russ. *зость*, Polish *gość*; Luw. *gaši*. Compound **ghospóts**, host, (Lat. *hospes*, *guest*, originally *host*, “lord of strangers”), gives MIE **ghospotális**, hospitable, and also **ghospotális**, hospital (from M.Lat. *hospitale*, meaning *inn*, *large house*, “guest house”), reduced as **ghostális**, hostel, from O.Fr. *hostel*, in turn from Lat. *hos(pi)tale*. For Hotel, a more international borrowing from the same word, it could be used either as **ghostális**, or as a French loan word **ghostél/ghotél**; compare words with slightly different meanings: Eng. *hostel-hotel*, Ger. *Gasthaus-Hotel*, Swe. *gstgiveri-hotel*, Ice. *gistihtel*, Spa. *hostal-hotel*, It. *ostello-hotel*, Pt. *hotel*, Russ. *гостиница* (*gostinitsa*), Uk. *готел* (*gotel*), Pol. *hotel*, Cz. *hostinec*, Pers. *hotel*, Ind. *hotel*, and also in non-Indo-European languages, as Finnish *hotelli*, Japanese *ホステル* (*hosuteru*) - *ホテル* (*hoteru*), Korean *호텔* (*ho-t’el*), Thai *โรงแรม* (*hō-ten*), etc. The word for ‘hotel’ in Latin, however, was *deuorsorium*, from the same root as Eng. *divert*.

27. More PIE derivatives related to **stáuros**, (also **stéuros**, both from PIE **ster**) are Germanic (s)teuraz (cf. Goth. *stiur*, O.S. *stior*, O.N. *stjórr*, O.E. *steor*, O.H.G. *stior*, M.Du., Du. *stier*; Dan. *tyr*, Swed. *tjur*), Lat. *taurus*, Osc. *turuf*, Gk. *ταυρος*, Av. *staora*, O. Pruss. *tauris*, Lith. *tauras*, Ltv. *tauriņš*, O.C.S. *turu*, Rus. *tur*, Pol. *tur*, Gaul. *tarbos*, Welsh *tarw*, O. Ir. *tarb*, Oscan *turuf* and Alb. *taroç*.

28. Indo-European **nízdos**, nest, resting place, is a secondary PIE root, from **ni-**, down, + **sed**, sit. Compare Gmc. *nistaz*, Lat. *nidus*, O.Ind. *nidas*, Skr. *nīḍá*, Arm. *nist*, O.C.S. *гнездо*, Russ. *гнездо*, Polish *gniazdo*, O.Ir. *net*, Welsh *nyth*, Bret. *nez*. For **mízdhos**, compare Gmc. *mizdō* (Goth. *mizdō*, O.E. *mēd*, O.S. *mēda*, O.H.G. *mieta*), Gk. *μισθός*, Skr. *mīdhá*, Av. *mīžda*, Pers. *muzd*, *meed*, O.C.S. *mīzda*, Russ. *мзда*.

29. PIE **ker**, horn, head, gave derivatives **kfnos**, horn, Gmc. *khurnaz* (cf. Goth. *haur̥n*, O.E. *horn*, Ger. *Horn*, Du. *horen*), Lat., Celt. *cornū* (< ***kórnus**, a blending with variant o-grade **kórus**, as in Gk. *koru-*); **kéruiks**, neck, from Lat. *cervix*; **kérudos**, male deer, hart, from Gmc. *kherutas* (cf. O.H.G. *hiruz*, O.N. *hjörtr*, O.E. *heorot*, M.Du. *hert*, Ger. *Hirsch*); **kéruos**, deer, as Lat. *ceruus*, Welsh *carw*; **krsniom**, Gk. *κρανίον*, Lat. *cranĭum*; **krsnotom**, hornet as Gmc. *khurznutu-* (cf. O.E. *hyrnetu*, *hurnitu*, Du. *horzel*); **kerésrom** [ke-‘rez-rom], brain, as Lat. *cerēbrum* (compare also O.N. *hjarni*, O.H.G. *hirni*, Ger. *Hirn*); other derivatives include Gk. *καρη*, Skr.

śiras, *srngam*, Av. *sarah*, Pers. *sar*, Toch. *krāñi*, Arm. *sar*, O.Pruss. *kerpetis*, Lith. *szirszu*, Ltv. *šķirpta*, O.C.S. *чрѣпъ*, Russ. *čerep*, Pol. *trzop*, Bret. *kern*, Alb. *krye*, Osset. *sær*.

30. For PIE **snúsos**, *daughter-in-law*, compare Gmc. *snusaz* (cf. Goth. *schuos*, O.N. *snor*, O.E. *snoru*, O.H.G. *snur*), Lat. *nurus*, Gk. *vvoç*, Skr. *snuṣā*, Arm. *nu*, OCS *snŭxa*, Russ. *чoxa*, Polish *snecha*, Alb. *nuse*.

31. PIE **nébhōs**, *cloud*, evolved as Skr. *nábhas*, Av. *nabah*, Lith. *debesis*, Ltv. *debess*, O.C.S. *nebo*, Russ. *nebo*, Polish *niebo*, O.Ir. *nem*, Cor. *nef*, Kamviri *niru*; Hitt. *nepiš*, Luw. *tappaš-*, Lyc. *tabahaza*. Suffixed **nébhelā** gives Gmc. *nibila* (cf. O.N. *niflhel*, O.E. *nifol*, O.H.G. *nebul*, also found in MIE patronymic **Nebhelínkos**, Gmc. *Nibulunkhaz*, as O.H.G. *Nibulunc*, *Nibulung*), also Welsh *niwl*, Lat. *nebŭla*, as in **nebhelós**, *nebulous*, and Gk. *nephelē*, as in **nebhelínā**, *nepheline*, **nebhelométron**, *nephelometer*; suffixed **nebhologíā**, *nephology*; nasalized **némbhos**, *rain, cloud, aura*, as Lat. *nimbus*.

For PIE **mē**, *measure*, compare derivatives suffixed **mélos**, *meal* “*measure, mark, appointed time, time for eating, meal*”, as Gmc. *melaz* (v.s.); suffixed **métis**, *wisdom, skill*, as Gk. *mētis*, further suffixed **metio**, *measure*, as Lat. *mētīrī*, in nasalized p.part. **mensós**, *measured*, **mensósā**, *measure*, **mentosālis**, *mensural*, **kommensosā**, *commensurate*, **disménsiōn**, *dimension*, **ḡmensós**, *immense*; **métron**, *measure, rule, length, proportion, poetic meter* (referred by some to IE **med-**), as Gk. μέτρον, in **metrikós**, *metrical*, **diametrós**, *diameter*, **geometriā**, *geometry*, **wiswometrikós**, *isometric*, **metrologíā**, *metrology*, **kometriā**, *symmetry*; extended and suffixed forms **ménā**, *month, moon*, as Gmc. *mēnōn* (cf. O.E. *mona*), Gk. *mēn*, *mēnē*, in derivatives **mēnopáusā**, *menopause*, **ḡmēnosréwiā**, *amenorrhoea*, etc.; for *month*, compare also **ménōts**, as Gmc. *mēnōth-* (cf. Goth. *menoþs*, O.N. *manaðr*, O.E. *mōnath*, M.Du. *manet*, O.H.G. *manod*, Du. *maand*, Ger. *Monat*), and Latin **ménsis**, as in **menstruā**, *menstruate*, **menstruālis**, *menstrual*, **dwiménstris**, *bimester*, **dwimenstriālis**, *bimestrial*, **seksménstris**, *semester*, **triménstris**, *trimester*, etc. (see also zero-grade suffix **m(ns)ris**, *month*).

PIE **mē** referred also to certain qualities of mind, as suffixed o-grade **mótos**, *mind, disposition*, as Gmc. *mothaz* (cf. Goth. *moþs*, O.N. *moðr*, O.Fris. *mod*, M.Du. *moet*, O.H.G. *muot*, Du. *moed*, Ger. *Mut*), and Latin **mōs**, *wont, humor, manner, custom*, as in loan words (affected by rhotacism) **mosālis**, *moral*, **mósōs**, *custom*, **mosónts(ós)**, *morose*.

Also, PIE **mē**, *big*, gives suffixed comparative **méisā**, *greater, more*, as Gmc. *maizōn* (cf. O.S. *mera*, O.N. *meiri*, O.Eng. O.Fris. *mara*, O.H.G. *mero*, M.Du. *mere*, Ger. *mehr*), Osc. *mais*, Gk. *-moros*, Av. *mazja*, O.Ir. *mor*; also, superlative **mēistós**, *most*, Gmc. *maistaz*; (Lat. *maes*, “*more*”, comes from **meg**).

IE **med**, *take appropriate measures, measure*, gives Gmc. *metan* (cf. Goth. *mitan*, O.E. *metan*, O.Fris., O.N. *meta*, Du. *meten*, Eng. *mete*, Ger. *messen*), also **(kom)médā**, *measure*, Gmc. *(ga)mætijaz* (cf. O.N. *mætr*, O.E. *gemæte*, O.H.G. *gimagi*, Eng. *meet*, Ger. *gemäß*); **medio**, *look after, heal, cure*, as Lat. *medērī*, in **medikā**, *medicate*, **medikínā**, *medicine*, **medikós**, *medical*, **remédiom**, *remedy*; **meditā**, *think about, consider, reflect, meditate*; suffixed **medes-**, giving (influenced by Lat. *modus*) **modestós**, “*keeping to the appropriate measure*”, *moderate*, **ḡmodestós**, *inmodest*; **modesā**, “*keep within measure*”, *moderate, control*, **ḡmodesatós**, *inmoderate*; **medóntiā**, *Medusa*, from Gk. *medein*, “*rule*”; suffixed o-grade **módos**, *measure, size, limit, manner, harmony, melody, mood*, as in **módā**, *mode*, **modélos**, *model*, **modesnós**, *modern*, **modidhakā**, *modify*, **modolā**, *modulate*, **módolos**, *module, modulus*, **kommodā**, *commode*, **kommóditā**,

commodity, **adkommodā**, accomodate; suffixed o-grade **módios**, a measure of grain; lengthened o-grade **mōds**, ability, measure, as in **mōdo**, have occasion, to be permitted or obliged, as Gmc. *mōtan* (cf. Goth. *gamotan*, O.Fris. *mota*, O.E. *motan*, M.L.G. *moten*, Du. *moeten*, Ger. *müssen*, Eng. *must* from O.E. part. *moste*).

32. PIE verb **gen**, give birth, beget, produce, is a well-attested root which gives derivatives referring to aspects and results of procreation and to familial and tribal groups, e.g. **génōs**, race, stock, kind, gender, as Lat. *genus*, *generis*, Gk. γένος, Skr. *janaḥ*, giving derivatives **genesā**, generate, **genesális**, general, **genesátion**, generation; alternate base **gña**, giving cognate **gntis**, natural, native, clan, kin, race, as Gmc. *kundiz* (cf. O.E. *gecynd*, Eng. *kind*), Lat. *gentis*, Gk. γένεσις, Skr. *jāta*, Lith. *gentis*; reduplicate **gigno**, beget, with past participle **genitós**, as in **genitór**, **genitális**, **komgenitális**, etc., cf. Lat. *gignere*, Gk. γίγνεσθαι, Skr. *jajanti*, Av. *zīzanti*; **gnāsko**, be born, from Lat. *gnāsci*, as in **gnātós**, born, **gnātēiuós**, native, **gnátion**, nation, **gnátosā**, nature, **komgnātós**, cognate; **prāignánts**, pregnant; **génios**, procreative divinity, inborn tutelary spirit, innate quality; **engenuós**, born in (a place), native, natural, freeborn, then ingenuous, and **genuínós**, genuine; **engéniom**, inborn character, later engine, and **engeniónts(ós)**, ingenious; **endogenā**, native, indigen; **génmēn**, germen, as in **genmenā**, germinate, **genmenális**, etc. Compare also Gmc. *kunjam*, Osc. *genetaí*, Umb. *natine*, Skr. *janati*, Pers. *zāēdan*, Phryg. *cin*, Thrac. *zenis*, Toch. *kän*, Arm. *cnanim*, Lith. *gimdyti*, Ltv. *znots*, OCS *zěti*, Russ. *зять*, O.Ir. *ro-genar*, Welsh *geni*, Alb. *dhëndër/dhândër*, Kam. *zut*; Hitt. *genzu*.

33. From PIE root **weid**, **woid**, see, know, compare Gmc. *wītan* (Goth. *weitan*, O.N. *vita*, O.S., O.E. *witan*, O.H.G. *wizzan*), Lat. *uidēre*, Gk. *ιδειν*, *ειδοσ*, *οιδα*, Doric Gk. *woida*, Skr. *vēdah*, Av. *vaēda*, Phryg. *wit-*, Arm. *gitem*, O.Pruss. *widdai* (from *vidājet*), Lith. *vėizdmi*, O.C.S. *видѣти*, Pol. *widzieć*, Rus. *видѣть*, Gaulish *vindos*, O.Ir. *ro-fetar*, Welsh *gwyn*, Breton *gwenn*, Kashmiri *vūchhūn*. Derivatives include **wéistos** (<***wéidtos**), learning, wisdom, knowledge, appearance, form, manner, as Gmc. *wissaz* (cf. O.N. *viss*, O.S., O.Fris., O.E. *wīs*, O.H.G. *wiz*, O.Fr. *guise*, Du. *wijs*, Ger. *weise*, Eng. *wise*); suffixed **wéidōs**, form, shape, as Gk. *eidos*, in **wéidolom**, idol, *eidolon*, as Gk. *εἶδωλον*; zero-grade form **wídiom**, knowledge, understanding, intelligence, mind, as Gmc. *witjam* (cf. O.N. *vit*, O.S. *wit*, O.Fris. *wit*, O.H.G. *wizzi*, O.E. *wit*, Dan. *vid*, Swed. *vett*, Ger. *Witz*), also **ṛwídiom**, ignorance (cf. Goth. *unwiti*); from zero-grade **widē**, see, look, as Lat. *uidēre*, are **wistós** (<***widťós**, *uisós* in Latin), seen, as in **wístā**, visa, **wístion**, vision, **wistitā**, visit, **wístōs**, visor, **adwístom**, advice, **adwístā**, advise, **enwídiā**, envy, **ekwidénts**, evident, **prowidē**, foresee, **prowístós**, foreseen, **ṛprowístós**, unforeseen, **ṛprowístā**, improvise, **enterwidē**, interview, **enwidíónts(ós)**, invidious, **prāiwidē**, prewise, **prowidē**, provide, **prowidénts**, prudent, **rewidē**, review, **rewístā**, revise, **superwístā**, supervise, survey; suffixed **widésiā**, appearance, form, idea, as Gk. *idéa*; suffixed **wistór** (<***widťór**), wise, learned, learned man, Gk. *histōr*, in **wistoriā**; **Ńwidā**, Hades, the underworld, perhaps “the invisible”, as Gk. *Haidēs/Aidēs*; suffixed o-grade **wóidos**, knowledge, as Skr. *vedaḥ*.

34. Indo-European **qēl**, far, gives prefixes **qēle-**, far off, from Gk. *τηλε-* (related to **qēleos**, Gk. *τελεος*, end, goal, result), and **qlai-**, long ago, Eng. *paleo-*, from **qlaiós**, old, ancient, Gk. *παιαίος*. This PIE base is possibly related (as a lengthened form) to **qel**, move around; cf. Skr. *caramah*, Welsh *pellaf*, Bret. *pell*.

It is discussed whether *television* was formed in Eng. or borrowed from Fr. *télévision*, in either case from Gk. *tele-*, “far off, afar, at or to a distance”, and Lat. *vision*. Other proposals for the name of this then-hypothetical

technology were *telephote* (1880) and *televista* (1904). The technology was developed in the 1920s and '30s. Loan-translated in Ger. as *Fernsehen*.

English technology comes from PIE **teks**, *weave*, also *fabricate*, *plait*, cf. O.N. *þexla*, O.H.G. *dehsa*, Lat. *textō*, Gk. *tektōn*, Skr. *takṣati*, Av. *tašaiti*, O.Pers. *ustašana*, Pers. *taš*, Lith. *tašau*, Ltv. *tešu*, OCS *tešq*, Russ. *tesla*, Ir. *tál*; Hitt. *takš*. Common derivatives include **tékstos**, *text*, **komtékstos**, *context*, **prāitékstos**, *pretext*; suffixed **tékslā**, *web*, *net*, *warp of a fabric*, also *weaver's beam* (to which the warp threads are tied), also found in adj. **suptekslís**, *thin*, *fine*, *precise*, *subtle* (<***sup-tékslā**, “thread passing under the warp”, *the finest thread*); suffixed **téksōn**, *weaver*, *maker of wattle for house walls*, builder, **tekstór**, *builder*, **tékstōn**, *carpenter*, *builder*, as in **tekstonikós**, *tectonic*, or **arkhitékstōn**, *architect* (from Gk. *arkhein*, “begin, rule”); **téksnā**, *art*, *craft*, *skill*, as Gk. *tekhnē*, in **teksnikós**, *technical*, **teksnologíā**, *technology*.

Another common PIE verbal root for “weave” was **webh**, as in Gmc. *webanan* (cf. O.N. *vefa*, O.E. *wefan*, O.H.G. *weban*, M.L.G., M.Du., Du. *weven*, Eng. *weave*, Ger. *weben*), Gk. *huphē*, Skr. *ubhnāti*, Av. *ubdaēna*, O.Pers. *baftan*, Pers. *bāfad*, Toch. *wāp/wāp*, Alb. *vegjë*. A common MIE word is o-grade **wóbbiom**, *web*, *fabric*, as Gmc. *wabjan* (cf. O.S. *webbi*, O.N. *vefr*, O.E. *webb*, O.H.G. *weppi*, Du. *webbe*, Ger. *gewebe*), also as English loan word simply **webh**, as in **Wíralts Wítá Webh**, *World Wide Web*, *WWW*; also, **wobh(i)o**, *move back and forth as in weaving*, as Gmc. *wab-* (cf. O.N. *vafra*, O.E. *wafian*, *wæfre*, M.E. *waveren*, M.H.G. *waben*, L.Ger. *wabbeln*); suffixed zero-grade form **úbhā**, *web*, as Gk. *huphē*.

Proto-Indo-European **wi**, *apart*, *away*, is the source for adj. **witós**, *wide*, as Gmc. *withas* (cf. O.S., O.E., O.Fris. *wid*, O.N. *viðr*, Du. *wijd*, O.H.G. *wit*, Eng. *wide*, Ger. *weit*), and also for **wit(e)ros/m**, *against*, lit. “more apart”, as Skr. *vitaram*, Gmc. *withros* (cf. Goth. *wīpra*, O.S. *withar*, O.N. *viðr*, O.E. *wið*, O.H.G. *widar*, M.Du., Du. *weder*, Du. *weer*, Eng. *with*, Ger. *wieder*). Compare other derivatives as Skr. *vi*, Av. *vi-*, Hitt. *na-wi* “not yet”, O.C.S. *vutoru*, “other, second”, as Russ. *emopoŭ*.

35. PIE root **ag**, *drive*, *draw out or forth*, *move*, *set in motion*, gives O.N. *aka*, Lat. *agere*, *actus*, Osc. *acum*, Gk. *ἄγω*, Skr. *ájati*, *ajiráh*, Av. *azaiti*, Toch. *āk*, Arm. *acem*, O.Ir. *ad-aig*, *āin*, O. Welsh *agit*; probably Hitt. *aggala-*, “furrow”. For more on **ag**, v.i.

36. For root **leg**, *lie down*, *rest*, gave Gmc. *ligjan* (cf. Goth. *ligan*, O.N. *liggja*, O.E. *licgan*, O.Fris. *lidzia*, M.Du. *ligghen*, O.H.G. *liggan*), Lat. *lectus*, Gk. *λεχῶ*, Toch. *lake/leke*, Lith. *at-lagai*, Ltv. *lagača*, O.C.S. *lego*, Russ. *лежáть*, Polish *leżeć*, Gaul. *legasit*, O.Ir. *lige*, Welsh *gwal*; Hittite *lagi*.

37. PIE root **ped**, *foot*, is the source for Gmc. *fōts* (cf. Goth. *fōtus*, O.N. *fōtr*, O.E. *fōt*, O.H.G. *fuoz*, Du. *voet*), Lat. *pedis*, Umb. *peři*, Gk. *πεζός*, Dor. *πός*, Skr. *padám*, Av. *pâda-*, Pers. *pa*, Arm. *het*, Toch. *peṃ/paiyye*, Lith. *pédq*, Ltv. *peđa*, O.C.S. *пѣшь*, Russ. *нёушŭ*, Pol. *pieszy*, Alb. *poshtë*, Osset. *fad*; Hitt. *pata*, Lyc. *pede-*, Luw. *pati-*.

38. The common verb **klus(sk)o**, *listen*, comes from zero-grade of PIE **klew**, *hear*, and it has derivatives refer also to *fame*, *word* or *loud*, as in Gmc. *khlusinōn*, ‘listen’ (cf. O.E. *hlysnan*, O.H.G. *hlosen*, Eng. *listen*), *khlūdaz*, ‘loud’ (cf. Goth. *hliuþ*, O.N. *hljóðr*, O.N. *hlud*, O.H.G. *hluť*), Lat. *chuēre*, Gk. *κλυω*, *κλέος* (as in *Ἡρακλῆς*, *Herakles*), Skr. *śru*, *srnoti*, *çrāváyati* Av. *sraota-*, *surunaoiti*, *sravayeiti*, M.Pers. *srod*, Pers. *sarāyīdan*, Illyr. *cleves*, Toch. *klyos*, *klāw*, Arm. *lu*, O.Lith. *šlāvē*, *šlově*, Lith. *klausau*, *šlōvė*, Ltv. *klausīt*, *slava*, *slave*, O.C.S. *slusati*, *slava*, *slovo*, Russ. *слово*, *cláva*, Pol. *słowo*, *slawa*, Gaul. *clu*, O.Ir. *clunim*, Welsh *clywaf*, Alb. *quhem*.

The common Slavic word to define themselves, O.C.S. словѣне, словѣнскѣ, reconstructed as an older base [*k'lou-*], if ultimately Indo-European (cf. for **klutós**, “*heared, famous*”, Skr. *śrutá-*, Av. *sruta-*, Gk. *lytós*, Lat. *in-clitus*, M.Ir. *rocloth*, O.H.G. *Hlot-hari*, Arm. *lu*), is a demonym whose first reference is probably found in Ptolemy, who identified tribes called *Stavanoi* and *Soubenoi*, then translated (6th century) as M.Lat. *Sclaueni/Sthlaueni*, M.Gr. *Σκλαβηνοί/Σθαβηνοί*. It is thus probably related to either *slava, fame*, (as *slaviane*), thus “*glorious people*”, or from *slovo, speech*, (as *slověne*), therefore originally meaning “*member of the speech community*” (cf. Albanian noun for themselves, *shqipetár*, derived from *shqipónj, understand*), in contrast with the Germans, who were in O.C.S. *nemici*, related to *nemu ‘dumb’*. Compare with the Greek custom of using βαρβαρος to mean “*foreign, strange, ignorant*” (derivatives are Lat. *barbārus*, Eng. *barbarian*) from PIE base **barbar-**, echoic of unintelligible speech, like that of foreigners (cf. Skt. *barbara-*, *stammering*, also “*non-Aryan*”). Therefore, a proper MIE reconstruction for such Slavic term is **Klówenos**, *Slav*, for словѣне, and **Kloweniskós**, *Slavic*, for словѣнскѣ, but – because the reconstruction is uncertain, and modern crossed borrowings are usual–, modern loan words **Slawénos**, **Slaweniskós** should be preferred.

For common MIE terms – which could be also written with initial **klo-** instead of **slo-/sla-**, compare: **Slawénos**, *Slav*; **Slaweniskós**, *Slavic*; **Slowéniskā**, *Slovakia*; **Slowéniā**, *Slovenia*; **Sloweniskós**, *Slovak*; **Slowenikós**, *Slovene*; **Augosláwiā**, *Yugoslavia*. The later is a compound of MIE reconstructed **aug**, *southern*, from **ug-** (proper IE reconstruction of Slavic *jug-*), originally referring to a southern wind, possibly ultimately from PIE root **aug**, with derivatives meaning *increase, enlarge*, as already seen.

39. PIE root **bhes** *breathe, blow*, gave Skr. *bhas-*, Gk. *ψυχειν*, and is probably of imitative origin. Its zero-grade **bhs-** gives supposedly ***bhsūghá** [(b^h)su:-k^ha:], *spirit, soul*, originally *breath, life*, “*the invisible entity behind the physical body*” (personified as *Psyche*, the lover of *Eros*), a MIE loan word (**bhsūgho-** in compounds) from Gk. *ψυχή*, with an unreconstructed Greek ending **-kh-**, probably PIE **-gh-**. In light of O.Ind. *bábhasti*, some would rather reconstruct a metathesized PIE **spu-**, hence MIE **psūghá**.

40. Usually reconstructed preposition and preverb ***ksun**, *with, together*, as Gk. *ξυν*, is explained as **kom** via Greek-psi substratum (Villar). Slavic *su-, so/s*, normally compared with the Greek form, could in turn come from zero-grade **sm** (see **sem**, *one*), as O.Ind. *sa*. Then compound **smwídus**, *council*, from Slavic *so-vetu*, is also formed by O.C.S. *вѣтъ, counsel, advice* (a loan-translation in Gk. *βουλή* in ‘*συμ-βούλιον*’), which comes from PIE root **weid**, *know* (see Consonant Change in § 2.8.4), also found with this broader sense of *share, “share knowledge”*, in Baltic, cf. O.Pruss *waitiāt*, Lith. *vaitenù*.

41. IE **gnātiōn**, *nation, stock, race*, lit. “*that which has been born*”, is a Latin loan from **gn(ā)tós**, past part. of **gnásko**, *be born*, as Lat. *natiōnis, natus, gnasci* (ultimately from **gen**). Political sense has gradually taken over from racial meaning “*large group of people with common ancestry*”, and common derivatives include **gnātionālis**, *national*, or **gnātionālitā**, *nationality*, or **gnātēiuós**, *native*, “*innate, produced by birth*”, etc.

42. PIE root for **prkskó** is **prek**, *ask, entreat, pray*, and is cognate with Gmc. *frēkhan* (cf. Goth. *frāihnan*, O.N. *fregna*, O.E. *frignan*, O.H.G. *frāga*), Lat. *prex*, Osc. *aparsam*, Umb. *pepurkurent*, Skr. *praçnás, prās*, Av. *frāsa*, Toch. *prak/prek*, Arm. *harçanem*, Lith. *prašaũ*, Ltv. *prasu*, O.C.S. *npocumu*, Russ. *npocúmb*, Pol. *prosić*, Welsh *archaf*, Ir. *arco*, M.Bret. *archas*. Common MIE derivatives include **preks**, *prayer*, as Lat. *prex*, and verb **prekā**, *entreat, pray*, as Lat. *precāri*, in **prekāsíós**, *precarious* (a purer IE word is **dúsopis**, cf. O.Ir. *domme ‘poor’*

<**dus-op-smjo*, Lat. *inops*, O.Ind. *durāpah* ‘hard to obtain’, etc), **deprekā**, *deprecate*, **enprekā**, *imprecate*; from **prkskó** is extended **p(o)rs(k)stolā**, *ask, request, postulate*, as Lat. *postulāre*.

43. Modern Indo-European words for “house”:

A. Derivatives from an original PIE root **dem-** are **dómos/démos**, *house, ‘shelter’*, are Lat. *domus*, Umb. *dâmoa*, Gk. δόμος, δῆμος (*deme*), O.Ind. *dâmas*, Av. *dam*, Toch. *tam/täm*, Arm. *tun*, Lith. *namas*, Ltv. *nams*, O.C.S. домъ, Rus. дом, Pol. *dom*, Welsh *tŷ*. Also common for *lord, ‘house-master’*, is **dómūnos**, cf. Skr. *dāmūnas*, Lat. *dominus* (see Latin ablaut). From IE **dómn** is Gk. δῶμα, *dome*. Probably from same root is base **demo**, *build*, giving **démrom**, *timber*, Gmc. *temran* (cf. Goth. *timrjan*, O.N. *timbr*, O.E. *timber*, O.Fris. *timber*, O.H.G. *zimbar*, Ger. *Zimmer*); also verb **demrio**, *build*, Gmc. *timrian* (*build*, cf. O.E. *timbran*, Du. *timmeren*, Ger. *zimmern*) and compare also Gmc. *tumfetiz*, (Eng. *toft*, from O.N. *topt*), Gk. δάπεδον, Lith. *dimstis*.

B. For ‘house’ in Germanic languages MIE reconstructs a common **kúsom**, *dwelling, shelter*, from Gmc. *khusam* (cf. Goth. *-hus*, O.N., O.E., O.Fris. *hus*, Du. *huis*, Ger. *Haus*), probably related to PIE root **(s)kéu**, *cover, conceal*. Compare in **kéudh(i)o**, *hide, conceal*, Gmc. *kluthjanan* (O.E. *hyde*), Gk. κεύθω, and other derivatives like **kéudhis**, *covering*, Gmc. *khudiz* (cf. O.N. *huð*, O.E. *hyd*, O.Fris. *hed*, M.Du. *huut*, Ger. *Haut*), **skéuiom**, *cloud, cloud cover*, as Gmc. *skeujam* (cf. Goth. *skuggwa*, O.N. *scy*, *skuggi*, O.E. *sceo*, *scua*, O.S. *scio*, O.H.G. *scuwo*, *scūr*, O.Ice. *skāli*, *skjöl*, M.H.G. *hode*, Ger. *Scheuer*), Lat. *cutis, scutum, ob-scurus*, Gk. κύτος, Skr. *kostha*, *skunati*, Arm. *cim*, Lith. *kēvalas*, Ltv. *skura*, Rus. *kishka*, O.Ir. *cūl*, Welsh *cuddio*.

C. PIE root **kat**, *hut, shed* is probably the source of Romance **kasā** (thus older PIE **kātiā**) as in Gmc. *kha-* (cf. O.E. *heaðor*), Lat. *catena, cassis, castrum*, Av. *kata-*, Pers. *kad*, O.C.S. *kotici, kotú*, O.IR. *cathir*, Welsh *cader*. The different warlike meanings found are explained by confusion with a similar PIE root, **kats**, *troop, battle*, cf. O.N. *hoð*, O.E. *heapu*, O.H.G. *hathu*, Skr. *śātayati*, Toch. */keta*, O.C.S. *kotora*, Gaul. *catu*, O.Ir. *cath*, Welsh *cad*.

Compare also from other works, Swe. *kåta*, Nor. *kota/kote/kåte* (probably borrowed from Uralic *kota*, as Finnish *koti*, Est. *kodu*, Hung. *ház*), and also Skr. *cātvāla-*, Av. *čāiti*, Toch B *kotai-*, Alb *katua*, as well as other unexplained words like Bul. *кѡца*, Srb.-Cro. *kuća*, Slovene *hiša*, all meaning *hut, shed, house, or hole, prison*, some of them reconstructed as derived from PIE root **ket**, *storage pit* (Mallory-Adams).

D. Old Greek οἶκος (*oikos*), *house*, comes from IE **wóikos**, which gave also Gk. οἰκία, *house*, and Gk. οἰκησις, *dwelling, administration*, and Gk. οἰκητὸς, *inhabitant*; in MIE, it has universal loan-translations like **woikonómīā**, *economy*, originally “*household, management*”, from **woikonómos**, *econome, “manager, steward”*, **woikologíā**, *ecology*, **woikosóménos**, *world, inhabited world* (into Proto-Greek *woikohōmeno-* -> Att. Gk. οἰκουμένη [γῆ], “*inhabited [land]*”). It is the o-grade form of **wéikos**, *village, dwelling, “group of houses”*, (cf. Lat. *uīcus*, Skr. *vesah*), as in **wéikinos**, *neighbour*, **wéikínitā**, *neighborhood*, or loan word **willā** (from It. *villa, country house, villa, farm*, from Lat. *villa*, in turn from PIE **wéikslā**). The noun is derived from PIE root **weiks**, *clan, village, “social unit above the household”*; compare Goth, O.H.G. *weihs*, O.E. *wic*, Skr. *viś*, Av. *vīs*, O.Pers. *vitham*, Toch. *ike*, Lith. *viešas* (cf. also O.Pruss. *waispattin*, Lith. *viešpats*, MIE **weikspóts**, “*clan-master*”, *landlord*, a compound equivalent to **demspóts**, “*house-master*”, *landlord*, and similar to **ghospóts**, “*guest-master*”, *host*), Ltv. *viesis*, OCS *vīši*, Russ. *ves'*, Pol. *wieś*, Alb. *vis*.

MIE suffix **-nomíā**, **-nómos** come from IE **nómos**, *custom, law, usage, method*, Gk. νόμος, in turn from PIE base **nem**, *allot, distribute, divide, manage*; cf. Gmc. *niman* (cf. Goth. *niman*, O.N. *nema*, O.E. *naemel*, *numol*,

O.H.G. *nëman*, Eng. *numb*, *nim*, Ger. *nehmen*), Gk. *νέμειν*, Av. *nəmah*, Toch. *ñemek*, Lith. *nuomas*, Ltv. *noma*, Russ. *nemoj*, O.Ir. *nem*. Other known derivatives include **nómesos**, *number*, *division*, as Lat. *numerus*, **nomesālis**, *numeral*, etc. **nómā**, *pasturage*, *grazing*, hence “*a spreading, a spreading ulcer*”, *noma*, from which **nómads** is derived (Lat. *nomas*); also, **nomismátis**, Lat. *numismatis*, in **nomismátikā**, *numismatics*, from **nómismn**, *current coin*, *custom* (from O.Gk. νόμισμα, lit. “*what has been sanctioned by custom or usage*”), from IE verb **nomiso**, “*to hold or own as a custom, usage, to use customarily, practise, to be used to a thing*” (as Gk. νομιζω, in turn from νόμος). Also, **Németis**, Gk. *goddess of vengeance*, from Gk. Νέμεσις, “*indignation, jealousy, vengeance*” lit. “*distribution, partition*”.

E. For Indo-Aryan *ghar*, compare a comon IE root **ghers**, *court*, *yard*.

44. For PIE base **potís**, *powerful*, *able*, *capable*; also *lord*, *master*, compare **poto**, “*be able*”, (from Lat. *potere*), from which **poténts** (Lat. pres.p. *potens*) and **poténtiā**; cf. also Gk. *posis*, Skt. *patih*, Lith. *patis*. Also found in compounds **posso**, *be able*, (Lat. *posse*, from **pó[ti]s**, *able*, and [e]s, *be*), as in **possibhílis**, *possible*, “*that can be done*”, and **possedē**, *possess* (from Lat. *possidēre*, from **po[ti]s**, “*as master*”, and **sédē**, *sit*), which gives **posséstiōn** (<***possedtion**), *possession*, forms which are properly expressed by **potéio**, as O.Lat. *potēō*, a verb usual in modern Romance through a V.Lat. *potere* (cf. Fr. *pouvoir*, Ita. *potere*, Pt., Spa. *poter*, Rom. *putere*, etc.).

For PIE **es** (older **h₂es*), *be*, compare Goth. *ist*, O.N. *es*, O.E. *is*, O.H.G. *ist*, Lat. *est*, Osc. *súm*, Umb. *sent*, Gk. *esti*, Skr. *asti*, Av. *asti*, O.Pers. *astiy*, Toch. *še/šei*, Arm. *ē*, O.Pruss. *asmai*, Lith. *esmi*, Ltv. *esmu*, O.C.S. *jesti*, Russ. *есмь*, Polish *jest*, O.Ir. *am*, Alb. *është/âsht*; Hitt. *asa*, Lyc. *es*, Luw. *as*, Lyd. *e-*, Palaic *aš-*. Its origin is traced by some linguists to a dialectal pronunciation of **eg-**, “*I*”, in some early (influential) Satem dialect; compare O.Ind. *ásmi*, “*I am*” (<PIE **és-mi**, from IE II ***eg**?->***es**, cf. Skr. *áham*, “*I*”, from **eghóm**), or Lat. *sum*, “*I am*” (from PIE **esóm**, cf. Ven. *ehom*, “*I*”, from **eghóm**). Such explanation from Pokorny is possibly out-dated today in light of the newest findings on the so-called palatovelars, v.s.

a. A proper Indo-European word meaning “*owe*” was PIE verb **áik**, *be master of*, *possess*, and **áikos**, *master*, *owner*; as Gmc. *aiganan* (cf. Goth. *aigan*, O.Fris. *aga*, O.N. *eiga*, O.E. *āgan*, O.H.G. *eigan*, Eng. *ought*), Skr. *īṣṭe*, *iṣah*, Avestan *iṣti*, *iṣvan-*.

A similar IE root forms **áiks**, meaning *spear*, *pike*; compare O.N. *eigin*, Lat. *īcō*, Gk. *αικλος*, Av. *išarə*, O. Pruss. *aysmis*, Lith. *iešmas*, Ltv. *iesms*, O.C.S. *igla*, Russ. *угла*, Pol. *igła*.

b. For PIE **sed**, *sit*, compare derivatives **sedio**, Gmc. *sitjan* (cf. Goth. *sitan*, O.S. *sittian*, O.N. *sitja*, O.E. *sittan*, O.Fris. *sitta*, M.Du. *sitten*, O.H.G. *sizzan*, *sezzal*); **sédlos/sédlā**, *seat*, *position*, as Gmc. *setlaz* (cf. Goth. *sitls*, M.L.G., M.Du. *setel*, O.E. *setl*, Du. *zetel*, Ger. *Sessel*), Lat. *sella*, O.C.S. *sedlo*, O.E. *sadol*; suffixed stative **sedē**, *sit*, as Lat. *sedēre*, with p.part. **sestós** (<***sedtós**), *sat*, giving **sedentasiós**, *sedentary*, **sestiōn**, *session*, **sedikom**, *siege*, (from L.Lat. *sedicum*, although *besiege* from Lat. *is situā*, possibly from IE **tkei**), **dissedē**, *disagree*, **dissedénts**, *dissident*, **adsedē**, *assist*, *assess*, *help*, **adseduós**, *assiduous*, **prāisedo**, *preside*, **resedo**, *reside*, **supsédiom**, *subsidy* (but **supsisdo**, v.i.); Greek *ἔδρα* is IE **sedrā**, *chair*, *throne*, *face of a geometric solid*, hence loan translations **komsedrós**, *sitting in council*, **komsédriom**, *council* (from which Hebrew *sanhedrīn*, from Gk. συνέδριον), **eksedrā**, *exedra*, **kátsedrā**, *cathedra*, **katsedrális**, *cathedral*, *bishop's see*, **qetrasédrom**, *tetrahedron*; Also, from Latin **sédēs**, *see*, *seat*, *residence*, **sédā**, *sedate*, *settle*, *calm down*; prefixed and suffixed **pisedio**, *sit upon* (**pi**, from **epi**); cf. also Umb. *sersitu*, Gk. *ἔζομαι*, Skr. *sad*, Av. *nišaḍayeiti*,

O.Pers. *niyašayadan*, Pers. *nešastan*, Toch. *sätk*, Arm. *nstil*, O.Pruss. *sīdons*, Lith. *sėdėti, sėdžiu, sėsti, sėdu* Ltv. *sėdēt, sėdu*, Slav. *sěděti, sědĭŕ* (O.C.S. съдѣти, съждж, Russ. *сидѣть, сестъ* Pol. *siedzieć*), *sěsti, sędŕ* (cf. O.C.S. състи, сждж, O.Russ. състи, сяду, Pol. *siąść, siąde*), Gaul. *essedum*, O.Ir. *saidim*, Welsh *seddu*, Ir. *suidh*.

45. For PIE **gher** with the sense of *enclose*, compare Gmc. *gardaz* (cf. Goth. *gards*, O.N. *garðr*, O.E. *geard*, O.Fris. *garda*, Du. *gaard*, O.H.G. *gart*), also Lat. *hortus, cohors*, Osc. *heríad*, Gk. *χορτος*, Skr. *grhá-*, Phrygian -*gordum*, Lith. *žardas*, Ltv. *zārdš*, Gaul. *gorto*, O.Ir. *gort*, Welsh *garth*, Bret. *garz*, Alb. *garth-*; Hitt. *gurtas*. Balto-Slavic terms related to this root and beginning with [g] – as Lith. *gardas*, O.C.S. *gradu*, Rus. *gorod, -grad*, etc. – are own developments not affected by satemization, sometimes explained as borrowings from Gmc.

46. IE **ghrédhus**, *hunger*, gives Gmc. *grēduz* (cf. Goth. *gredus*, O.E. *grædum*, cognate with Skt. *grdh*, Gk. -*gyros*) and adjective **ghrēdhighós**, *hungry*, as Gmc. *grēdigaz* (cf. O.S. *gradag*, O.N. *graðr*, O.Eng. *graedig*, Eng. *greedy*). From the same PIE root is **ghrtā**, *urge on, encourage* (from Lat. *hortārī*, giving **eksghrtā**, *exhort*), **ghrīs**, *grace, favor* (from Gk. *χαρις*, which gives **ghrismā**, *charism*, or (A)**sughristiā**, *Eucharist*), **ghrē**, *it is necessary* (from Gk. *χρη*, which gives **ghrēstós**, *useful*, and **ghrēstomndhia**, *chrestomathy*). With the – possibly older – sense of *bowels*, compare Gmc. *gernjan* (O.N. *gorn*, O.Eng. *gearn*, O.H.G. *garn*, Eng. *yarn*), O.E. *gorst*, Lat. *hernia, horrēo*, Gk. *χορδή, χέρσοσ*, Skr. *hirah, haršate*, Av. *zaršayamna*, Arm. *dzar*, Lith. *žarna*, Ltv. *zarna*, Russ. *зор*, O.Ir. *garb*, Welsh *garw*, Alb. *derr*; Hitt. *karat*.

47. PIE root **cei(w)**, *live*, oldest **g^weih₃*, with metathesized variant **cjo-** (older **g^wjeh₃*, coloured to **g^wjoh₃*) gives derivatives zero-grade **ciwós**, *living, alive*, as Gmc. *kwi(k)waz* (cf. Goth. *quis*, O.N. *kvikr*, O.E. *cwicu*, O.Fris. *quik*, O.H.G. *quec*, Ger. *keck*, Eng. *quick*), Lat. *uīus*; verb **ciwo**, *live*, as Lat. *uīuere*; **ciwoparós**, *viviparous, living, alive*, as Lat. *vivipārus*, and shortened **ci(wo)pārā**, *viper, “bearing live young”*, from Lat. *vipēra* (both from IE **parós**, v.s.) and further suffixed form **ci(wo)tā**, *life*, Lat. *vita*, in **ci(wo)tālis**, *vital*. Compare also O.E. *cwifer*, Lat. *uīuō*, Osc. *bivus*, Gk. *βιομαι*, Skr. *jivaiti*, Av. *gaēthā, jigaēsa*, O.Pers. *gaithā*, Pers. *zēstan*, Toch. *śo/śai*, Arm. *keam*, O.Pruss. *giwa, giwāntei*, Lith. *gýti, gyventi*, Ltv. *dzīvs, dzīt*, O.C.S. *живѣ, жуму*, Russ. *жить, живѣ*, Polish *żyć, żyje*, Gaul. *Biturīges*, O.Ir. *bethu*, Welsh *byd*.

For another common PIE adjective meaning “*lively*”, compare **bherés**, as Lith. *bruzdu*, O.C.S. *brūžŭ*, Russ. *borzoi*, Pol. *bardzo*, Gaul. *brys*, Ir. *bras*, and possibly Lat. *festīnō* (but cf. **dhes**).

48. PIE root **ser-** gives **sérōs**, “*guardian, heroine*”, Gk. *ἥρωσ*, and general verbal base **serw**, *guard, protect*, in **sérwā**, *keep, preserve*, Lat. *seruāre, sérwio, serve*, as Lat. *seruīre*, and **sérwos**, *slave, servant*, Lat. *seruus* (forms also found in other Italic dialects, cf. Osc. *serevkiđ, ‘protection’, ooserclom*, usually considered borrowings from Etruscan); cf. also O.Ind. Av. *haraiti, (pasuš)haurvō, “shepherd”*, Gmc. *sarwia*, Bal. *serg-*, Sla. *stergt*.

49. To refer to a *person, man*, PIE had root **man**, extended as Indo-Iranian **mānus**, Germanic **mānuos** and Balto-Slavic o-grade **móng(i)os**. Compare Gmc. *manwaz/mannaz* (cf. Goth. *manna*, O.N. *maðr*, O.E. *mann*, O.S., O.H.G. *man*, Ger. *Mann*), Skr. *manuḥ*, Av. *manu-*, Pers. *mærd*, Kurd. *mêr*, Lith. *žmogus*, O.C.S. *možĭ*, Russ. *муж*, Polish *mąż*, Kamviri *mânša*. Compare also with Ger. *Mensch*, Du. *mens*, Nor., Da. *menneske*, Swe. *människa*, Ice. *manneskja*, from Gmc. *manniskaz*, IE **mānuiskos**, *person, human* (cf. Romany *manush*, from Skr. *manuḥ*). A common European borrowing is **mbhudhomānu(o)s**, from compound **m̃(bhi)+bhúdhom**

(from Gmc. *budam*, O.N. *bodh*, “command”) + **mánuos**, *ombudsman* (with the exception of some regionally translated terms, as Fr. *médiateur*, Spa. *defensor del pueblo*, etc).

Some names for ‘German’, ‘Germany’, (Fr. *allemand*, Spa. *alemán*, Pt. *alemão*, Cat. *alemany*, Celtic, like Welsh *Almaeneg*, Bret. *Alaman*, Indo-Iranian, as Pers. *almani*, Kurd. *elman*; and even non-IE, as Turkish *Alman*, Arabic *almanya*, Azeri *Alman*, Basque *alemanera*, Guarani *Alemaniguá*, Malagasi *alema*, Khmer *alaman*, Tagalog *Aleman*), in turn a loan word from the tribal name that the neighboring *Alamanni* used for themselves. The term comes from Gmc. compound *Ala-manniz*, PIE reconstructed **Alománuis**, with first word from PIE root **al-**, therefore originally meaning lit. “all men”.

PIE **al**, *all*, is attested in Germanic and Celtic. Germanic derivatives include **alnós**, *all*, as Gmc. *allaz* (cf. Goth. *alls*, O.N. *allr*, O.E. *all*, *eall*, *eal-*, O.Fris., O.H.G. *al*), and **alo-** in compounds.

50. PIE stem **(s)neu-** (cf. Skr. *snavan-*, Arm. *nearđ*) is an extension of **(s)nē**, *spin*, *sew*. It gives derivatives **nétlā**, *needle*, (with instrumental suffix **-tlo-**), as Gmc. *nēthlō* (Goth. *nēþla*, O.S. *nathla*, O.N. *nál*, O.E. *næðlæ*, O.Fris. *nedle*, O.H.G. *nādala*), **snotá**, *snood*, as Gmc. *snōdō*, or **némn**, *thread*, as Gk. *νημα*. Compare also Lat. *neō*, Gk. *νεῖν*, *νηθω*, Skr. *snājati*, Ltv. *snāte*, O.C.S. *niti*, Russ. *нумъ*, O.Ir. *snáthat*, Welsh *nyddu*, *nodwydd*.

51. For derivatives of PIE root **stái**, *hide*, *stone*, also *thicken*, *stiffen*, compare **stóinos**, *stone*, Gmc. *stainaz* (cf. Goth. *stains*, O.N. *steinn*, O.E. *stan*, O.H.G., Dan. *steen*, Ger. *Stein*), and **stájr**, *solid fat*, from Gk. *στεαρ*; compare also Gk. *stia*, *stion*, Skr. *stjajat*, Av. *staj*, O.C.S. *stena*.

52. PIE root **pūr/páwr**, *fire*, *bonfire*, is probably derived from an older **peh₂wr* (cf. Hitt. *paḫḫur*) and has an irregular Genitive **pūnós**. Compare Goth. *fōn*, Gk. *πυρ*, Osc. *purasiāi*, Umb. *pir*, Skr. *pu*, Toch. *por/puwār*, Arm. *hur*, O. Pruss. *panno*, Polish *perz*, Cz. *pýř*. The suffixed form **pūris**, *fire*, gave Gmc. *fūris* (cf. O.N. *fúrr*, O.E. *fȳr*, O.Fris. *fiur*, M.Du. *vuur*, O.H.G. *fiur*).

53. IE **per** means *lead*, *pass over*, as in adj. **perwntós**, *rocky*, noun **pérwntos**, *mountain*, as Skr. *parvataḥ*; **pertā**, *cliff*, *rock* (possibly earlier “bedrock”, “what one comes through to”), as Lat. *petra*, Gk. *πέτρα* (both dissimilated as **pétrā*, which means ‘feather’ in MIE, v.i., **pértus**, *place for crossing over*, ford as Gmc. *ferthuz* (cf. O.N. *ffjörðr*, Eng. *firth*) or **peritós**, *experienced* (from Lat. *peritus*). Other derivatives include o-grade **poro**, *journey*, *travel*, as Gmc. *faranan* (cf. Goth. *farān*, O.E. *fara*, Ger. *fahren*, Eng. *fare*); **póros**, *journey*, *passage*, *way*, as Gk. *πόρος*; **pórñā/pórñom**, *feather*, as Gmc. *farnō* (cf. O.E. *fearn*, M.Du. *varn*, Ger. *Farn*, Eng. *fern*), Skr. *parñam*.; also, **pōrio**, *lead*, *lead across*, *bring to safety*, as Gmc. *fōrjan* (cf. O.E. *gefera*, O.H.G. *fuoren*, M.E. *fere*, Ger. *führen*). With zero-grade, common IE words are **prtús**, *going*, *entrance*, *passage*, modern *ford*, *harbor*, *port*, as Gmc. *furthuz* (cf. O.Fris. *forda*, O.E. *ford*, O.H.G. *furt*, Ger. *Furt*), Lat. *portus*, O.Welsh *rit*, Welsh *rhyd*; and **prtá**, meaning “gate” as fem. noun and “carry” as a verb, as in Lat. *porta* and *portāre* respectively.

The name Portugal is MIE **Prtukálē**, *Port of “Kale”*, as Lat. *Portucale*, with the second term of uncertain origin, although some relate it to PIE sources akin to Lat. *Gallus*, “Gallic”, Lat. *calidus*, “warm”, or Lat. *calx*, “lime”.

54. English word “true” comes from O.E. *triewe* (W.Saxon), *treowe* (Mercian), *faithful*, *trustworthy*, from Gmc. *treuwjaz* (cf. Goth. *triggws* O.N. *tryggr*, O.Fris. *triuwi*, Du. *getrouw*, O.H.G. *gatriuwu*, Ger. *treu*), ultimately from adj. **drewiós**, related to **dréwom**, *tree*, *oak*, *wood*, Gmc. *trewan* (cf. Goth. *triu*, O.N. *tré*, O.S. *trio*, O.E. *trēow*, O.Fris. *tre*), both then alternative forms of **deru-**, giving **dórus** (Gen. **derwós**), *tree*, *oak*, fig. *firm*, *strong*, as in Lith. *drútas*, Welsh *drud*, O.Ir. *dron*. Compare other IE derivatives from **deru-**, also **drew-**: Lat.

durus, Gk. *δρῦς, δόρυ*, Skr. *dru, dāru*, Av. *dāuru*, O.Pers. *duruva*, Pers. *deraxt*, Toch. *or*, Arm. *tram, cař*, O. Pruss. *drawine*, Lith. *derva*, Ltv. *dreve*, O.C.S. *дрѣво*, O.Rus. *дрова*, Rus. *дерево*, Pol. *drwa*, Gaul. *Dervus*, O.Ir. *daur, derb*, Welsh *derwen*, Alb. *drusk, dru/drú*, Kam. *dāa*; Hitt. *ta-ru*, Luw. *tarweja-*, and also A.Mac. *darullos*.

55. For IE root **leu**, *loosen, divide, cut apart*, compare **léuwā**, Gmc. *lawwō* (Swe. *lagg*, Eng. *lag*). For zero-grade forms, compare **lwo**, *loosen, release, untie*, from Gk. *λύειν, lúēs*, *plague, pestilence* (< “dissolution, putrefaction”), from Lat. *luēs*, and also **selwo**, *loosen, untie*, as Lat. *soluere* (from PIE **s(w)e-lwo-**).

56. PIE **bélis**, *power, strength*, gives O.H.G. *pal*, O.Fris. *pall*, Lat. *dē-bīlis*, Gk. *βελτίων*, Skr. *báliyān, bāliṣṭhas, bālam*, Phryg. *balaios*, O.Ir. *adbal*, M.Ir. *bolg*, Welsh *balch*, Kamviri *bālim*. O.C.S. *болѣи, болѣши, болѣ*, Russ. *большій, болѣшии*, Ukr. *більшій*, Bulg. *болѣ*.

57. Indo-European *father*, **patér**, is possibly an earlier compound formed by baby-speak sound like **pa** (compare modern baby words in your language beginning with *p+vowel*), probably earlier **ph₂-*, and IE common suffix for relatives **-ter**, a pattern followed in “*mother*” and other family members, too. It evolved as Gmc. *fader* (cf. Goth. *fadar*, O.N. *faðir*, O.E. *fæder*, O.H.G. *fater*), Lat. *pater*, Osc. *patír*, Umb. *pater*, Gk. *πατήρ*, Skr. *pitár-*, Av. *pitár-*, O.Pers. *pitā*, Pers. *pedar*, Toch. *pācar/pācer*, Arm. *hair*, Gaul. *ātir*, O.Ir. *athir*, Welsh *gwaladr*, Kashmiri *petúr*, Osset. *fjd*.

58. Indo-European **bhátis**, *appearance, phase*, gives Greek *φάσις (phasis)*. It is derived from **bhanio**, “*bring to light*”, *cause to appear, show*, as Gk. *φαίνειν (phainein)*, from PIE base **bhā**, *shine*. It gives also derivatives **bhantós**, *visible*, **bhántom**, *phantom*, **bhantasíā**, *fantasy*, **énbhatis**, *emphasis*, **enbhatikós**, *emphatic*, **epibhánia**, *epiphany*, **bhaniómenom**, *occurrence, circumstance*, also *phenomenon*, from Lat. *phaenomēnon*, in turn from Gk. *φαινόμενον*, etc.

59. For PIE **ana**, *breathe, blow, spirit*, compare Goth. *uzanan, andi*, O.N. *anda, önd* O.E. *eðian, oþian*, Lat. *animus*, Osc. *anamum*, Gk. *anemos*, Skr. *ānas, aniti*, Av. *āntya*, Toch. *āñcām/āñme*, Arm. *anjn, hov*, Lith. *anuoti*, O.C.S. *vonja*, Russ. *von'*, O.Ir. *anál, animm*, Welsh *anysbryd, anadl*, Alb. *ajë/áj*.

60. The reconstruction of common words for each day in a Seven-Day Week is almost impossible, if not through the adoption of numbers, from one to seven, like that used by the Roman Catholic Church (Lat. *Feriae*, used in Portuguese, see **dhēs**), Armenia, Greece, Iran, as well as in Arabic, Georgian and Hebrew. However, there seems to be a common old (pagan) pattern, followed in Greek (and partly in Sanskrit), and loan-translated from it in Latin and from this in Germanic.

PIE **dhēs** (possibly an extension of **dhē**, *set*) is the reconstructed base for words applied to various religious concepts, as zero-grade **dhēsós**, *god*, Gk. *θεός*, in **apodhesótis**, *apotheosis*, **ñdhesós**, *atheistic*, **ñdhesísmos**, *atheism*, **endhesosiasmós**, *enthusiasm* (Gk. *ένθουσιασμός*), **pántdhesiom**, *pantheon*, Gk. *Πάνθειον*; full-grade **dhésiās**, *holidays*, Lat. *fēriae*, (O.Lat. *fēsiae*), **dhéstos**, *festive*, Lat. *fēstus*, in **dhěstēiuós**, *festive*, **dhěstēiuālis**, *festival*; also, zero-grade **dhásnom**, *temple*, as Lat. *fānum*, in **dhasnatikós**, *fanatic*, **prodrhasnós**, *profane*.

NOTE. In Latin, the **s** before **m, n, l**, disappears, and the preceding vowel shows a compensatory lengthening; cf. Duenos: *cosmis* > *cōmis*; Columna Rostrata *-resmom* > *rēmum*; *fasnom* > *fānum*, **habēsna* > *habēna*, **catēsna* > *catēna*; *candēsla* > *candēla*, **quaisēsla* > *querēla*, etc.

For PIE “feast”, a more common verbal root **wes** was used, cf. Goth. *wisan*, ON *vist*, O.E. *wesan*, O.H.G. *wist*, Lat. *vescor*, Skr. *anuvāvase*, Av. *vastra*, Lith. *švest*, Pol. *wesele*, O.Ir. *fiach*, Welsh *gwest*, Hitt. *weši*.

A. The word for “day” (as opposed to “night”) in Indo-European comes usually from a common **dinom**, originally “daylight”, derived from PIE root **diw-**, *shine*, and it is still found in Eng. *lent*, from Gmc. compound *langa-tinaz*, (probably lit. “longer daylight”, cf. Goth. *sintīns*, O.S. *lentin*, O.E. *lencten*, M.Du. *lenten*, O.H.G. *lenzo*); compare also Lat. *nin-dinae* (also general *dīēs*, as in Eng. *diurnal*, from base **djeu-*), Skr. *dinam*, O.Pruss. *deinan*, Lith. *diena*, Ltv. *diena*, O.C.S. *дѣнь*, Russ. *день*, Pol. *dzień*, O.Ir. *denus*, *día*, Welsh *dydd*, Alb. *gdhin*.

B. Germanic ‘day’ comes from old PIE **agh-**, *day*, older **h₂egh*, considered as a span of time, hence “24 hours”, cf. Skr. *ahar*, from IE **ághōr**, Av. *azan*, from IE **ághōn**, and Gmc. *dagaz*, reconstructed as MIE **(dh)aghos**, with first **dh-** of uncertain origin, although some relate it to PIE root **dhech**, *burn*, (which gave derivatives with the sense of “hot season”, “summer”, thus maybe mixed with **-agh-** in Germanic to mean “hot part of the day”, *daylight*); cf. Lat. *fovēre*, Gk. *-πτανος*, Skr. *dahati*, *dah*, Av. *dažaiti*, Pers. *dāj*, Toch. *tsäk/tsäk*, O. Pruss. *dagis*, Lith. *dagas*, *degti*, Ltv. *degt*, OCS *žešti*, Russ. *sžigat'*, *žgučij*, Polish *zge*, Ir. *daig*, Alb. *djek*.

Here is a brief explanation of possible loan-translations of the names of week days into Modern Indo-European in three different calendars, Pagan (like Greek, Roman and Germanic, as well as Sanskrit calendars, the last followed in Indian timekeeping, i.e., modern Hindi, Telugu, Gujarati, Bengali, and even Tamil and Malayalam, beginning in Monday), International (beginning in Monday, similar to the traditional Slavic one), and Christian (counting in **Dhēsiās**, *feasts*, from Ecc.Lat. *Feriae*, see **dhēs**), viz:

I. Monday should be **Mntós (déinos)**, “(day) of the moon”. Compare Gmc. *Monan-dagaz*, L.L. *Lunæ dies*, Gk. *ημερα Σεληνης*, and Skr. *Soma vāsara* (Beng. *Shombar*). Also, ‘neutral’ **Prwóm (déinom)**, “First (day)”, and Christian **Seqondhá (Dhēsiā)**, “Second (Feast)”, i.e. “Feast following Sunday”.

PIE **seq**, *follow*, gives derivatives Gmc. *sekw-* (cf. ON *seggr*, O.E. *secg*, O.H.G. *beinsegga*), Lat. *sequor*, Gk. *hepomai*, Skr. *sacate*, Av. *hačaitē*, O.Pers. *hačā*, Toch. *säk/*, Lith. *sekti*, Ltv. *sekt*, Ir. *sech* Welsh *hep*. Common modern MIE words include Latin derivatives **séqtā**, *sect*, **séqelā**, *sequel*, **seqéntiā**, *sequence*, **komseqénts**, *consequent*, **ekseqo**, *carry out, accomplish*, **ekseqotós**, *accomplished, carried out*, **ekseqotā**, *execute*, **obhséqiom**, *present*, **obhseqiós**, *obsequious*, **perseqio**, *persecute*, **proseqio**, *prosecute*, **supseqio**, *follow immediatly*, **supseqénts**, *subsequent*; **seqestér**, “follower”, *mediator, depositary*, **seqestrā**, *kidnap*, **séqestrom**, *sequestrum, kidnapping*; **seqós**, *following, along, alongside of*, as in **ekstrīnseqós**, *from outside, extrinsic*, **entrīnseqós**, *from inside, intrinsic*; **séqnom**, *identifying mark, sign* (from “standard that one follows”), Lat. *signum*, also **séqnā**, *sign*, **adseqnā**, *assign*, **komseqnā**, *consign*, **deseqnā**, *designate, design*, **reseqnā**, *return, give back*; suffixed **sóqios**, *ally, companion* (“follower”), in **soqiabhilís**, *sociable*, **soqiālís**, *social*, **sóqietā**, *society*, **soqio-**, *socio-*, **adsoqiā**, *associate*, **komsoqiā**, *consociate*, **dissoqiā**, *dissociate*.

II. Tuesday is **Eiserós (déinos)**, “(day) of the anger”, as it is the day of the gods of war; cf. Gmc. *Tiwaz-dagaz*, (althoug *Tiw*, from PIE **deiw-**, thus , is in fact etymologically related to Gk. *Zeus* and Lat. *Iove*, v.i.), loan-translated from L.L. *Martis dies*, *ημερα Αρεως*, “day of Ares”, and compare also Skr. *Mangala vāsara* (Beng. *Monggolbar*), identified with *Karttikeya*, the god of war. Compare for PIE **eis**, originally maybe denoting “passion, vigor”, hence ‘anger, wrath’: cf. Lat. *īra*, Gk. *οϊστρος, ιερος, Αρης*, Skr. *isirah*, Av. *aēšma* (as in *Asmodeus*, v.i.). English “iron” comes from Gmc. *īsarnan* (cf. O.S. *isarn*, O.N. *isarn*, O.E. *isærn*, M.Du. *iser*,

O.H.G. *isarn*), borrowed from Celtic *isarnon* (cf. O.Ir. *iarn*, Welsh *haiarn*), from IE **ájos** (gen. **ájesos**, PIE root **ajos-**, older *h₂ejos*), originally *metal* (“vigorous, powerful material”); compare also Gmc. *ajiz*, (cf. Goth. *aiz*, O.N. *eir*, O.E. *ār*, O.H.G. *ēr*, *ehern*), Lat. *aes*, Umb. *ahesnes*, Skr. *ayaḥ*, Av. *ayañh*, Pers. *āhan*, Gaul. *Isarnodori*, O.Ir. *iarn*, Welsh *haearn*. Also, **Alteróm (déinom)** or Christian **Tritiá (Dhésiā)**.

III. **Wednesday** comes from North Gmc. *Wodenaz-dagaz*, “day of Odin” (cf. O.N. *Öðinsdagr*, O.S. *odensdag*, O.E. *Wōd(e)nesdæg*, O.Fris. *wōnsdei*, M.Du. *Wudensdach*; but, from uncertain origin, compare O.Fris. *wērendei*, Du. *wonseldach*, South. Ger. *guotentag*, and even Eng. *Wednesday* and Du. *waansdei*, as well as Low Ger. and Du. dial. with initial *g-*), loan-translated originally from L.L. *dies Mercurii*, “day of Mercury”, in turn from Gk. *ἡμερα Ερμου*, “day of Hermes”, Lat. *Mercurius* (from **merk-**, Etruscan root for various economic aspects, as in **mérkatos**, *market*, or **merkā**, *buy*) and Gk. *Ἐρμῆς*, (also from unknown origin, with some relating it to *ἔρμα*, a *square pillar*), both equivalent to Skr. *Budha vāsara* (Beng. *Budhbar*), “day of Budha”, the name of the planet Mercury, a son of Chandra, the moon, in Hindu mythology, but the three are unrelated to the Nordic concept of Odin, the “sky-god”, equivalent to Lat. *Jupiter* or Gk. *Zeus*.

III.A. Indo-Aryan term *Budha* (and also *Buddha*) comes from IE zero-grade verb **budho**, O.Ind. *bodhati*, *budhate*, *budhanta*, “wake, observe, perceive, enlighten”, and noun **búdhis**, *intelligence, reason*, from Skr. *bodhih*, and ***budhtós** (MIE **bustós**) *awaken, enlightened*, from Skr. *buddhaḥ*, all from PIE root verb **bhédh**, *wake, rise up, be aware*, and also *make aware*; compare also Gmc. *biudanan* (cf. Goth. *anabiudan*, O.N. *bjóða*, O.E. *bēodan*, O.H.G. *biotan*), Lat. *fidere, foedus*, Gk. *peithein, pistis*, Av. *buidjeiti*, Pers. *bēdār-šudan*, O.Pruss. *budē*, Lith. *budinti*, Ltv. *budīt*, O.C.S. *beda, bljudo*, Russ. *быдем*, Pol. *budzić*, O.Ir. *buide*, Welsh *bodd*, Kamviri *bidī*. Due to the common meaning of *announce*, hence *message, messenger, herald*, a concept akin to Sanskrit and Germanic sources (exactly the role of loan-translated *Mercurius* and *Hermes*), a good possibility for Wednesday in a pagan week would be **Budhonós (déinos)**, “messenger/message’s (day)”, **búdhōn**, *message, messenger, bode*, as in Gmc. *budōn* (cf. O.N. *boð*, O.E. *boda, bodian*, O.S. *gibod*, O.H.G. *gibot*).

III.B. The new, non-pagan model (cf. M.H.G. *mittewoche*, M.L.G. *middeweke*, Du.dial. *Midswiek*, Fris. *metswik*, Norw. dial. *mækedag*, Mod.H.G. dial. *Mittag*, Eng.dial. *Mid-week*, and also unrelated Ice. *þriðjudagur*, “third-day”), influenced by Gothic, was probably adopted from Gk. or Lat. missionaries, avoiding the old pagan week, and is also found in Slavic – and Hungarian – *srěda*, lit. “middle” (cf. O.C.S. *srěda*, Rus. *sreda*, Pol. *sroda*), loan-translated from Lat. *media hebdomas*, itself a loan word from Gk. *εβδομάδα*, from *ἑβδομάς*, *seven*, from PIE **séptm** (->Gk. ‘*hebdom*’, *seven*, “period of seven days or years”), which was translated in L.Lat. as *septimāna*, from Lat. *septem*; compare also words for “week” in Srb. *ceđmuca*, Cro. *sedmica*, Bulg. *ceđmuca*, Bret. *sizhun*, Lith. *savaitė*, Hindi *haftā*, Hung. *hét* (from an Iranian source, cf. Kurdish *heft*, “seven”). Then, **Medhjā (Séptmā)**, “mid-week”, as well as ‘neutral’ **Tritióm (déinom)** or Christian **Qetwrtá (Dhésiā)**.

Other Indo-European terms for common periods of days:

III.B.1. From IE **wíkom** comes Eng. *week*, Gmc. *wikon* (cf. Goth. *wikon*, O.N. *vika*, O.E. *wice/wican*, O.Fris. *wike*, M.Du. *weke*, O.H.G. *wecha*, Ice. *vika*, even Finnish *viikko*), originally “a turning” or “succession”, from PIE **weik/weig**, *bend, wind*; cf. Gmc. *wik-* (e.g. Eng. *wicker*), *waikwaz* (Eng. *weak*), Lat. *uix, uicia*, Skt. *visti*.

III.B.2. Other common word for “week” in Slavic is O.C.S. *ten dzień* (cf. Pol. *tydzień*, Slovak *týždeň*, Slovene *teden*, Ukr. *тиждень*, Cz. *týden*), translated as MIE **tod déinom**, “this day”.

III.B.3. Ltv. *nedēļa* is a loan word from Rus. *неделя* (*nedélja*), originally Sunday in Slavic languages, IE **Nedhélā**, Russ. *не-делать*, “no-work(ing day)”, composed of:

For PIE **ne**, *no*, compare Gmc. *ne-*, *na-*, (cf. Goth. *nī*, ON *né*, O.E. *ne*, O.H.G. *ne*, Eng. *no*), Lat. *nē*, *ne-*, Osc. *ne*, Skr. *na*, Av. *na*, O.Pers. *na*, Pers. *ن*, O.Pruss. *ne*, Lith. *ne*, Ltv. *nē*, Russ. *не*, *нет*, Polish *nie*, O.Ir. *ní*, Welsh *nī*, *na*, Alb. *nuk*, Hitt. *natta*, Luw. *ni-*, Lyc. *ni-*, Lyd. *ni-*; also common is zero-grade suffix **n-** [ŋ], as Gmc. *un-*, Lat. *in-*, Umb. *an-*, Gk. *a-*, *an-*, Skr. *a-*, *an-*, Toch. *an-/en-*, Arm. *an-*, frequently found in common IE compounds, as **ncowijós**, “man without cows” (cf. Skr. *ágos*, Gk. *aboúteō*, O.Ir. *ambuæ*), **nmrtós**, *immortal* (cf. O.Ind. *amṛta-*, Av. *aməša-*, Gk. *ἀμβροτος*), **ndrós**, *without water* (cf. Skr. *anudrás*, Gk. *ánydros*), **ngnōtós**, *unknown* (cf. Skr. *ájñātas*, *ágnōtos*), **ngn(a)tós**, *unborn*, etc. A common derivative is MIE **nóin**, *no*, *none*, originally “not one, not any” (from **n(e)-óinos**), giving Gmc. *nean* (cf. O.S., M.L.G. *nen*, O.N. *neinn*, M.Du., Du. *neen*, O.H.G., Ger. *nein*), maybe analogous to Lat. *nōn*, *non-* (although probably a nasal extension of o-grade negative particle **nē**).

PIE root **dhē**, *set*, *put*, *place*, (see **dhē** for MIE derivatives) gives Gmc. *dēdiz* (Eng. *deed*, Ger. *Tat*), *dōn* (Goth. *gadēps*, O.E. *dōn*, O.H.G. *tuon*, O.N. *dalidun*, O.S. *duon*, O.Fris. *dua*, M.E. *de*, Ger. *tun*), Lat. *faciō/fēcī*, *facilis*, *condere*, *abdomen*, *fās*, Osc. *faciadiad*, Umb. *feitu*, Gk. *θήκη*, *θέμα*, *θέτω*, *τίθημι*, Skr. *dádihāti*, Av. *dadāiti*, O.Pers. *adadā*, Phryg. *dak-*, Toch. *täs/täs*, Thrac. *didzos*, Arm. *ed*, Lith. *dedù*, *dėtis*, Ltv. *dēt*, O.C.S. *благодѣтъ*, *дѣти*, *дѣлати*, Russ. *дѣтъ*, *дѣлать*, Pol. *dziać*; *działać*, Gaul. *dede*, Welsh *dall*, Alb. *ndonj*; Hitt. *dai*, Lyc. *ta-*.

IV. *Thursday* is, after the Greek and Roman calendars, a day consacrated to Zeus and Jupiter respectively; cf. Gk. *ἡμερα Διός* (Gk. *Zeus* has gen. *Dios*), Lat. *Iovis dies*, both the “sky-gods” – compare also Hindu *Guru vāsara*, “day of the preceptor”, for Vjasa, the supreme preceptor of mankind, and Beng. *Brihoshpotibar*, “day of Brihoshpoti” (equivalent to Jupiter), the guru of the Devas and the arch-nemesis of Shukracharya, the guru of the Danavas. In loan-translated Gmc. *thonaras-dagaz* (cf. O.N. *Þorsdagr*, O.E. *Þurresdæg*, O.Fris. *thunresdei*, M.Du. *donresdach*, Du. *donderdag*, O.H.G. *Donares tag*), the day is dedicated to a Germanic god whose name is related to PIE root **(s)téna**, *resound*, *thunder*, as in Lat. *tonāre*, Skr. *tánjati*, Pers. *tundar*, Pashto *tañā*; compare for IE **túros**, *thunder*, Gmc. *thunraz* (cf. O.N. *þorr*, O.E. *þunor*, O.Fris. *thuner*, M.Du. *donre*, O.H.G. *donar*). Therefore, **Diwós (déinos)**, “sky-god’s (day)”, **Qturóm (déinom)**, “fourth (day)” or **Penqtá (Dhésiā)**, “fifth (Feast)”.

V. *Friday* is “Frigga’s day”, wife of Odin in Germanic mythology, goddess of heaven and married love, loan-translation of Lat. *Ueneris dies*, “day of (planet) Venus”, in turn translated from Gk. *ἡμερα Αφροδιτης*, “day of Aphrodite”, the goddesses of love, lust and beauty; also, Skr. *Shukra vāsara* (Beng. *Shukrobar*), where Shukra is the name for Venus, one of the Navagrahas, a male planet for the Hindus and named after the Guru Shukracharya. *Αφροδιτη* comes from Phoenician *‘Aštart*, “Astarte”, influenced by Gk. *ἀφρός*, *foam*, having parallels to Indo-European “dawn” god(desse)s, as Vedic Skr. *Ushas*, Lat. *Aurora* (reinterpreted as a-Decl. **Ausós-ā*), IE **Áusōs**. Latin Venus comes from **wénos**, *love*, *sexual desire*, *loveliness*, *beauty*, *charm*, from PIE **wen**, *strive for*, *desire*; as **wenuo**, Gmc. *winnwan* (“seek to gain”, O.E. *wynn*, Eng. *win*), **wnē** [‘uŋ-e:], as Gmc. *wunēn*, (“become accustomed to, dwell”, cf. O.E. *wunian*, Ger. *wohnen*, Eng. *won*), **wonēio**, as Gmc. *wanian* (“accustome, train”, cf. O.E. *wenian*, Eng. *wean*), **wnsko**, as Gmc. *wunskan* (“desire”, cf. O.E. *wyscan*, Ger. *Wünsch*, Eng. *wish*); or **wenésnom**, Lat. *uenēnum*, “venom”. Compare also Lat. *uenia*, *uēnāri*, Skr. *vanas-*, *vanam*, *vanati*, *vanik*, *vanijah*, Av. *vanaiti*, Toch. *wani/wna*, *wins-/winsk*, Arm. *gun*, Cel. *wenj* (cf. O.Ir. *fine*, O.Bret. *coguenou*, Welsh *gwen*, Bret *gwenn*); Hitt. *wen-*, *went-* (for more on this root v.i. Sla. *voin’*, “soldier”). For *Frigg*, compare Gmc.

Frije-dagaz (cf. O.N. *frijadagr*, O.E. *frigedæg*, O.Fris. *frigendei*, M.Du. *vridach*, Du. *vrijdag*, Ger. *Freitag*), from IE **prījā**, *woman, wife* – also *Freyja*, goddess of love and beauty in Norse mythology – Gmc. *Frijō* (cf. O.N. *Freyja*, O.E. *frea*, O.S. *frua*, M.Du. *vrouwe*, Ice. *Freyjudagr*, Ger. *Frau*, Eng. *Freya*), itself from PIE root **prai**, *like, love*, which gave **prijós**, *noble, dear, beloved*, as Gmc. *frijaz* (cf. Goth. *freis*, O.E. *freo*, M.H.G. *vri*, Ger. *frei*, Du. *vrij*), and other derivatives related to *free, love, friend*, like **prítus**, *peace* as Gmc. *frithuz* (O.H.G. *fridu*, L.Lat. *xfredāre*, Eng *afraid*), **prijonts**, “*beloved*”, *friend*, as Gmc. *frijands* (cf. Goth. *frijonds*, O.N. *frændi*, O.E. *frēond*, O.Fris. *friund*, M.H.G. *friunt*, Ger. *Freund*); also, compare Gk. *πραος*, Skr. *priyah*, *prīṇāti*, Av. *frā*, Ltv. *prieks*, O.C.S. *prějati*, *prijatelj*, Russ. *прямель*, Polish *przyjaźń*, *sprzyjać*, O.Ir. *ríar*, Welsh *rhydd*; therefore, **Ausosés (déinos)**, “*dawn’s day*”, **Penqtóm (déinom)**, “*fifth (day)*”, **Sekstá (Dhésia)**, “*sixth (Feast)*”.

VI. *Saturday* is a partial loan-translation from Lat. *Saturni dies*, “*day of Saturn*” (where *Saturnus* was an Italic god of agriculture, poss. a borrowing from Etruscan), itself translated from Gk. *ἡμερα Κρονου*, “*day of Cronus*”; compare also Skr. *Shani vāsara* (Beng. *Shonibar*), from *Sani*, one of the nine Navagraha or primary celestial beings, embodied in the planet *Saturn*, MIE **Satúrnos**. Compare O.E. *Sæterdæg/Sæternesdæg*, Du. *zaterdag*, O.Fris. *saterdi*, M.L.G. *satersdach*; Ir. *dia Sathuirn*, Welsh *dydd Sadwrn*. However, an ancient Nordic custom is preserved in O.N. *laugardagr*, Dan. *lørdag*, Swed. *lördag*, lit. “*bath day*” (cf. O.N. *laug*, “*bath*”). Ger. *Samstag* (from O.H.G. *sambaztag*) appears to be from Vulg. Lat. *sambatun*, from Gk. **sambaton*, a colloquial nasalized variant of *sabbaton* “*sabbath*”, also attested in Slavic (cf. O.C.S. *sabota*, Rus. *subbota*, *simbata*) and even Hung. *szombat*; also Romance (cf. Fr. *samedi*, It. *sabato*, Spa. *sábado*, Pt. *sabado*). The *sabbath* is observed by the Jews as a day of rest, and comes from Hebrew *shabbath*, prop. “*day of rest*”, from *shabath* “*he rested*”. Hence, only two names appear to be correct for MIE, IE pagan **Satúrni (déinos)**, and Christian **Sabbátom**.

VII. *Sunday*, the last day of the week – first according to religious tradition –, is the “*day of the sun*”, Lat. *dies solis*, loan-translated from Gk. *ἡμερα Ηλιου*, compare also Skr. *Ravi vāsara* (Beng. *Robibar*); according to Hinduism, *Ravi* is *Surya*, the Sun. Therefore, the pagan version should be **Sāwlós (déinos)**, “*Sun’s day*”, gen. of **Sáwel**, *sun*, v.i., and in Christian tradition, following Lat. *dominicus dies*, Gk. *Κυριακος*, (from Gk. *κυριος*, *lord*, with a different IE base), **Kuriakós/Domūnikós (déinos)**.

Indo-European root **kew**, *swell*, also *vault, hole*, gives o-grade **kówos**, *hollow*, as Lat. *cauus*, as in **kówā** (as V.Lat. *cova*), *cave*, **kowésna**, *cavern*, **kówitā**, *cavity*, **komkowós**, *concave*, **ekskowā**, *excavate*; **kówilos**, *hollow*, **kowiliā**, *belly*, as Gk. *κοιλία*, and **kówilom**, *coelom*, as in Eng. derivatives *-cele, celiac, -coel*; **kówos**, *hollow place, cavity*, as in **kówodeiā**, *poppy head*, Gk. *κώδεια*, which gives **kowodeinā (-inā, “alkaloid”)**, *codeine*; zero-grade shortened **kúmolos**, *heap, mass, cumulus*, as Lat. *cumulus*, **kumolā**, *cumulate*, or **adkumolā**, *accumulate*; zero-grade **kūrós**, “*swollen*”, *strong, powerful*, hence **kúrios**, *master, lord*, as Gk. *κυριος*, as in **kūriakós**, “*of the lord*”, as in MIE **Kūriakóm [dómn]**, *Lord’s [dome]* (from “*house*”, see **dem-**), as Late Greek *kūriakon [dōma]* (cf. Med. Gk. *kūrikon*, into W. Gmc. *kirika*, as O.E. *ciricem*, Eng. *church*, Ger. *Kirche*), used for houses of Christian worship since c.300, especially in the East, though it was less common in this sense than **ekklēsīā** (from Gk. *ekklesia*, see **kela**) or **basilikā** (from loan adj. *basiliká, royal*, Gk. *βασιλική*, from *basiliós, king*); **kūweio**, *swell*, and derivative **kūmn**, *a swelling, wave*, with Greek derivatives as Eng. *cyma, cyme, cymo-, kymo-*; **enkūiénts**, *pregnant*, as Lat. *inciēns* (as Eng. *enceinte*).

Indo-European **kela**, *shout*, older **kelh₂*, gives verb **klāuo** (from **klah₂*), *roar, low*, as Gmc. *khlōwan* (cf. O.E. *hlōwan*, M.Du. *loeyen*, O.H.G. *hluoje*); suffixed **klāmā**, *call, cry out, claim*, as Lat. *clamāre*, as in **klāmānts**, *clamant*, **klāmōr**, *clamor*, **adklāmā**, *acclaim*, **deklāmā**, *declaim*, **eksklāmā**, *exclaim*, **proklāmā**, *proclaim*, **reklāmā**, *reclaim*; **kolā**, *call*, as Gmc. *khalōn* (cf. M.Du. *halen*, Frank. *halon*, O.Fr. *haler*, M.E. *halen*, maybe also O.E. *geholian*); **komkáliom** (from **kom-**, *together*, and zero-grade **kĺh*->IE **kalio**), *meeting, gathering, council* (“a calling together”), **komkaliā**, *conciliate*, **rekomkaliā**, *reconcile*; **kálendās**, *calends*, from Lat. *kalendae* (first day of the month, when it was publicly announced on which days the nones and ides of that month would fall), giving **kalendásiom**, *calendar*; **kalo** (variant **klē**), *call*, as in **ekkalō**, *summon forth*, which gives **ekklēsīā**, *assembly, church*, as Gk. ἐκκλησία; **kalā**, *call, call out*, as Lat. *calāre*, as in **enterkalā**, *intercalate*, **nomnklātōr**, *nomenclator*; suffixed **klārós** (from zero-grade **kĺh*), *bright, clear*, as in **deklārā**, *declare*; zero-grade **klástis**, *summons, division of citizens for military draft*, hence *army, fleet*, from Lat. *classis*, also *class*.

61. MIE **Januários** is probably from IE **jános**, Lat. *Janus*, ancient Ita. deity, guardian god of portals, patron of beginnings and endings, lit. “gate, arched passageway” from PIE **eí**, *go* (cf. Skt. *janaḥ*). Other Roman months are **Februários** (pl. of Lat. *februum*, *purifications*, unkn. origin), **Mártios**, (from Ita. god *Mars*, *Mamers* in Oscan, borrowed from the Etruscan deity *Mariś* as a war/agricultural god *Mars* and equated with Greek *Ares* by *interpretatio romana*), **Aprílis** (from Ita. goddess *Venus*, Etruscan *Apru*, possibly from Gk. *aphrodite*), **Mágios** (from Lat. *Maia*, from PIE **meg**, *great*), **Júnios** (from Lat. *Juno*, related to Eng. *young*), **Djówilios** (from Lat. *Iūlius Caesar*, from **djeus**, *god*), **Augústos** (from Lat. *Augustus Caesar*, from **aug**), **Septímris**, **Októmris**, **Nowímris**, **Dekrímris**, all from IE numbers following the Roman calendar (which began in March) and adj. suffix **-m(ns)ris**, Lat. *-bris*, from PIE base **mēn-**, *month*.

a. For PIE **eí**, *go, walk*, compare Goth. *iddja*, O.E. *ēode*, Lat. *ire, iter*, Umbrian *ier*, Oscan *eítuns*, Gk. εἶμι, ἰών, Skr. *ēti, imas, ayanam*, Av. *aēiti*, O.Pers. *aitiy*, Toch. *i*, O.Pruss. *eit*, Lith. *eiti*, Ltv. *iet*, O.C.S. *iti, idŏ* Rus. *uđmu*, Polish *ísć*, Gaulish *eimu*, O.Ir. *ethaim*, Kamviri *ie*; Luw. *i-*.

b. For PIE **meg**, *great*, compare derivatives **mégos** (Skr. *maha-*, Gk. *μέγας*, Phryg. *meka-*, Pers. *meh*), **megilós** (“*much*”, as Gmc. *mekilaz*, cf. Goth. *mikils*, O.E. *micel*, O.N. *mikill*, O.H.G. *mihhil*, M.E. *muchel*), **magiós** (as Lat. *major*), **magnós** (Lat. *magnus*); cf. Skr. *mahayati, mahat-*, Av. *mazant*, Illyr. *mag*, Toch. *māk/mākā*, Arm. *mec*, Gaul. *Magiorix*, O.Ir. *mochtae*, Welsh *Maclgwn*, Alb. *madh*, Kurd. *mezin*; Hitt. *makkes*.

c. PIE root **jeu**, “*vital force, youthful vigor*”, and its suffixed zero-grade **juwen-** (cf. Skr. *yuván-*, Lat. *iuvēn-is*), give **júwntis**, *youth*, as Gmc. *juwunthiz/jugunthiz* (cf. Goth. *junda*, O.S. *juguth*, O.E. *geogu*, O.Fris. *jogethe*, M.Du. *joghet*, O.H.G. *jugund*), and **juwnkós**, *young*, as Gmc. *juwungaz/jungaz*, (Goth. *juggs*, O.S., O.Fris. *jung*, O.N. *ungr*, O.E. *geong*, M.Du. *jonc*, O.H.G. *junc*) and Celtic *yowankos* (cf. Gaul. *Jovincillus*, O.Ir. *ac*, Welsh *ieuanc*); compare also Umb. *iuengar*, Av. *javan*, Pers. *javān*, Lith. *jaunas*, Ltv. *jauns*, Slavic *junъ, junьсь* (cf. O.C.S. *юнъ*, O.Rus. *оунъ*, O.Bulg. *юн, юнеу, юне*, O.Cz. *junec, junoch*, Pol. *junosza, junoch*).

d. PIE **aug**, *increase*, gives Gmc. *aukan* (“*eke*”, cf. Goth. *aukan*, O.N. *auka*, O.E. *eacan* O.Fris. *aka*), Lat. *augere*, Umb. *uhtur*, Gk. *αύξων, αύξάνειν*, Skr. *ojas-*, *ugra*, Toch. *ok/auk*, O.Pruss. *auginnons*, Lith. *augu*, *aukstas*, Ltv. *augt*. Common modern derivatives include **augonómn**, *nickname*, as Gmc. *aukanamon*); **augméntom**, *increase, augment*, **áugtiōn**, *auction*, from Lat. *augere*; **augē**, *create*, from L.Lat. *augēre*, which gives **augtós**, *created*, **áugtos**, *creation*, **augtór**, *author, creator*, and **augtoritiā**, *authorize*; **augúr**, *diviner* (<

“*he who obtains favorable presage*”, from “*divine favor, increase*”), from Lat. *augur*, as in **enaugurā**, *inaugurate*; **augsíliom**, *aid, support, assistance*, from Lat. *auxilium*, and **augsíliásiós**, *auxiliary*. Also, variant metathesized form **weg-**, o-grade and extended with **-s**, **wógso**, *grow*, Gmc. *wakhsan* (O.S., O.H.G. *wahs*, O.N. *vax*, O.E. *weaxan*, Du. *was*, Ger. *Wachs*, Eng. *wax*), and **wógstus**, *waist*, Gmc. *wakhstus* (cf. Goth. *wahstus*, O.N. *vaxtr*, Swed. *vstm*, O.H.G. *wahst*); from the same IE base, cf. Lith. *vakas*, O.C.S. *vasku*, Rus. *vosk*, Pol. *wosk*.

e. Compare for MIE **mēns** (gen. **mntós**), *moon, month*, cf. Lat. *mēnsis*, Gk. *μην*, Skr. *māsah*, Av. *maoñh*, Pers. *māh*, Toch. *mañ/meñe*, Arm. *amís*, O. Pruss. *menig*, Lith. *mėnuo*, Ltv. *meness*, O.C.S. *meseci*, Russ. *mesjac*, Pol. *miesiąc*, O.Ir. *mí*, Welsh *mis*, Alb. *muaj*, Kurd. *mang*, Kamviri *mos*, Osset. *mæj*. In Germanic, “*month*” comes from IE **ménōts**, Gmc. *mænoth-* (Goth. *menopþs*, O.N. *manaðr*, O.E. *monað*, M.Du. *manet*, Du. *maand*, O.H.G. *manod*), “*moon*” from IE **ménōn**, Gmc. *menon-*, (cf. Goth. *mena*, O.N. *mani*, O.E. *mōna*, O.S., O.H.G. *mano*, O.Fris. *mona*, Du. *maan*). See also Proto-Indo-European **mē**, *measure*.

62. For season, year, time, PIE had different words

A. From root **jēr-**, as **jérom**, *year, season*, cf. O.Pers. (*duši*)*jaram*, Gmc. *jæram* (“*year, season*” cf. Goth. *jer*, O.S., O.H.G. *jar*, O.N. *ar*, O.E. *ġēar/gēr*, Dan. *aar*, O.Fris. *ger*, Du. *jaar*, Ger. *Jahr*); **jórā**, *hour, season*, from Gk. *hóra* (“*hour, season, year*” as in Mod.Eng. *horoscope, hour*); also, compare Lat. *hornus*, Av. *jare*, O.C.S. *jaru*, probably originally “*that which goes a complete cycle*”, from older verbal root **h₂eí*, *go*, v.s.

A.a. The best option for “*season*” in MIE would be to use **jéros dáitis**, “*year-time*”, loan-translated from IE compounds like Ger. *Jahreszeit*, Fris. *jiertiid*, Du. *jaargetijde*, Swe., Da. *årstid*, Rom. *anotimp*, Lith. *metų laikas*, Russ. *время года*, Pol. *pora roku*, Cz. *roční období*, Slov. *letni čas*, Bret. *koulz-amzer*, etc., as a compound from gen. of **jérom**, followed by **d(á)itis**, *time*, as Gmc. *tidiz* “*division of time*” (cf. O.S. *tid*, Du. *tijd*, O.H.G. *zit*, Ger. *Zeit*), suffixed form of IE **dā**, *divide, cut up*; cf. **dámos**, Gk. *δῆμος*, also Skr. *dati*, O.Ir. *dam*. and Gmc. *tīmōn*.

A.b. Greek word for “*season*” is IE **epsoghá**, Gk. *εποχή*, *epoch*, from PIE roots **epi**, *on, at*, and **sogh**, o-grade of **segh**, *hold*, as in Gk. *εχειν*, Skr. *saha-*, *sahate*; other derivatives are **séghōs**, *victory* (<“*a holding or conquest in Battle*”), as Gmc. *sigiz-* (cf. O.N. *sigr*, O.E. *sige*, O.H.G. *sigu*, *sigo*, as in *Siegfried*, M.Du. *seghe*), **seghús**, **seghuerós**, *severe*, as Lat. *seuērus*, **sgholá**, *school*, as Gk. *σχολή*, **sghémn**, *scheme*, as Gk. *σχῆμα*.

A.c. Also, MIE **sātiōn**, *sowing, season*, from L.Lat. *sessōnis* (O.Fr. *seison*, Eng. *season*, Du. *seizoen*, Rom. *sezon*), from Lat. *satiō*, “*a sowing*”, from pp. *satum* of verb **siso**, Lat. *serere*, a reduplicate verb from IE **sē**, *sow*, as Gmc. *sēanan* (Goth. *saian*, O.N. *sá*, O.E. *sāwan*, M.Du. *sayen*, O.H.G. *sāen*), Skr. *sāyaka*, Toch. *sāry*, Lith. *seju*, *sėti*, Ltv. *sēt*, *sėti*, O.C.S. *sejo*, *sejati*, Russ. *семя*, Pol. *siać*, Welsh *hil*, O.Ir. *sí*, and Hitt. *sai*. It gave also **sémēn**, *seed, semen, sperm* (cf. Lat. *semen*, Umb. *semenies*, O.H.G. *samo*, O.Pruss. *semen*, O.C.S. *seme*, Rus. *семя*, Ger. *Samen*, even Finn. *siemen*), and **sétis**, *seed*, as in Gmc. *sēdiz* (cf. O.N. *sað*, O.S. *sad*, O.Fris. *sed*, M.Du. *saet*, O.H.G. *sat*, Ger. *Saat*).

A.d. Other word is **stātiōn**, from Lat. *statīōnis* (cf. Spa. *estación*, Pt. *estação*, Cat. *estació*), from IE **sta(n)t-**, giving Gmc. *standan* (cf. O.S., Goth., O.E. *standan*, O.N. *standa*, O.H.G. *stān*, Swed. *stå*, Du. *staan*), and other derivatives like IE **statós**, L. *status*, Gk. *στατός*, Lith. *statau*, ultimately from PIE **stā**, *stand*, with derivatives meaning “*set down, make or be firm*” and “*place or thing that is standing*”, as in IE **stōdhā**, *stallion, studhorse, steed*, from Gmc. *stōdō* (cf. O.N. *stoð*, O.H.G. *stuot*, O.E. *stod*, M.H.G. *stud*, M.L.G. *stod*, Ger. *Stute*, and also O.C.S. *stado*, “*herd*”, Lith. *stodas*, “*a drove of horses*”); compare L. *sistere*, *stō* (from older **stāiō**) Umb. *stahmei*,

Osc. *staiet*, Gk. ἵστασθαι, ἵστός, στῦλος, Skt. *tiṣṭhati*, Av. *hištaiti*, O.Pers. *aištata*, Pers. *istādan*, *-stan* (*country*, lit. “*where one stands*”), Phryg. *eistani*, Toch. *štām/stām*, Arm. *stanam*, O. Pruss. *postāt*, *stacle*, Lith. *stojus*, Ltv. *stāt*, O.C.S. *стояти, стоѣ, stanu, staru* (old, lit. “*long-standing*”), O.Russ. *стату, станы*, Pol. *stoję, stać*, O.Ir. *táu* (from older **stāiō**), *sessam*, Welsh *gwastad*, Alb. *shtuara*; Hitt. *išta*, Luw. *išta-*, Lyc. *ta-*

A.e. Hindustani *mausam* (Hindi मौसम, Urdu موسم) comes from Persian موسم, in turn from Arabic موسم, *weather, season, time*.

B. Romance languages have words derived from PIE **átnos**, *year* (from “*a period gone trough*”), which gave Germanic and Italic words, cf. Goth. *aþnam*, Lat. *annus* (modern Romance Fr., Rom. *an*, It. *anno*, Pt. *ano*, Spa. *año*, Cat. *any*), Osc., Umb. *akno-*, from IE **at**, *go*, as in Skr. *atati*.

C. Modern Slavic languages have different words for “*year, season*”.

C.a Some dialects have IE o-grade **ghodhós**, originally *fit, adequate, belonging together* (v.i. for Eng. *good*), which developed into O.C.S. *зодѣ, time*, “*pleasing time*”, giving O.Rus. *зодѣ*, Cro. *godina*, Bulg. *година* (cf. Ukr. *zodi*, Pol. *gody*, Cz. *hod*, Bulg. *годѣ*, Srb. год, Slov. *gôd*), also adopted in Ltv. *gads* (cf. ‘proper’ Latvian derivatives, *gadigs, gadit*), ultimately from PIE base **ghedh**, *unite*, “*be associated, suitable*”, also with the meaning of “*good*”.

C.b. Another common Slavic word is Pol., Cz., Slovak *rok*, Ukr. *рік* (also, cf. Russ. *с-рок*), from O.C.S. *рѣка, arm, hand* (cf. Russ. *рыка*, Ukr., Bel. *рыка́*, Slov. *róka*, Pol. *ręka*), also found in Lith. *rankà* (gen. *rañka*), Ltv. *rùoka*, “*hand*” (cf. Russ. *rancko*, gen. *rānkan*, Lith. *renkù, rinkai, riñkti, parankà*) with the year as a notion of a “*cubit measurement of time*”; the word is believed to be ultimately from a source akin to a nasal extended IE **wrnkã** [*wr̥-ŋ-ka:*], from PIE **wer**, *turn, bend* (maybe through O.Ind. *vrag*, “*corner, angle*”, *vrangr*, “*scythe*”).

C.c. Finally, compare Slovene *leto*, Russ.pl. *лет*, Pol. *lata*, Cz., Slovak. *leto* (cf. also Russ. *лето*, Pol. *lato*, “*summer*”), possibly cognate with O.Ir. *laithe, day*, reconstructed as common PIE **létom**.

D. In Celtic, a common isolated root is found, MIE **bhled-**, cf. O.Ir. *bladain*, Ir. *bliain*, Sc. *bliadhna*, Welsh *blwyddyn*, Bret. *bloaz*, Corn. *bledhen*.

E. For “*year*” in modern Iranian languages, compare Av. *sarəd*, O.Pers. *ýâre*, Persian *سال (sâl)*, Kurdish *sal*, Pashto *kâl*, Zazaki *serre*, all from PIE **jēr-**, already seen. Also borrowed in Hindustani as *sāl* (Urdu *سال*, Hindi *साल*), although some Indo-Aryan languages derive it from Skr. *वर्षम् (varsham*, as Marathi *वर्ष, varsha*, and Malayalam *varsham*), “*year, summer, rain season*”, a word which some derive from the sound of the rain, from a Dravidian source.

F. Another PIE word with a similar meaning is **wet-**, *year, age*, (cf. Alb. *vit*), which gives derivatives **wétrus**, *yearling*, as Gmc. *wethruz (wether*, cf. Goth. *wier*, O.S. *wethar*, O.H.G. *widar*, Ger. *Widder*), **wétōs**, *year, age, old*, as Lat. *vetus, veteris* or Gk. *ἔτος*; **wétolos/m**, *yearling*, as Lat. *vitulus* and Gk. *ἔταλον*; cf. Skr. *vatsaḥ*, Osc. *vezkeí*, O.Lith. *vetušas*, O.C.S. *vetŭcŭ*, Russ. *вѣчный*, Pol. *wiotchy*, O.Ir. *fethim*, Corn. *guis*, Alb. *vjet*; Hitt. *witt*.

I For Summer:

I.a. PIE root **séma**, *summer*, gives **Símaros**, and also **sémã**, *season*; compare Gmc. *sumaraz* (cf. O.N., O.S. *sumar*, O.E. *sumor*, O.F. *sumur*, M.Du. *somer*, O.H.G. *sumar*), Skr. *samã*, Av. *hama*, Toch. *šme/šmãye*, Arm. *amař*, Kurdish *havîn*; it is also a common Celtic word, cf. O.Ir. *samain, samuin, samfuin*, Ir. *Samhain*, Sc. *Samhradh*, O.Welsh *ham*, Welsh *haf*, Bret. *hañv*.

I.b. For Lat. *aestātis* (cf. Fr. *été*, It. *estato*, Cat. *estiu*, also secondary Spa. *estío*, Pt. *estio*) a MIE **Aistā** (< ***aidht(o)-tā**) is reconstructed, from common PIE root **aidh**, *burn, illuminate*; cf. Lat. *aedēs*, Gk. αἶθω, O.Ind. *ṣṭakā, índdhē* (nasalized form), Av. *aēsma-*, Lith. *iesmė*, O.Cz. *niestěje*, Slov. *istéje*.

I.c. Another common form is derived from **Wésr**, *spring* (vide infra), as Lat. *veranum* (*tempus*), “(time) of spring” (cf. Spa. *verano*, Pt. *verão*, Rom. *vară*), Lith., Ltv. *vasara*, Alb. *verë*.

I.d. For the common Slavic word, MIE reconstructs n. **Létom** (cf. Russ. *лето*, Pol. *lato*, Cz. *léto*, Srb.-Cro. *ljeto*).

II. MIE has for Autumn, *Fall*, different Indo-European words referring to “harvest”.

II.a. **Kéripistos**, *harvest*, Gmc. **kharbistas* (cf. Goth. *hairban*, O.N. *hverfa*, O.S. *hervist*, O.E. *hærfest*, O.H.G. *hwerban*, Du. *herfst*, Ger. *Herbst*), from PIE **kerp**, *pluck, gather, harvest* (cf. Lat. *carpere*, Gk. *καρπος*, Skr. *kṛpana-*, Toch. *kārp/kārp*, Lith. *kerpu*, O.Ir. *carr*, M.Ir. *cerbaim*, Welsh *par*).

II.b. **Ósōn** (Gen. **Osnós**), from older **h₃esh₃en*, *harvest*, as in Balto-Slavic, giving O. Pruss. *assanis*, Rus. *осень*, Ukr. *осінь*, Pol. *jesień*, Srb.-Cro. *jesen*, Slovak *jeseň*, and also **osnoio**, *earn*, from Gmc. *aznojanan* (cf. Goth. *asans*, O.N. *önn*, O.E. *earnian*, *esne*, O.H.G. *aran*, Ger. *Ernte*); cf. also Lat. *annōna*, Gk. *οπωρ*, Arm. *ashun*.

II.c. **Autúmnos** (Lat. *Autumnus*, of Etruscan origin), is the common word in Romance languages and English.

II.d. In Baltic ‘autumn’ is found as Ltv. *rudens*, Lith. *ruduo*, originally “red season”, derived from PIE **reudhós**, *red, ruddy*. Compare Gmc. *rauthaz* (cf. Goth. *rauþs*, O.N. *rauðr*, O.E. *rēad*, Dan. *rød*, O.Fris. *rad*, M.Du. *root*, O.H.G. *rōt*), Lat. *ruber*, (Lat.dial. *rufus*), Osc. *rufriis*, Umb. *rufriu*, Gk. *ἐρυθρός*; Skr. *rudhira-*, Av. *raoidita-*, Toch. *rtär/ratre*, O.C.S. *rudru*, Rus. *рдеть, румяный*, Pol. *rumiany*; Lith. *raudas*, Ltv. *ruds*, Gaul. *Roudos*, O.Ir. *ruad*, Welsh *rhudd*, Bret. *ruz*.

III. For MIE Winter.

III.a. There is a common PIE base **Ghéimn**, *snow, winter*; compare O.N. *gói*, Lat. *hiems* (from alternative IE **ghjéms**), Gk. *χειμα* (Mod. Gk. *χειμώνας*), Skr. *heman*, Av. *zimo*, Pers. *زمستان* (*zemestān*), *dai*, Toch. *śärme/śimpriye*, Arm. *dzmeř*, Old Prussian *semo*, Lith. *žiema*, Ltv. *ziema*, OCS *zima*, Russ. *зима*, Polish *zima*, Gaul. *Giamillus*, Ir. *gaimred*, Sc. *Geamhradh*, Welsh *gaeaf, geimhreadh*, Bret. *goañv*, Alb. *dīmër/dīmën*, Kurdish *zivistan, zistan*, Kamviri *zē*; Hittite *gimma-*. From the same root, compare **ghéimrinā**, *hibernate*, from Lat. *hibernāre*, from which also (**témpōs**) **ghéimrinom**, Lat. (*tempus*) *hibernum*, “time of winter” (cf. Fr. *hiver*, Ita., Pt. *inverno*, Spa. *invierno*, Rom. *iarnă*), or **ghímriā** [*gʰi-mr̥-ja*], *chimera*, from Gk. *χίμαιρα*.

III.b. In Germanic, however, the word comes from Gmc. *wentruz* (cf. Goth. *wintrus*, O.N. *vetr*, O.E., O.Fris., Du. *winter*, O.S., O.H.G. *wintar*, Ger. *winter*, Dan., Swed. *vinter*), thus IE **Wéndrus**, “watery season”, from PIE root **wed-/wod-/ud-**, *wet, water*. Compare for IE general **wódr/údr** (or nasalized **wóndr/úndr**), Gmc. *watar*, (cf. Goth. *watō*, O.N. *vatn*, O.E. *wæter*, O.H.G. *wazzar*, O.Fris. *wetir*, Du. *water*), Lat. *unda*, Umb. *utur*, Gk. *ὕδωρ*, Skr. *udan*, Toch. *wär/war*, Phryg. *bedu*, Thrac. *udrēnas*, Arm. *get*, O. Pruss. *wundan*, Lith. *vanduo*, Ltv. *ūdens*, O.C.S., O.Russ. *вода*, Pol. *woda*, O.Ir. *uisce*, Welsh *gwer*, Alb. *ujë*, Kashmiri *odūr*; also, Hitt. *watar*, and Ancient Macedonian *bedu*. And for alternate form **údroš**, *water, “water-creature”, otter*, cf. Gmc. *utraz* (cf. O.N. *otr*, O.E. *oter*, O.H.G. *ottar*, Swed. *utter*, Dan. *odder*, Du. *otter*), Lat. *lutra*, Gk. *ὕδρος*, Skr. *udra*, Av. *udra*, Lith. *ūdra*, O.C.S. *vydra*, Russ. *vydra*, O.Ir. *uydr, odoirme* Ir. *odar*, Osset. *wyrd*; also, derivative **ú(n)deros**, *belly*, compare Ger. *wanast*, Lat. *uterus, uenter*, Skr. *udara*, Av. *udaras*, Lith. *vėdaras*, Ltv. *vėders*. As with IE “fire” (**páwr-egnís**), Indo-European had two different roots for “water”, one inanimate, referring to an inanimate substance,

and the other, **apos**, *water* (animate), referring to water as a living force (cf. Sk. *apaḥ*), which comes probably from an older IE II root **h₂p-*, giving PIE **pískos**, *fish*, older **h₂p-isko-*, cf. Gmc. *fiskaz* (cf. Goth. *fisks*, O.N. *fiskr*, O.E. *fisc*, O.H.G. *fisc*, Du. *vis*, Ger. *Fisch*), Lat. *piscis*, Russ. *peskar'*, Polish *piskorz*, O.Ir. *asc*, Welsh *pysgodyn*.

IV. For Modern Indo-European Spring:

IV.a. The common PIE word was **Wesr** [we-sr̥]; compare O.N. *var*, Swe. *vår*, Lat. *vēr*, from which L.Lat. *prima vera* (cf. Spa.,Pt.,It. *primavera*, Rom. *primăvară*), Gk. *έαρ*, Skt. *vasantah*, Pers. φ (*bāhār*), Kur. *bihar*, Lith. *vasara*, Lith.,Ltv. *pavasaris*, O.C.S. *vesna*, Russ. *vesna*, Pol. *wiosna*, Gael. *Earrach*, and even Turkish *ilkbahar*, *bahar*, a borrowing from Iranian.

IV.b. The spring is usually considered the first season, hence the common resource of taking words for ‘fore’ or ‘early’ followed by ‘year’, as MIE **Prōjērom/Prājērom**; cf. Dan. *forår*, Du. *voorjaar*, Ger. *Frühjahr*, Bul. *пролет*, Srb.-Cro. *proljeće*, Slovene *pomlad*, Alb. *pranverë*, originally lit. “fore-year”; also, Ger. *Frühling*, from M.H.G. *vrueje*, or Cz. *jaro*, Slovak *jar*, from **jērom**. Also, in French, the older *primevère* was substituted in the 16th c. for *printemps*, O.Fr. *prin tans*, *tamps prim*, from Lat. *tempus primum*, lit. “first time, first season”, which also influenced Mid.Eng. *prime-temps*; cf. also Faer. *maitiid*. For “fore” in compounds, there is IE **prā** [pṛ-ā], *before*, as Gmc. *fura* (cf. Goth. *faiura*, O.N. *fyrr*, O.E. *fore*, O.Fris. *fara*, O.H.G. *fora*, Ger. *vor-*), Gk. *πᾶρος*, Skr. *purā*, Av. *paro*, Hittite *para-*, as well as IE **pro-/prō**, *before, in front of*, as Gmc. *fra-* (cf. Goth. *fram*, O.N. *frā*, O.E. *fram*, Scots *fro*, Ger. *vor-*), Ita. *pro-*, Gk. *προ-*, Ind. *pra-*, Slav. *pra-*, Celt. *ro-*; although Eng. “fore” itself comes from PIE **per/pr-**, base of prepositions with meanings like *forward, through*, and other extended senses.

IV.c. Another common Germanic term is **Dlonghodéinos**, as Gmc. *langa-tinaz*, lit. “long-day”, (cf. O.S. *lentin*, O.E. *lencten*, M.Du. *lenten*, O.H.G. *lenzo*, Eng. *Lent*, Du. *lente*, Ger. *Lenz*), from **dlo(n)ghós** – maybe an older common, difficult-to-pronounce **dlngghós** [dḷ-ŋ̊-ḡhos] –, *long*, as Gmc. *lanngaz* (cf. Goth. *laggs*, O.N. *langr*, O.E.,O.H.G. *lang*, M.Du. *lanc*), Lat. *longus*, Gk. *δολιχός*, Skr. *dīrgha*, Av. *darəga*, O.Pers. *darga*, Pers. *derāz*, O.Pruss. *ilgi*, Lith. *ilgas*, Ltv. *ilgs*, OCS *dlŭgŭ*, Russ. *dolgij*, Pol. *dhugi*, Gaul. *Loggostalētes*, O.Ir. *long*, Welsh *dala*, Alb. *gjatë*, Kashmiri *dūr*, Hitt. *dalugaes*; and IE **déinos**, a root meaning “day”, vide infra. The compound probably refers to the increasing daylight in Spring.

63. Indo-European **Djéus, Déiwos** (the later formed by *e-insertion* of zero-grade **diw-**), means originally *shine*, usually *sky, heaven*, hence *sky god*; cf. Gmc. *Tīwaz* (O.N. *Tyr*, Eng. *Tiu*, also in *Tuesday*), Lat. *deus, Iovis*, as in *Iuppiter* (from older **Djōus patér**, “o father Iove” cf. O.Ind. *devaḥ pitar*, Gk. *Zeus pater*), Gk. *Zeús*, gen. *Διός*, Skr. *devaḥ* (as in *Devanāgarī*), O.Pers. *daēva-* (as in *Asmodeus*), O.C.S. *deivai*, Lith. *devas*. From zero-grade **djōus** is extended **djōwis**, Lat. *Iouis*, “Jupiter”, as adjective **djowiliós**, “descended from Jupiter”, Lat. *Iūlius* (name of a Roman gens), into **Djówilios, July**. The form **déiwos**, as Gmc. *tīwaz*, Lat. *deus*, gives **deiwismos, deism, déiwitā, deity, deiwidhakós, deific, addéiwos, bye** (“I commend you to God”, cf. Fr.,Eng.,Ger. *adieu*, It. *addio*, Spa. *adiós*, Pt. *adeus*, Cat. *adeu*, Nor. *adjø*, Swe. *adjö*, Gk. *avtio*, Slo. *adijo*, Lux. *äddi*, Papiamento *ayo*, etc.); also, from Lat. *dīuus*, loan words **dīwos, famous artist (fem. dīwā, diva)**, and **deiwinós, divine; déiwēs, rich** (“fortunate, blessed, divine”), as Lat. *dīues*; **diwiós, heavenly**, as in **Diwiánā, Diana**, as Lat. *Diāna, moon goddess*; variant **djéus** (from Lat. *djē-*), *day*, as in **djewālís, daily, dial, djewāsíós, diary, djétā, daily routine, diet, national or local legislative assembly** (alteration influenced by **djē** from **díaitā, way of living, diet**, from Gk. *δίαιτα* into Lat. *diaeta*), **djounós, diurnal, “of the day”, daily**, as in **djounālís, diurnal, daily**, hence as

noun “*breviary, journal*” (as Fr. *journal*), and also “*salary*” (as Prov. *jornal*), **djóusnom**, *day*, **djousnátā**, *day*, *day’s travel, journey*, **medhīdjéus**, *midday* (from **medhieī djéus**, from locative of **médhjos**, *middle*), *midday*, which gives **medhīdjewonos**, “*of or at midday*”, also *meridian*, and adjective, **medhīdjewonós**, “*of or relating to a meridian, meridional*” from Lat. *merīdiānus*, **qōtidjewonós**, *quotidian*; **dejalós**, *clear, evident*, as Gk. δῆλη, as in **psūghodej(a)likós**, *psychedelic*, (see **bhes**) an English loan word using Greek loan words. Also, with the sense of *shining, clear, day*, compare Goth. *sinteins*, Lat. *diēs*, Gk. δῆλος, Skt. *diva*, O.Ind. *dinam*, Welsh *diw*, Bret. *deiz*, Arm. *tiw*, Prus. *deinan*, Lith., Latv. *diena*, O.C.S. *дьнь*, Pol. *dzien*, Ukr., Rus. *день*, etc.

The origin of Germanic word for “*God*” is probably Gmc. *guthan* (cf. Goth. *gub*, O.E. *god*, O.N. *guð*, Du. *god*, Ger. *Gott*), from zero-grade **ghútom**, *God*, “*the invoked*” (cf. Skr. *huta-*, *invoked*, an epithet of Indra), from PIE **ghwa**, *call, invoke*, although some trace it to *ghúde* “*poured, libated*”, from PIE root **gheu**, *pour, pour a libation*; as Gmc. *giutan* (cf. Goth. *giutan*, ON *gjta*, O.E. *guttas*, O.H.G. *giozan*, Ger. *giessen*, Eng. *gut*), Lat. *fūtis*, Gk. *χειν*, Skr. *juhōti*, Av. *zaotar*, Pers. *zōr*, Toch. *ku*, Phryg. *Zeuman*, Arm. *dzulel*. Originally neutral in Gmc., the gender of “*God*” shifted to masculine after the coming of Christianity. Following Watkins, “*(...)given the Greek facts, the Germanic form may have referred in the first instance to the spirit immanent in a burial mound*”, therefore O.E. *god* was probably closer in sense to Lat. *numen*, a Latin term for the power of either a deity or a spirit that informs places and objects. A better word to translate *Deus* might have been *Æsir*, Gmc. *ansuz* (cf. O.N. *Ás*, O.E. *Ós*), a name for the principal gods of the pantheon of Norse mythology, but it was never used to refer to the Christian God. It survives in English mainly in the personal names beginning in *Os-* (cf. *Oswin*, *Oswald*, *Osborn*, etc.). The Germanic noun is believed to be derived from PIE **(á)ńsus** “*breath, god*” related to Skr. *asura* and Av. *ahura*, with the same meaning; though in Sanskrit *asura* came to mean “*demon*”. v.i. for more on meaning shift for substituted deities in IE languages. **Ánsus** is in turn related to **ána**, *breathe*, v.s.

64. **Prōbhastōr** comes from Lat. *professor*, agent noun from *profitieri*, from Lat. *pro-*, “*forth*”, and **bhátō** (p.part. **bhastós**<**bhattós**), “*acknowledge, admit, confess*”, as Lat. *fateri* (pp. *fassus*), zero-grade from PIE roots **bhā**, *speak*, and **pro-**, already seen, also from Late Latin **prōbhastā**, *profess*, **kombhastā**, *confess*, etc.

65. MIE **Kolumnélis**, *Colonel*, comes from It. *colonnella* “*commander of a column of soldiers at the head of a regiment*”, from *compagna colonella*, “*little column company*” from IE **kólumnā**, Lat. *columna*, “*projecting object, pillar, column*”, from o-grade of PIE **kel**, *be prominent, also hill*. *Column* comes in turn from o-grade **kól(u)men**, *top, summit*, from Lat. *culmen*, which gives verb **kol(u)menā**, *culminate, raise, lift up*, from L.Lat. *culmināre*. Other derivatives from the same root are **kolobhón**, *summit, end, colophon*, from Gk. *κολοφών*; zero-grade **kínis**, *hill*, as Gmc. *khulniz* (cf. O.N. *hallr*, O.E. *hyll*, M.Du. *hill*, L.Ger. *hull*), **kímos**, *islet in a bay, meadow*, as Gmc. *khulmaz* (cf. O.N. *holmr*, O.E. *holm*), extended form **ekskeldo** (compound of PIE **eks-** and extended form **keld-**), *raise up, elevate*, also “*be eminent, excel*”, from Lat. *excellere*. Compare also Goth. *hallus*, Lat. *collis, celsus*, Gk. *κολονος*, Skt. *kutam*, Lith. *kalnelis, kelti*.

66. Indo-European **reg** meant originally probably *straight line*, hence “*move or direct in a straight line*”, *rule, guide, lead*. Compare common derivatives like verb **reg**, *rule, lead straight, put right*, as Lat. *regere*, Gk. *opeyeiv*, Av. *razeyeiti*; **řęgtós**, *right, straight, upright, righteous, wise, true*, as Gmc. *rekhtaz* (cf. Goth. *raihts*, O.N. *rettr*, O.E. *riht*, O.H.G., O.Swed. *reht*, Ger. *recht*, Eng. *right, straight*), Lat. *rectus*, Gk. *ὀρεκτός*, O.Pers. *rahst-*, *aršta-*, Pers. *rahst*, Lith. *teisus*, O.Ir. *recht*, Welsh *rhaith*, Breton *reiz*; **ręgs**, *ruler, leader, king*, as in **ręgiós**, *royal*, from

Celtic (cf. Gaul. *-rix*, O.Ir. *ri*, gen. *rig*, Gael. *righ*) into Gmc. *rikjaz*, “rich, wealthy”, (cf. Goth. *reiks*, O.N. *rikr*, O.E. *rice*, O.H.G. *rihhi*, O.Fris. *rike*, Du. *rijk*, Ger. *Reich*, Eng. *rich*); **rēgs**, king, leader, as Lat. *rēx*, *regis*, which gives **rēgālis**, royal, kingly, regal; **rēgēn**, king, rajah, and verb *rule*, from Skr. *rājā*, *rājan-*, and *rājati.*; **rēgolā**, straight piece of wood, rod, hence “rule”, and as verb “regulate”, from Lat. *rēgula* and L.Lat. *rēgulāre*; o-grade **rogā**, ask (< “stretch out the hand”), from Lat. *rogāre*; and lengthened **rōgio**, from Gmc. *rōkjan* - *rakjan* (cf. O.N. *rækja*, O.E. *reccan*, O.H.G. *giruochan*, Ger. *geruhen*, Eng. *reck*). Derivatives from Lat. *rēctus* include **rēgtom**, *rectum*, **rēgēnts**, *regent*, **rēgimēn**, **rēgiōn**, **disrēgo**, (compound with Lat. *dis-*, “apart”) to *direct*, **disrēgtós**, *direct*, **komrēgo**, *to correct*, **komrēgtós**, *correct*, **rēgtōr**, *rector*, **disrēgtōr**, *director*, etc.

67. North: from PIE root **ner-** below, under, also on the left, hence, “with an eastward orientation”, north, as north is to the left when one faces the rising sun, giving **Nrtos** as Gmc. *nurthaz*, O.N. *norðr*, O.E. *norð*; cf. Skt. *narakah*, Gk. *enerthen*, O.U. *nertrak*.

Originally PIE had **(s)kew(e)ros**, north, northwind, cf. W.Gmc. *skūraz* (cf. Goth. *skura*, O.N. *skúr*, O.S., O.H.G., O.E. *scūr*, Ger. *Schauer*, Eng. *shower*), Lat. *caurus*, Arm. *c'urt/c'urd*, Lith. *šiaurus*, *šiaurys*, *šiaure*, O.C.S. *severu*, Russ. *sever*.

I. Other IE derivatives for “left” are:

I.1. Indo-European **laiwós**, left, as Gmc. *laewaz* (cf. ON *læn*, O.E. *læw*, O.H.G. *lēwes*), Lat. *laevus*, Gk. *laios*, Ilyr. *Levo*, Lith. *išlaiuoti*, O.C.S. *lěvŭ*, Russ. *levyj*, Polish *lewy*. English “left” is maybe also derived from the same root, through an extended **laiwt-**, although probably from a source meaning “weak”; cf. O.E. *lyft*, E.Fris. *luf*, Du. dial. *loof*, M.Du., Low Ger. *luchter*, *luft*.

Common Germanic vocabulary include Ger. *link*, Du. *linker*, from O.H.G. *slinc*, M.Du. *slink*, related to O.E. *slincan* “crawl”, Swe. *linka* “limp”, *slinka* “dangle”.

I.2. PIE **seujós**, left, was the source for Skr. *savya*, Av. *haoya*, Toch. *-/saiwai*, OCS *šujŭ*, Russ. *šuj*, Welsh *aswy*.

I.3. A reconstructed IE **sen** is in the origin of Romance **senesterós**, left, on the left side, as Lat. *sinister* (opposite of *dexter*), meaning prop. “the slower or weaker hand” [Tucker], but Buck suggests it's a euphemism, connected with the root of Skt. *saniyan* “more useful, more advantageous”.

Spa. *izquierda*, Gl.-Pt. *esquerda*, Cat. *esquerra* are late borrowings from Basque *ezkerra*.

II. Indo-European derivatives for “right”:

II.1. The opposite of **ner** in PIE was probably **deks**, right, hence **Deksinā/Deksiós** south (facing east), giving Goth. *taíhswa*, O.H.G. *zeso*, Lat. *dexter*, Oscan *destrst*, Umb. *destrame*, Gk. *δεξιός*, Skr. *dakṣina*, Av. *dašina*, Kashmiri *dachūn*, Toch. *täk/*, Lith. *dešinė*, OCS *desnaya*; *desnŭ*, Russ. *dechnuŭa*, Gaul. *Dexsiva*, O.Ir. *dech*, Welsh *deheu*, Alb. *djathë*. Common derivatives from Latin are **deksterós**, right, on the right side, hence *skilful*, *dexter*, as, as in **dekstéritā**, *dexterity*, or **ambhideksterós**, *ambidextrous*.

II.2. The usual derivative for *right* (in both senses, *direction* and “straight, just”) in modern Romance and Germanic languages is still made from oldest **rēgtós** (cf. Eng. *right*, Ger., Du. *recht*, Da., Nor. *rett*, Swe. *rätt*, Spa. *recto*, Pt. *reto*), ultimately from PIE **reg**, although a usual Romance derivative comes from prefixed **deregtós**, as Lat. *directus* (cf. Fr. *droit*, Spa. *derecho*, It. *diritto*, Pt. *direito*, Rom. *drept*, Cat. *dret*), and a usual Germanic one is suffixed **regtikós**, as Gmc. *rektikhaz* (cf. Ger. *richtig*, Da. *rigtig*, Nor., Swe. *riktig*); also found in both, Lat. and Gmc. is adj. **komregtós**, *correct* (as Ger., Da. *korrekt*, Fr., Du. *correct*, Spa. *correcto*, Pt. *corretto*).

II.3. Another usual word in Slavic languages comes from PIE verbal root **bhew** (older **bheuh₂*), *be, exist, grow*, (see more on **bhew**), as zero-grade reduced suffixal form **-bhw-**, as in **probhwós**, “*growing well or straightforward*”, hence *right, upright, correct*, as Slavic *prōvos* (cf. O.Russ., O.C.S. *правъ*, Pol. *prawy*, Cz.,Slk. *pravý*, Sr.-Cr.,Slo. *pràv*), Lat. *probus*, O.Ind. *prabhús*.

68.South: related to base of Gmc. *sunnon*, from **súnom**, *sun*, (**swén-/sún-** are alternate nasalized roots for PIE **sáwel**) with the sense of “*the region of the sun*”, Ger. *Süd, Süden* are from a Du. pronunciation. O.Fr. *sur, sud* (Fr. *sud*), Sp. *sur, sud-* are loan words from Gmc., perhaps from O.N. *suðr*. Compare Gmc. *sawel/sunnon* (Goth. *sauil, sunno*, O.N. *sól, sunna*, O.Eng. *sigel, sunne*, O.H.G. *sunna*) Lat. *sōl*, Gk. *ἥλιος*, Skr. *sūras*, Av. *hvarə*, Pers. - *farnah-*, Kamviri *su*, Toch. *swāñce/swāñco*, Alb. *(h)yll*, O. Pruss. *saule*, Lith. *saulė*, O.C.S. *slunice*, O.Russ. *сѣлънце*, Pol. *słońce*, Welsh *haul*, O.Ir. *súil*.

69.The East is the direction in which the Sun breaks, from PIE **aus**, *dawn*; cf. Gmc. *austo/austraz* (O.N. *austr*, O.E. *ēast*, O.H.G. *ōstra*, Du. *oost*, Ger. *Osten*), Lat. *aurōra, auster*, Gk. *αυριον (aurion), ηως (ēōs)*, Skr. *uśās*, Av. *ušastara*, Lith. *aušra*, Ltv. *ausma*, Russ. *утро*, O.Ir. *usah, fáir*, Welsh *gwawr*. For Modern Indo-European we will use generally **Áustos** as Gmc. *East*, and **Austrós** as Gmc. *Eastern (austraz)* and for Lat. *auster*; as, **Austrorégion**, *Austria* (cf. Gmc. *austro+rikjan*, Ger. *Oesterreich*), **Austráliā** (from Lat. *Terra Australis*, MIE **Austrá(lis) Térsā**, *Southern Land*), etc.

70.West: Pie root **wes-** is root for words meaning *evening, west*, as **west(e)ros/wesperos/weskeros** Gmc. *westraz* (cf. O.N. *vestr*, Du. *west*, Ger. *West*), Gk. *ἑσπερος (hesperos)*, Lat. *vesper*, O.C.S. *večeru*, Lith. *vakaras*, Welsh *ucher*, O.Ir. *fescor*, perhaps an enlarged form of PIE base **we-**, *to go down* (cf. Skt. *avah*), and thus lit. “*direction in which the sun sets*”.

71. Lat. *platea*: *courtyard, open space, broad street*, comes from Gk. *plateia (hodos)*, *broad (way)*, fem. of **pítus**, *broad*, Gk. *πλατυς*, from PIE stem **plat**, *spread out, broad, flat*. Cf. Gmc. *flataz*; Lat. *planta*; Skt. *prathati*, Gk. *pelanos*, Hitt. *palhi*; Lith. *platus, plonas*; O.Ir. *lethan*. Related to **plāk**, *to be flat*; cf. Gmc. *flakaz* (Eng. *flake*), Lat. *plācāre*, Gk. *plax*. Both extended forms of PIE base **plā** [‘p]₃-a:] (from **pel**), *flat, spread*; cf. Gmc. *felthuz* (Eng. *field*), Lat. *plānus*, Gk. *plassein*, Sla. *polje*, etc.

IE **plat** is an extension of PIE root **pel**, *flat*, and *spread*. Compare **péltus**, *flat land, field*, as Gmc. *felthuz* (cf. O.Fris. *feld*, O.E. *feld*, M.H.G. *velt*, Ger. *Feld*, Eng. *field*, even Finnish *pelto*, “*field*”, from Proto-Germanic), **plárus**, *floor, ground*, as Gmc. *flōruz* (cf. O.N., O.E. *flor*, M.H.G. *vluor*, M.Du. *vloer*, Ger. *Flur*, Eng. *floor*) or Welsh *llawr*, **plānós**, *flat, level, even, plain, clear*, from Lat. *plānus*; **pímā**, *palm*, as Lat. *palma*; **plānētā**, “*wandering*”, *planet*, as Gk. *πλανήτης*, from **plānā**, *wander* (<“*spread out*”), from Gk. *πλανασθαι*; also zero-grade **pladhio**, *mold, “spread out”*, as Gk. *πλασσειν (plassein)*, hence **plastikós** (<“*pladhtiko-*), **pládhmā**, - **pladhia**, **plastós**(<“*pladhto-*), etc. In Slavic there are o-grade **polís**, *open*, and **pólā**, *broad flat land, field*.

The old territory of the tribe of *Polans (Polanie)*, MIE **Polános**, had a name which became that of the Polish state in the 10th century. MIE **Póliskā**, Pol. *Polska* (Eng. *Poland*, “*land of the Poles*”), expressed both meanings, and comes from IE adjectival suffix **-isko-**, as in **poliskós**, *polish*, **Póliskos**, *Pole*, f. **Poliská dñghūs** or n. **Póliskom**, *polish language*. The name of the tribe comes from a PIE source akin to Polish *pole*, “*field, open field*”), from IE **pólā**.

72. PIE **wer**, *speak*, is the source of zero-grade **wŕdhom**, *word*, as Gmc. *wurdan* (cf. Goth. *waurd*, O.N. *orð*, O.S., O.E., O.Fris. *word*, Du. *woord*, O.H.G. *wort*), full-grade **wérdhom**, *verb*, from Lat. *verbum* (originally “*word*”), as in **adwérdhiom**, *adverb*, and **prōwérdhiom**, *proverb*, **prāiwérdhiom**, *preverb*; **wério**, *say*, *speak*, as Gk. *ειπειν*, from which **werioneiā**, *irony*, as Gk. *ειρωνεία*; **wrētōr**, *public speaker*, *rhetor*, as Gk. *ρήτωρ*, from which **wrētōrikā**, *rhetoric*, as Gk. *ρητορική*, or **wrémn**, *word*, *rheme*, as Gk. *ῥημα*; compare also, with the sense of *speak*, *command*, *agree*, *call*, *summon*, *lie*, etc., Umb. *uerfalem*, Skr. *vrata-*, Av. *urvāta*, Old Prussian *wīrds*, Lith. *vardas*, Ltv. *vārds*, OCS *vračī*, Russ. *сречь*, O.Ir. *fordat*, Hitt. *ueriga*.

73. Indo-European **ékwos**, **ékwā**, and **krsos**, have also another synonym in Celtic and Germanic – maybe a borrowing from Gaulish –, **márkiā**, *mare*, as Gaul. *markan*, O.Ir. *marc*, Welsh *march*, Bret. *marh*, and Gmc. *markhjon*, cf. O.N. *marr*, O.E. *mearh*, also fem. O.S. *meriha*, O.N. *merr*, O.E. *mere/myre*, O.Fris. *merrie*, O.H.G. *marah*, Eng. *mare*, Ger. *Mähre*.

74. PIE root **bak**, used for “*staff*”, is the source for **bákolom**, *rod*, *walking stick*, as Lat. *baculum*, and diminutive **bákillom**, *staff*, *bacillum*, and possibly **nbakillós**, *imbecile*, *weak*, *feeble*. Also, for **báktrom**, *rod*, from Gk. *βάκτρον*, and its diminutive **baktériom**, *bacterium*, *little rod*, for Gk. *βακτηριον*. French loan words *débâcle* (MIE **debákolā**) and *baguette* (from It. *bacchetta*, from *bacchio*, in turn from Lat. *baculum*) are also modern derivatives. Compare also Lith. *bakstelėti*, Ltv. *bakstīt*, O.Ir. *bacc*, Welsh *bach*.

75. For Indo-European **bhel**, *light*, *bright*, also *gleam*, compare Gmc. *blaik-* (cf. Goth. *bala*, O.N. *bāl*, *blár*, *bleikr*, O.E. *blæcern*, *blæcan*, *blæwen*, O.H.G. *blecken*, *bleich*, *blāo*), Lat. *flagrāre*; *flāvus*, Oscan *Flagiúí*; *Flaviies*, Gk. *φλεγειν*; *φαλος*, Skr. *bharga*; *bhālam*, Phryg. *falos*, Toch. *pālk/pālk*, Illyr. *balta*, Thrac. *balios*, Arm. *bal*, O.Pruss. *ballo*, Lith. *blagnytis*, *baltas*, Ltv. *balts*, Russ. *belyj*, Polish *biały*, Gaul. *Belenos*, Ir. *beltene*, *blár*, Welsh *bal*, *blawr*, Alb. *ballë*. Thus e.g. Modern Indo-European **Bhaltikós**, *Baltic*, **Bhelārús**, *Belarus*, “*White Ruthenia*”, and possibly **Bhélgiā/Bhélgikā**, from the Celtic tribe of the **Bhélgās**, *Belgae* for the Romans.

76. IE **téuta** means originally *people*, *tribe*; as Gmc. *theudo* (cf. Goth. *þiuda*, O.N. *þjóð*, O.E. *þeoð*, O.H.G. *diutisc*, M.Du. *duitsch*, Eng. *Dutch*, Ger. *Deutsch*, Ice. *Þýska*, L.Lat. *theodice*, It. *tedesco*), Osc. *touto*, Umb. *totam*, Illyr. *teuta*, O.Prus. *tauto*, Lith. *tauta*, Ltv. *tauta*, Gaul. *teuto*, O.Ir. *tath*; Hitt. *tuzzi*. Lyc. *tuta*. Today the Germanic adjective equivalent to MIE **Teutiskós** is mainly used to describe Germans (also in a wider sense of German-speaking people) and Germany (cf. Dan., Nor, Swe. *tysk*, Du. *Duits*, Ice. *Þýskur*, Lat. *theodisco*, It. *tedesco*, Rum. *tudestg*, even Chinese *dǔ*, Japanese *doitsu*, Korean *dogeo*, or Vietnamese *Đức*), hence **Téutiskom**, *German language*, **Teutiskoléndhom**, *Germany*, from O.H.G. *Diutisklant*, Ger. *Deutschland*.

Finnish and Estonian derivatives are from loan word *saksa*, MIE **Sáksōn**, from L.Lat. *Saxō*, *Saxonēs*, in turn from West Germanic tribal name *Saxon*, traditionally regarded as from **sóksom**, Germanic *sakhsam*, “*knife*”, (cf. O.E. *Seaxe*, O.H.G. *Sahsun*, Ger. *Sachse*), therefore ‘*Saxon*’ could have meant lit. “*warrior with knives*”, “*swordsmen*”, related to **sókā**, *cutting tool*, *saw*, as Gmc. *sagō* (cf. O.E. *seax*, *secg*, O.N. *sōg*, Norw. *sag*, Dan. *sav*, M.Du. *saghe*, Du. *zaag*, O.H.G. *saga*, Ger. *Säge*), from PIE root **sek**, *cut*. Athematic **sekā**, as Lat. *secāre*, gives common derivatives like **séktiōn**, *section*, **sekméntom**, *segment*, **enséktom**, *insect*, **sektōr**, *sector*, **dissekā**, *dissect*, etc. Other derivatives include **skend**, *peel of*, *flay*, and **skends**, *skin*, as Gmc. *skinths* (cf. O.N. *skinn*, O.H.G. *scinten*, Ger. *schinden*, Flem. *schinde*); **sáksom**, *stone* (maybe from “*broken-off piece*”), from Lat. *saxum*; **sékitā**, *sickle*, *scythe*, as Gmc. *segithō* (cf. O.S. *segasna*, O.E. *sigði*, M.L.G. *segede*, M.Du. *sichte*, O.H.G. *segensa*,

Ger. *Sense*). Compare also Lat. *sacēna*, Slavic *sěko, sěkti* (cf. O.C.S. сѣкъ, сѣшти, O.Rus. сѣку, сѣчу, Pol. *siec, siecę*, Srb.-Cro. *sijecem, sijehi*), O.Lith. *įsekti, išsekt*, O.Ir. *doescim*, Ir. *ésgid*, Bret. *scant*, Alb. *shat*.

77. Adjective **enternationālis** comes from **enter+gnationalis**, and is a usual modern loan word (from Lat. terms *inter+natio*) in Romance and Germanic languages, as well as in Celtic and South Slavic. In some Slavic modern languages, even though the same Latin borrowings exist (cf. Russ. *нация, интернационал-*, Pol. *pacja, internacional-*, etc.), the usual compound is made by **medhjonorodhós** (cf. Russ. *между+народный*, Pol. *między+narodowy*, etc.) from PIE **médhjos**, *middle*, and **nórodhs**, *nation*.

Indo-European **éinter**, *between, among*, gave Lat. *inter*, and is found in common loan words **enteriós**, *interior*, **enternós**, *intern*, and **enternālis**, *internal*. Also, compare other similar derivatives like **ént(e)ro**, as in **éintrō**, *inward, within*, from Lat. *intrō*, as in **entroduko**, *introduce*, **entrospeko**, “*look inside*”, *introspect* (see **spek**); or **éintrā**, *inside, within*, from Lat. *intrā*, as in verb **entrā**, *enter*, or suffix **entra-**, *intra-*; also found in **énterim**, (with ablative suffix **-im**), **entrīseqós** (from **énterim** and **séqos**, *alongside*), and **entmós**, *innermost, intime*, and its verb **entmā**, *intimate*, with **-mo-** being a superlative suffix. Similar IE words include **entós**, *within*, from Gk. εντός, **énterom**, *intestine, enteron*, from Gk. έντερον, and Skr. *antara-*.

The previous derivatives are ultimately derived from PIE root **en**, *in*, which gives Gmc. *in(nan)* (cf. Goth. *in*, O.N., O.Swe. *i*, O.E. *inn, inne*, O.Fris, O.H.G. M.Du., Eng. *in*), Lat. *in*, Gk. *ev*, Skr. *an-*, O.Pruss. *en*, Lith. *i*, Ltv. *iekšā*, O.C.S. *on-*, O.Ir. *in*, Welsh *yn-*, Luw. *anda*.

Other common derivatives include **enerós**, *inner, further in*, from Gmc. comparative *innera*; Gk. and Lat. **endós**, *inner, within*, which gives **endostruós**, *diligent, industrious*, from Lat. *industrius* (O.Lat. *indostruus*), thus **éndostruā**, *industry*, and Lat. loan word **endogénts**, *indigent*. Extended **ens**, *into*, as Gk. εις (*eis*), which gives **epensódiom**, *episode*, from IE **epi** and **ensódios**, *entering*, from Gk. εισόδιος (*eisodios*). Further suffixed **ensō**, *within*, gives **ensoterikós**, *esoteric*, and **ensotropikós**, *esotropic*, from Greek έσω.

B. Common IE words for *people, race, men, nation*, apart from **téuta**, **génos**, **man**, **wīros**:

B.1. For Balto-Slavic **rodhs**, *kind, sort, genre, family, clan*, and **nórodhs**, *people, nation* – look at the parallelism with **génōs** and **gnātiōn** –, compare Lith. *rasmė*, Ltv. *rads, rasma, raža* (from older **rādhiā**), O.C.S., O.Russ. *родъ*, Russ. *род, народ*, Pol. *ród, naród*, etc. It is deemed to be o-grade form of PIE **redh**, *rise out, extend forth*, an Indo-European base akin to PIE verb **wrōdh**, *grow up*, and also *high, steep*; compare Skr. *várdhati*, Av. *varait*, Alb. *rit*, and (doubtfully) Arm. *ordi*, “*son*”, Lat. *arbor*, “*tree*” (possibly but unlikely PIE ***wrđhōr**, maybe better MIE Lat. loan **árbor**), Hitt. *hardu*. A common derivative is zero-grade suffixed **wrdhuós**, *straight*, with MIE comp. elem. **wrdho-**, as Gk. όρθο-, Eng. *ortho-*.

A common Indo-European preposition is reconstructed as PIE **anō**, *on*, as Lat. *in-* (in some cases, and also *an-*), Gk. άνά, άνω, Av. *ana*, also *on, up, upon*, as Gmc. *ana, anō* (cf. Goth. *ana*, O.N. *á*, O.E. *an, on, a*, O.H.G. *ana*, Du. *aan*), and variant Balto-Slavic form **no**, as Slavic *na* (cf. O.C.S. *на*, Ukr., Bul., Russ. *на*, Cz., Pol. *na*), O.Pruss. *no, na*, Lith. *nuō*, Ltv. *nūo*.

B.2. Tucker suggests from the same PIE base **redh** a common Romance **rādhios**, *staff, spoke of a wheel, beam of light*, as Lat. *radius*, which gives **rādhiā**, *race*, from L.Lat. *radia* into It. *razza*, Fr., Eng. *race*, Spa. *raza*, Pt. *raça*. In any case, whether originally related or not, both words are written this way in Modern Indo-European.

B.3. A common Germanic word is **pígom**, *people, men*, from Gmc. *folkam* (cf. O.N. *folk*, O.E. *folc*, O.Fris. *folk*, M.Du. *volc*, Ger. *Volk*), which is usually compared with Lith. *pulkas*, O.C.S. *pluku*, both believed to have been borrowed from Proto-Germanic. It is related to **plédhūs**, *people, multitude*, as Lat. *plēbs*, *plēbēs*, and **plédhuos**, *multitude*, as Gk. *πλήθος*, all from PIE root **pel**, *fill, be full*. Other derivatives include **plnós**, *full*, as Gmc. *fulnaz*, *fullaz* (cf. Goth. *fulls*, O.N. *fullr*, O.E. *full*, O.Fris. *ful*, O.H.G. *fol*, Ger. *voll*); **plío**, *fill*, as Gmc. *fulljan* (cf. O.S. *fulljan*, O.N. *fylla*, O.E. *fyllan*, O.Fris. *fella*, Du. *vullen*, Ger. *füllen*); lengthened **plē**, *fill*, and **plēnós**, *filled, full*; **plaús**, *plus*, from Lat. *plūs* (earlier O.Lat. *plous*); o-grade **polús**, *much, many*, from Gk. *πολύς*; verb **plédhuo**, *be full*, as in **plédhuōrā**, *plethora*, from Gk. *πληθώρα*; adjective **plērós**, *full*, as Gk. *πληρης*; **plēiōn**, *more*, as Gk. *πλεῖον*; or **pleistós** (superlative), *most*, as Gk. *πλεῖστος*.

B.4. Latin *populus*, “*people*”, is usually seen as a borrowing from Etruscan. It is reconstructed as MIE **pópolos**, therefore maybe a secondary root derived from o-grade of **pel-**, *full*, already seen in Germanic *folk* and Latin *plebs*. Known derivatives are **popolālís**, *public, popular*, and **poplikós**, *public*, from O.Lat. *poplicus*, which was influenced by Lat. *pubes*, “*adult*”, into Lat. *publicus*, and thus also MIE **publikós**, which is a common Latin loan word today.

B.5. Indo-European **lúdhis**, *people*, is found in Gmc. *liudi* (cf. Goth. *liudan*, O.N. *ljlēod*, O.H.G. *liut*, Ger. *Leute*, also found in Ger. *Lette*, Eng. *Lett*, mediaeval noun for *Latvian*), Osc. *Lúvfreís*, O. Pruss. *ludis*, Lith. *liaudis*, Ltv. *ļaudis*, OCS *ljudŭje*, Russ. *люди*, Pol. *lud*, O.Ir. *luss*, Welsh *llyisiau*, Alb. *lind*. It comes from PIE verb **léudh**, *mount up, grow* – compare the parallelism with **genōs/gnatiōn**, **wrōdh/redh** –, as Skr. *rodhati*, Av. *raodha*. Also, **leudherós**, *free*, maybe originally “*belonging to the people, public*” (although the semantic development is obscure), as in Lat. *liber*, Gk. *ελευθερος*, and common derivatives like **leudherālís**, *liberal*, **leudherā**, *liberate*, **léudhertā**, *liberty*, **deleudherā**, *deliver*, etc.

B.6. Another PIE common root is **kei**, *lie, bed, couch, beloved, dear*; as **kéiuom**, *members of a household, hind*, O.E. *hūwan*; **kéiuidhā**, *measure of land, household, hide*, O.E. *hīgid, hīd*; **kéiuuis**, *citizen, member of a household*, Lat. *cīuis*, as in **keiukós**, *civic*, **keiulís**, *civil*, or **kéiuitā**, *city*; **kéilijos**, *companion*, as Eng. *ceilidh*, from O.Ir. *céle*; **koinā**, *cradle*, from Lat. *cunae*; **koimā**, *put to sleep*, and also **kóimā**, *village*, as in Gk. *κοιμη-*, *κώμη*, and common borrowing **koimātériom**, *cemetery*, from Lat. *coemeterium*, itself from Gk. *κοιμητήριον*; zero-grade **kiuós**, *auspicious, dear*, as in Skr. *śiva-*; **kéims**, *person, servant*, and **kéimiā**, *household, domestic servants, family*, as O.C.S. *сѣмь, сѣмѣна*, O.Russ. *сѣмѣна, сѣмьца*, Ukr. *сім'я*, Bulg. *семеѣство*, O.Pruss. *seimīns*, Lith. *šeimà, šeimýna*, Ltv. *sàime*. Also, compare Lith. *kaimas*, “*village*”.

It gives secondary root (t)**kei** (from **ad+kei**), *settle, dwell, be home*, as in (t)**kóimos**, *home, residence, village*, from Gmc. *khaimaz* (cf. Goth. *haims*, O.N. *heimr*, O.E. *hām*, O.Fris. *hem*, M.Du *hame*, O.H.G. *heim*), which gives **koinghórdhos**, *shelter, hangar*, from Gmc. *haimgardaz* into O.Fr. *hangard*; **tkiso**, *found, settle*, metathesized form from Gk. *κτιζειν*; also probably Italic suffixed **sítus** (from older metathesized ***ktítus**), *location, situs*, and **situā**, *situate, locate*; compare also Skr. *kṣeti*, Av. *šaēiti*, Arm. *šēm*.

B.7. Common PIE **wel**, *crowd, throng*, is reconstructed for MIE **wólgos**, *common people, multitude, crowd*, as in Lat. *uulgus*, and adjective **wolgālís**, “*of or pertaining to the common people, common, everyday, ordinary*”, then extended with time as pejorative *vulgar*; cf. Skr. *vargah*, “*division, group*”, and also Gk. *ελειν*, M.Bret. *gwal'ch*, Welsh *gwala*.

B.8. Another MIE common loan translation is **swédhnos**, *band of people living together, nation, people*, from Gk. ἔθνος (*ethnos*), lit. “*people of one's own kind*” from PIE reflexive **s(w)e-**. Compare also derivatives **swedhnikós**, *ethnic*, **swédhniā**, *ethnia, race*.

B.9. Latin **persónā**, *person*, (from Etruscan *phersu*, “*mask*”, and this from Gk. πρόσωπον), and **familiā**, *family, household*, from Lat. *fámolos*, “*servant*”, (compare parallelism with Balto-Slavic pair **keims/kéimiā**), both of uncertain etymology, are left as loan words in Modern Indo-European.

78. MIE **régios**, *king*, **régiā**, *queen*, are Germanic loans from Celtic, in turn derived from PIE lengthened base **rēg**, a common Indo-European word for the tribal king. The correct Latin loan-translations are **rēgs**, *king*, **régīnā**, *queen* (possibly suffixed earlier **régī-**), while those from Sanskrit are **régēn**, *raja*, **régēnis**, *rani*; Indo-European **régiom** is the Celtic source for Germanic words meaning *realm, kingdom, empire*, as Gmc. *rikjam* (cf. O.N. *riki*, O.E. *rīce*, O.H.G. *rihhi*, Ger. *Reich*).

English “*queen*”, from O.E. *cwen*, “*queen, female ruler*”, also “*woman, wife*” comes from Gmc. *kweniz*, ablaut variant of *kwenō* (source of Mod.Eng. *quean*), from PIE **cénā**, “*woman, wife*”, *vide infra*. Indo-European languages have usually the same words for King and Queen, using the feminine marker when necessary. English, however, had a meaning (and phonetic) shift that could be used in Modern Indo-European – as with “*Chancellor*” instead of “*Prime Minister*” for Germany and Austria – to remember this peculiarity of the English language, hence **Cénis** between parenthesis.

79. For **wíros**, *man, freeman*, as in Eng. *were-wolf*. Compare Gmc. *weraz* (cf. Goth. *wair*, O.E. *wer*, O.N. *verr*), Lat. *uir*, Umb. *viru*, Skr *vīra*, Av. *vīra*, Toch. *wir*, O.Pruss. *wirs*, Lith. *vyras*, Ltv. *vīrs*, Gaul. *uiro-*, O.Ir. *fer*, Wel. *gwr*. Usual derivatives are **wírīlīs**, *virile*, **wírtūts**, *manliness, excellence, goodness, virtue*, **wírtuónts(ós)**, *virtuous, skilled, of great worth, virtuoso*, **dekmwírōs**, *decemvir (commission of ten men)*, or **komwírīā**, “*men together*”, *curia, court*. It is found in compound **wirwíqos** (from shortened **wíros**), *werewolf*, as Gmc. *wer-wulfaz* (cf. O.E. *werewolf*, O.H.G. *werwolf*, M.Du. *weerwolf*, Swed. *varulf*, and also Frank. *wer-wulf* into O.Fr. *garoul*, then *leu-garoul*, from Lat. *lupus*, itself from **wíqos**, hence Eng. *loup-garou*, lit. “*wolf-werewolf*”), and **wíralts**, *world*, v.i.

Common IE words for *man, male*, apart from **mánus**:

I. The common Romance word comes from Lat. *homō* (cf. Fr. *homme*, It. *uomo*, Spa. *hombre*, Pt. *homem*, Cat. *home*), in turn from IE **(dh)ghómōn**, *man, “earthling”, human being*, (cf. Arm. տղամարդ, *dghamard*, “*man*”), which gives derivatives **ghomonidós**, *hominid*, dim. **ghomonkolós**, *homuncule*, **ghomokídiom**, *homicide*, **ghomonátiōn**, *homage* (from Oc. *homenatge*), closely related with **(dh)ghómānos**, *human, kind, humane*, both related with MIE **(dh)ghómos**, *earth, ground, soil*, as Lat. *humus*, (cf. Osc. *huntruīs*, Umb. *hondomu*) which gives common derivatives as **ghomilís**, *low, lower, humble*, and **ghomilitā**, *humility*, **ghomiliā**, *humiliate*, **eksghomā**, *exhume*, **enghomā**, *inhume*, **transghomā**, *move livestock seasonally*, as in Eng. *transhumance*. They all come from PIE root **dhghem**, *earth*, (as in Pers. *zamīn*, Kashmiri *zamin*), which gives common IE **dhghōm** [g^ho:m] (gen. **dhghmós** [g^hm̥-‘os]), *earth*, and other derivatives as **(dh)ghmōn** [‘g^hm̥-on], *man, “earthling”*, in Gmc. *gumōn* (cf. Goth. *guma*, O.N. *gumi*, O.E. *guma*, O.H.G. *gomo*, found in Eng. *bridegroom*, Ger. *Bräutigam*; Mod. Eng. *groom* was altered 16th c. by folk etymology after *groom* “*boy, lad*”, itself from a source akin to verb *grow*); metathesized as **ghdhōm**, Gk. χθών, as in **autoghdhóm**, *autochthon*; zero-

grade (**dh**)ghm [g^hm], on the ground, as Gk. χαμαι, as in **ghmléōn**, *chameleon* (“ground-lion”, lizard, **léōn** is from Semitic origin adopted in Greek and Latin), **ghmmélōn**, *chamomile* (“ground-melon”, from Lat. loan word **mélōn**, *melon*, short for Gk. *mēlo-peppōn*, “apple-gourd”); the common Balto-Slavic words come from IE (**dh**)ghémiā, *land, earth*, as O.Pruss. *same*, Lith. *žemė*, Ltv. *zeme*, O.Russ. *zemi*, Pol. *ziemia*, Cz. *země*, also found as *zemplja*, in O.C.S., Russ., Srb.-Cro., etc. Other common IE derivatives are Skr. *kṣa*, Phryg. *zemelo*; *zamelon*, Thrac. *semele*; *semela*, Toch. *tkam/keṃ*, O.Ir. *du*, Welsh *dyn*, Alb. *dhè*, Osset. *zæxx*; Hitt. *tekan*, Luw. *dakam-*,

I.1. Common words for *earth, land*, apart from **dhghōm**, **polā**, and **léndhom**:

I.1.a. Germanic “world” comes from **wíralts**, “life or age of man”, as Gmc. *wirald-* (cf. O.N. *verold*, O.S. *werold*, O.E. *woruld*, *worold*, O.Fris. *warld*, O.H.G. *weralt*, Du. *wereld*, Ger. *Welt*, Sca. *jord*), a compound of **wīros**, *man*, (cf. Hebrew *adam*, “man”, and *adamah*, “earth” and the opposite with Lat. *homō*, “earthling”, already seen), and **altós**, *grown up*, hence *old, adult*, and *tall, high, deep*, as Gmc. *althaz* (cf. (cf. Goth. *alþeis*, O.E. *eald*, O.Fris. *ald*, Du. *oud*, Ger. *alt*), Lat. *altos*, as in **eksaltā**, *exalt*, or **altitúdōn**, *altitude*.

Adjective **altós** comes from PIE root **al**, *grow, nourish*, found in **almós**, *nurturing, nourishing* (as in **almá mātér**, “nourishing mother”, *university*); Latin verb **alo**, *nourish*, from which pres.part. **alomnós**, *being nourished* (from which **álognos**, *fosterling, step-child, alumnus, student*), **alobhilís**, *alible*, **aloméntom**, *aliment*, as well as suffixed compound **adalesko**, *grow up*, as in **adaleskénts**, *adolescent*, or part. **adaltós**, *grown up, adult*; suffixed causative compound **apaleio**, *retard the growth of, abolish*; compound **prólēs** (from **pro-alēs**), *offspring*; and extended **aldho**, *get well*, as in Gk. ἀλθαία.

The proper IE word for *old* is **senós**, cf. Goth. *sineigs*, ON *sina*, Lat. *senex*, Gk. *henos*, Skr. *sana*, Av. *hana*, Arm. *hin*, Lith. *senas*, Ltv. *sens*, Gaul. *Senognatus*, O.Ir. *sen*, Welsh *hyn*. It is found (from Lat. *senex*, MIE **sénēks**, *an elder*), in **senátus**, *senate*, **senilís**, *senile*, **seniós**, *older*, as in Latin **sénios**, *senior, señor, signora, sir, sire*, **senéktūts**, *senectitude*, etc. A common fem. **sénā** is attested as Gk. *hénē*, Skr. *śanā-*, Lith. *senà*, Lyc. *lada*.

I.1.b. Romance *terra*, “earth, Earth”, comes from PIE **térsā**, “dry land”, in derivatives like **tersános**, *terrain*, **suptersaniós**, *subterranean*, **tersaqiós** (from **térsa+áqa**), *terraqueous*, etc. PIE **ters**, *dry*, which gives **trstus**, *dryness, thirst*, Gmc. *thurstuz* (cf. O.E. *thurst*), **trskós**, *dried*, as Gmc. *thurskaz* (cf. O.N. *thorskr*, O.E. *cusk*); **torsē**, *dry, parch, burn*, as Lat. *torrēre*, also as loan word in **torsénts**, *torrent*, or **torsidós**, *torrid*, p.part. **torstós**, *burnt*, into **torstā**, *toast*, and noun **torstátā**; zero-grade **trsos**, *tarsos, frame of wickerwork* (originally for drying cheese), hence *a flat surface, sole of the foot, ankle*, Gk. τασός.

I.1.c. English “earth” comes from Gmc. *erthō* (cf. Goth. *airþa*, O.N. *jörð*, O.E. *eorðe*, M.Du. *eerde*, O.H.G. *erda*), hence MIE **ertā**, “ground, soil, dry land”, also used for the “physical world” (as opposed to the heavens or the underworld), from PIE root **er-**.

I.1.d. Latin *mundus*, “universe, world”, lit. “clean, elegant” is from unknown origin, hence loan word MIE **móndos**, which gives **mondānós**, *mundane, “belonging to the world”*, (as distinct from the Church), used as a translation of Gk. κόσμος (MIE loan word **kósmos**) in its Pythagorean sense of “the physical universe” (the original sense of the Gk. word was “order, orderly arrangement”). L. *mundus* also was used of a woman's “ornaments, dress”, and is related to the adj. **mondós**, *clean, elegant*.

Proto-Indo-European had a common root **wes**, for *dress, clothe*, compare Gmc. *wazjan* (cf. Goth. *gawasjan*, O.N. *verja*, O.E. *werian*, O.H.G. *werian*, Eng. *wear*, Ger. *Wehr*), Lat. *uestire*, Gk. *hennynai*, Skr. *vaste*, Av. *vastē*,

Toch. *wäs/wäs*, Arm. *zgenum/zkenum*, Welsh *gwisgo*, Bret. *gwiska*, Alb. *vesh*; Hittite *waš-*. Common Latin derivatives are **wéstis**, *garment*, in **dewestio**, *devest*, **enwestio**, *invest*, **transwestio**.

I.1.e. Greek **gē**, *earth*, (m.γñ, f. γαῖα) is also from unknown origin, and is left so in derivatives, as **geō-**.

I.1.f. English “*ground*” comes from Gmc. *grunduz* (cf. O.N. *grunn*, O.E. *grund*, O.Fris. *grund*, Du. *grond*, Ger. *Grund*), of unknown origin, MIE **grúndus**, *foundation, ground, surface of the earth, originally deep place, bottom, bottom of the sea*.

I.2. English “*bride*” comes from Gmc. *bruthiz* (cf. Goth. *bruþs*, O.E. *bryd*, O.Fris. *breid*, Du. *bruid*, O.H.G. *brut*, and from this into Mid.Lat. *bruta*, and from this into O.Fr. *bruy*), possibly originally *daughter-in-law*, later also “*woman being married*”, *bride*. In ancient IE custom, the married woman went to live with her husband's family, so the only “newly-wed female” in such a household would be the daughter-in-law. Reconstructed as MIE **bhrútis**, it is probably derived as zero-grade from PIE verb **bhrew**, *boil, bubble, effervesce, burn*, with derivatives referring to *cooking* and *brewing*, as **bhrútom**, *broth*, from Gmc. *brutham* (cf. O.E. *broþ*, V.Lat. *brodum*). Other derivatives include extended **bhréuwo**, *brew*, as Gmc. *breuwan* (cf. O.N. *brugga*, O.E. *breowan*, O.Fris. *briuwa*, M.Du. *brouwen*); **bhréutom**, *cooked food, leavened bread*, as Gmc. *brautham* (O.E. *brēad*, O.N. *brot*, Dan. *brød*, Ger. *Brot*); variant lengthened **bhrēto**, *warm*, giving o-grade denominative **bhrōtá**, “*a warming*”, *hatching, rearing of young, brood*, as Gmc. *brōdō*, and verb **bhrōtio**, *rear young, breed*, as Gmc. *brōdjan*, *roast flesh*, or **bhrétōn**, *roast flesh*, as Gmc. *brēdōn* (cf. O.H.G. *brāto*, O.Fr. *braon*); **bhrésā**, *burning coal, ember*, hence (from O.Fr. *brese*) *braise, breeze, braze*; **bhértmōn**, *yeast*, as Gmc. *bermōn* (cf. O.E. *beorma*, M.L.G. *barm*, Du. *berm*), or further suffixed **bherméntom**, *yeast, ferment*, as Lat. *fermentum*; extended **bherwē**, *be boiling or fermenting*, as Lat. *feruēre*, as in **bherwénts**, *fervent*, **bherwór**, *fervor*, **eghbherwesko**, *effervesce*, etc.; and, as very archaic words for spring, compare **bhrúnōn**, as Gmc. *brunnon*, and suffixed **bhréwr**, as Gk. φρέαρ, as in **bhrewtikós**, *phreatic*. From an original PIE root **bher-** are also Skr. *bhurati*, Gk. *phurdēn-migdēn*, Gaul. *Voberā*, O.Ir. *bréo*, M.Ir. *berbaim*, Welsh *beru*, Alb. *burmë*, and also probably lengthened **bhrē**, *smell, breathe*, from which **bhrétos**, *odor, exhalation, breath*, as Gmc. *brēthaz* (cf. ON *bráðr*, O.E. *brēþ*, O.H.G. *brādam*, Ger. *Brodem*).

II. A form almost restricted to West Germanic is **koirós**, *gray*, hence “*gray-haired*”, *venerable, old*, as Gmc. *khairaz* (cf. O.E. *hār*, O.H.G. *her*, comp. *herro*, “*noble*”, Ger. *Herr*, Du. *heer*, MIE **kóireros**), from PIE **koī**, *shine*.

III. A Greek form comes from IE **h₂ner*, *man*, with basic sense of *vigorous, vital, strong*, as in (a)**nér**, Gk. ἀνήρ (*anēr*), and zero-grade in compounds as **anr-**, *andro-*, **-anros**, *-androus*, “*having men*”, **-anriā**, *-andry*, etc.

IV. Hindustani *ādmī* (Hindi: आदमी, Urdu آدمی), from Persian آدم itself from Arabic آدم, also found in Turkish *adam*, cf. אָדָם (*adam*), which is the origin of the Biblical name Adam.

V. A curious form is Romanian *bărbat* (MIE **bhardhátos**), “*bearded*”, from Lat. *barba*, from Italic *farba* (cf. Celtic *barfa*, as in Welsh *barf*), a metathesized form of PIE **bhárdhā**, *beard*, attested in European dialects. Compare Gmc. *bardō* (also “*hatchet, broadax*”, cf. O.H.G. *barta*, as in *halmbarta*, into M.Fr. *hallebarde*, Eng. *halberd*), O.Pruss. *bordus*, Lith. *barzdà*, Ltv. *barzda*, *bārda*, O.C.S. *бpада*, Russ. *бopода*, Polish *broda*. English “*beard*” comes from **bhárdhos**, Gmc. *bardaz* (cf. Goth. *bars*, O.N. *barðr*, O.E. *beard*, M.Du. *baert*, O.H.G. *bart*),

80. **Dwenós**, good (< “useful, efficient, working”), as Lat. *bonus*, comes from PIE **dew**, *do, perform, show favor*; also, adverbial form **dwénē**, *well*, as in **dwenēdéiktiōn**, *benediction*, **dwenēdhaktōr**, *benefactor*, etc.; diminutive **dwenelós**, *handsome, pretty, fine*, as Lat. *bellus*; **dwēio**, *make blessed*, as Lat. *beāre*, in **dwēiatós**, *blessed*, **dwēiatidhakā**, *betify*, etc.; also possibly but unlikely related to **dunamikós**, *dynamic* (from **dúnamis**, Gk. δύναμις, *force*). The Germanic word for *good* is *gōdaz* (cf. O.Eng. *gōd*, O.N. *gōðr*, Du. *goed*, O.Ger. *guot*, *gigat*, Goth. *gōþs*, *gadilings*, Ger. *gut*, *gütlich*), from Modern Indo-European **ghōdhós**, which comes from PIE root **ghedh**, *to unite, join, fit*. Compare Skr. *gadhjas*, Lith. *guōdas*, Ltv. *gads*, *gūods*, Alb. *ngeh*, *ngae*, O.C.S. *godŭ*, Russ *зодѣ*, Polish *gody*, Toch. *kātk/kātk*.

81. **Áutom**, *auto*, is a diminutive of **automóghwibhili**, *automobile*, from Gk *αὐτο-* *self, one’s own*, (in turn from *αὐτος*, *self, same*, from IE **au**) and PIE **meghw**, *move*, in **moghwē**, cf. Lat. *mouēre* (cf. also Lat. *uoueō* < **woghw-ējō*), Hitt. *mugawar*; it is usually reconstructed as from PIE **mew**, *move*, as PIE zero-grade noun **motós**, *moved, movement*, (cf. Lat. *motus*, Gk. *ameusasthai*, *amuno*, Skt. *-muta*, *mivati*, Lith. *mauti*, etc.). The words **krsos** (or **kárros**) and **krsom** (or **kárrom**), from Celtic and Latin (in turn from PIE **kers**, *run*) cognate with Modern English *car*, mean in Modern Indo-European *charriot, cart, wagon*, originally “*wheeled vehicle*”.

For PIE **kers**, compare zero-grade **krso**, *run*, as Lat. *currere*, giving modern derivatives as **krsos**, *course*, **krsénts**, *current*, **krsór**, *cursor*, **komkrso**, *concur*, **komkrsos**, *concurso*, **diskrso**, *think up*, **diskrsos**, *discourse*, **ekskrsiōn**, *excursion*, **enkrso**, *incur*, **enterkrso**, *mingle with*, **enterkrsos**, *a running between, interposition*, **obhkrso**, *occur*, **rekrso**, *recur*, etc.; **krsos**, or as loan word **kárros**, *two-wheeled wagon*, giving derivatives as **krsáriā**, *career*, **krsikā**, *carry, charge*, **diskrsikā**, *discharge*, **krsikatósā** (or **karikatúrā**, from Italian), etc., and **krspéntom**, *two-wheeled carriage*, from which **krspentásios**, *carpenter*. See also a possible Germanic cognate **krsos**, *horse*.

82. PIE **per** is the root for particles and words meaning “*forward, through*”, and a wide range of extended senses such as “*in front of, before, early, first, chief, toward, against, near, at, around*”. Derivatives include **péri**, Gmc. *fer-*, *far-* (cf. Eng. *for-*, Du., Ger. *ver-*), which is used as intensive prefix denoting *destruction, reversal or completion*; its superlative is **per(e)ro**, *farther away, far*, as Gmc. *fer(e)ra* (cf. O.N. *fjarre*, O.E. *feorr*, Du. *ver*, Ger. *fern*); **per**, *per-*, *through, for*, as Lat. *per*; **péri**, *around, near, beyond, over*, as Gk. *περι*, Skr. *pari*, O.Iran. *pari*; **per-**, *around, again*, as Slavic *per-*. Also, zero-grade **pr**, *before, in*, Gmc. *fur*, as Eng. *for*; **přt**, *forward*, as Gmc. *furth*, Eng. *forth*; **přtero**, *farther away*, Gmc. *furthera*, Eng. *further*; **pr**, **por**, *forth, forward*, as Lat. *por-*; **přsōd**, *forward, parget*, as Lat. *porrō*; **prμός**, Gmc. *fruma/furma*, Eng. *former*; **prmistós**, *foremost*, Gmc. *frumista/furmista*; **pristós**, *first, foremost*, Gmc. *furista*; **prówariā**, “*forward part of a ship*”, *pro*, from Gk. *πρῶρα*; **prowtós**, *first, foremost*, as Gk. *πρωτο*; **přa**, *before, fore*, as Gmc. *fura*; **přara**, *beside, alongside of, beyond*, as Gk. *παρα*; **prō**, *forward, away from*, as Gmc. *fra*; **prómo**, *from*, as Gmc. *fram*; **prówā**, *lady*, Gmc. *frōwō*, from **prówom**, *lord*, Gmc. *frawan*; **prówós**, *true*, as Slavic *pravu*; **pro**, *before, for, instead*, as Lat. *pro*; **pronos**, *leaning, forward*, as Lat. *pronus*; **proqe**, *near*, as Lat. *prope*; **proqinqós**, *near*, as Lat. *propinquus*; **proq(i)smós**, *nearest*, as Lat. *proximus*, as in verb **adproqsmā**, *approximate*; **probhwós** (**bhw-o-**, *grow*, from PIE root **bhew**), *growing well or straightforward, upright, good, virtuous*, as Lat. *probus*; **pro**, *before, forth, in front, forward*, as Gk. *προ*, Skr. *pra-*; **proteros**, *before, former*, as Gk. *προτερος*; (**p**)**ro**, intensive prefix as Celtic *ro*; extended forms **prāi**, **prei**, *before*, as Lat. *prae*; **préijos**, *former, higher, superior*, as Lat. *prior*;

preiwós, *single, alone* (“standing in front”, “isolated from others”), as Lat. *prius*, as in **preiwtós**, *private*; maybe ***propreiwós**, but more likely **prop(a)triós**, *one’s own, particular*, as Lat. *proprius*; **preismós**, *first, foremost*, as Lat. *p̄rimus*; **preismkaps** (from **preismós+kaps**), *leader, chief, emperor*, as Lat. *p̄rinceps* (analogous to Ger. *fürsten*, from the same source as Eng. *first*); **preistanós**, *former, earlier*, as Lat. *p̄ristinus*; **préscus**, *old, old man*, (**cu-**, “going”, from verb **cā**, *go*), as in Gk. *πρέσβυς*; **próti/pros**, *against, toward, near, at*, as Gk. *προς*. Other derivatives include Skr. *prā*, Lith. *per, pro*, Hitt. *per*.

For IE **cā**, *go, come*, and **cem**, *come*, compare Gmc. *kuman* (cf. Goth. *quiman*, O.E. *cuman*, Ger. *kommen*, Eng. *come*), as in **bhicem**, *become*, as Gmc. *bikuman* (from **ám̄bhi**); **cémōn**, “*he who comes*”, *guest*, in **welcémōn**, *welcome, “a desirable guest”* (from PIE **wel**, *wish, will*), as Gmc. *wilkumōn*; suffixed **cemio**, *come*, as Lat. *uenīre*, in **adcemio**, *advene*, **adcémtos**, *advent*, **adcemtósā**, *adventure*, **adcemtā**, *avenue*, **kikromcemio**, *circumvent*, **komtrācemio**, *contravene*, **komcemio**, *convene*, **komcémtos**, *convent*, **komcémtiōn**, *convention*, **ekcémtos**, *event*, **ekcemtūālis**, *eventual*, **entercemio**, *intervene*, **encemio**, *invent*, **encemtósom**, *inventory*, **prāicemio**, *prevent*, **procemio**, *come from*, **recemio**, *return*, **supcemio**, *souvenir*, **supcémtiōn**, *subventio*, **supercemio**, *supervene*; suffixed **cmio**, as Gk. *baínein*, *go, walk, step*, with **cátis**, *basis, a stepping, tread, base*, and **-catos**, *going*, and **-catā**, *agential suffix, “one that goes or treads, one that is based”*, as in **akrocátā**, *acrobat*, as Gk. *ἀκροβάτης*, **anacátis**, **diacátis**, **acátia**, **diacmio**, *go through*, in **diacátā**, *diabetes*; also **cāmā**, *step, seat, raised platform*, as Gk. *bēma*.

From PIE **wel**, *wish, will*, are derivatives **wel(l)io**, *desire*, as Gmc. *wil(l)jan* (cf. Goth. *wiljan*, O.S. *willian*, O.N. *vilja*, O.E. *wyllan*, O.Fris. *willa*, O.H.G. *wellan*, Du. *willen*, Ger. *wollen*), also **wéliā**, *desire, will, power*, as Gmc. *wiljōn*, and **welā**, *well-being, riches, wealth*, as Gmc. *welōn*; o-grade **wolio**, *choose*, as Gmc. *waljan* (cf. Goth. *waljan*, Ger. *wählen*), also **wolós**, *good, well*, as Frank. *walaz*, into **wolā**, *take it easy, rejoice*, as Frank.Lat. *ualāre* (then O.Fr. *galer*), as in **wolánts**, *gallant*, also from Frankish **wolopā**, *gallop, wallop*, from O.Fr. *galoper* (O.N.Fr. *waloper*); from basic form **wel(l)io**, *wish, desire*, as Lat. *uelle* (present stem o-grade Lat. *uol-*), as in **welēitā**, *velleity*, **wolítiōn**, *volition*, **wolontásiós**, *voluntary*, **dwenēwolénts**, *benevolent*, **maliwoléntia**, *malevolence*; probably extended adjective **welpís**, *pleasing*, in adverb **wólup**, *with pleasure*, into **wolúptā**, *pleasure*, as Lat. *uoluptās*, into **woluptuónts(ós)**, *voluptuous*. Compare also Gk. *elpis*, Skt. *vṛnoti*, *varyah*, *varanam*, Av. *verenav-*, Lith. *velyti*, O.C.S. *voljo*, *voliti* “*will*”, and *veljo*, *veleti*, “*command*”, Welsh *gwell*.

83.Indo-European **épi**, **ópi**, *near, at, against*, is the base for **op** (and reduced prefixal **op-**), “*before, to, against*”, as Lat. *ob, ob-*, also “*on*”, as O.C.S. *ob*; **epi**, “*on, over, at*”, as Gk. *ἐπι*, or **opisten**, “*behind, at the back*”, as Gk. *opisthen*; zero-grade **pi**, *on*, in Gk. *piezein* (see *sed*); and **ops**, *extra on the side, with*, as **ópsom**, *condiment, cooked food*, as in **opsóniom**, *supply*, as Gk. *ὀψώνιον*.

84.Proto-Indo-European root **ánt**, *front, forehead*, had a common derivative **ánti**, *against*, and also *in front of, before, end*; **ántia**, *end, boundary*, as Gmc. *andja* (cf. Goth. *and*, O.N. *endir*, O.E. *ende*, O.Fris. *enda*, O.H.G. *endi*); Lat. *ante*, as in **antiénts**, *ancient, antiriós, anterior*, etc.; **enantios**, *opposite*, as Gk. *εναντιος*; **antiqós**, “*appearing before, having prior aspect*” (in compound with PIE **oq-**, *see*), *former, antique*, as Lat. *antiquus*; **nti**, *away from, until, unto*, as Gmc. *und*; **ántos**, *end*, as Skr. *antah*. Other IE derivatives attested are Osc. *ant*, Toch. *ánt/ānte*, Lith. *ant*, O.Ir. *étan*, Hitt. *hanta*, Luw. *hantili*, Lyc. *xñtawata*.

The former particle builds a common compound, probably a plural (see plural declension), **ánt-bhi**, “from both sides”, giving PIE **ám̥bhi** (earlier **h₂n̥-bʰi*), *around*, as Gk. ἀμφί, *both, both sides*, which gives **ambhíciōs**, *amphibious*, as Gk. ἀμφίβιος, or **ambhithéatrom**, *amphitheatre*, from Lat. *amphitheatrum*, itself from Gk. ἀμφιθέατρον; MIE **ambhi**, **ambh**, “around, about”, as in Latin, gives **ambholā**, *go about, walk, ambulate*, **ambholántiā**, *ambulance*, **prāiambholós**, *walking in front*, **prāiámbholom**, *preamble*; also, Gmc. *umbi* (cf. O.N. *um*, *umb*, O.E. *bi*, *be*, *ymbe*, Du. *bij*, O.H.G. *umbi*, *bi*, Ger. *um*, *bei*, Eng. *by*, *but*); from Celtic, **ambhágtos**, *ambassador, servant, vassal*, and **ambhágtiā**, *embassy*, from Lat. *ambactos*, from Celt. *amb(i)actos*. Also, in other IE languages, Skr. *abhītaḥ*, Av. *aiwito*, *aibi*, O.Pers. *abiy*, Toch. *āmpi*, Lith. *abu*, O.C.S. *oba*, Gaul. *ambi-*, O.Ir. *imb-*, Ir. *um*, Welsh *am*.

85. PIE **ad**, *to, near, at, toward, by*, gives Gmc. *at* (cf. O.N., Goth. *at*, O.E. *æt*, O.Fris. *et*, O.H.G. *az*), Lat. *ad*, Osc. *adpúd*, Umb. *ař*, Skr. *adhi*, Phryg. *addaket*, Gaul. *ad*, O.Ir. *ad*, Welsh *add*, and Ancient Macedonian *addai*.

86. Compare for PIE root **al**, *beyond*, as in **olse-**, **olsos**, as O.Lat. *ollus*, *ols*, which gives **olteriós**, *ulterior*, **oltmós**, *last*, **oltmā**, *ultimate*, etc. Also, suffixed forms with adj. comp. **-tero-**, **alterós**, and alternative **anterós**, “the other of two”, *second, other*, cf. Lat. *alter*, *adulterāre*, Gmc. *antharaz* (Goth. *anþar*, O.S. *athar*, O.N. *annarr*, O.E. *oper*, Ger. *ander*), Skr. *antarah*, Lith. *antras*, see **dwo**. Other derivatives are **aliós**, **alnós**, *else, otherwise*, “other of more than two”, as well as **alienós**, **alenós**, *foreign, alien*; compare Gmc. *aljaz* (Goth. *aljis*, O.N. *allr*, *elligar*, O.E. *elles*, *el-lende*, O.H.G. *all*, *eli-lenti*), Lat. *alius*, *aliēnus*, Osc. *allo*, Gk. ἄλλος, Skr. *anja*, *āraṇa-*, Av. *anja-*, *airjō*, O.Pers. *ārija*, Toch. *alje*, *ālak/allek*, Phryg. *alu-*, Arm. *ail*, Gaul. *alla*, O.Ir. *oll*, *aile*, Welsh *allan*, *ail*; Lyd. *αλας*, probably Hitt. *uli-*, *alus*.

Compare also MIE terms **alienós**, *foreign*, but loan words **Ariánom** (from PIE gen.pl. **Alienóm**), *Iran*, and **Arianós** (from PIE **Alienós**), *Iranian*, also ‘*aryan*’, from Skr. *ārjāḥ*, “*noble, honorable, respectable*”, the name Sanskrit-speaking invaders of India gave themselves in the ancient texts, originally “*belonging to the hospitable*” from O.Ind. *arjas*, PIE **álios**, *lord, hospitable lord*, originally “*protecting the stranger*” from **aliós**, *stranger*. Ancient Persians gave themselves the same name (cf. O.Pers. *arija-*, Pahlavi *ry n*, *Parthian aryān*); in Ardashir’s time *ērān* (from Avestan gen. pl. *Aryānām*) retained this meaning, denoting *the people* rather than *the state*.

87. PIE **de** is the base of different prepositions and adverbs; as, o-grade lengthened **dō**, *to, toward, upward*, Gmc. *tō* (cf. O.S., O.Fris. *to*, O.E. *tō*, Du. *too*, O.H.G. *zuo*, *ze* Ger. *zu*); compound **qám̥do** (from **qo**), as Italic *quando*; **de**, *from, out of*, as **deterós**, and **deteriós**, *worse*, which gives **deteriosā**, *deteriorate*. Also, compare Lat. *donec*, Gk. suffix *-de*, Lith. *da-*, O.C.S. *do*, Celtic *dī*, O.Ir. *do*.

88. Preposition **kom**, *beside, near, by, with*, is attested as Latin *cum* (O.Lat. *com*), *co-*, Slavic (cf. O.C.S. *kŭ*, Russ. *κ, κο, κο-*, O.Pol. *k, ku*), also Gk. *kata*, Hitt. *katta* (< zero-grade **km-ta**), in Germanic as participial, collective and intensive prefix *ga-* (cf. Goth., O.H.G. *ga-*, O.N. *g-*, O.E. *ge-*), “*together, with*”, also marker of the past participle, and in Celtic *kom-*, O.Ir. *cét-*, Welsh *cant/gan*. Other derivatives include Latin **kómtrā**, *against, opposite*, as **komtrásiós**, *contrary*; also, compare usually reconstructed IE ***ksun**, as Gk. ξυν, which is deemed a greek-psi substrate (Villar) from **kom**, also in metathesized **komiós**, *common, shared*, as Gk. κοινός, hence **Komiá**, *Koine*, from Gk. κοινή. Also, the **-m** is usually lost in final syllables before vowel (as in metric), cf. Lat. *animus aduertere* > *animaduertere*. In Modern Indo-European, the **-m** is always written, although it may be pronounced without it.

89. For PIE **eghs**, *out*, and variant form **eks**, compare Lat. *ex*, Oscan *eh-*, Umbrian *ehe-*, Gk. *eks*, Old Prussian *is*, Lith. *iš, iż*, Ltv. *is, iz*, O.C.S. *iz, izь, is*, Russ. *iz*, Gaul. *ex-*, O.Ir. *ass*, Welsh *a*, Alb. *jashtë*. For verbal compounds found in different languages, compare **ek(s)bhero**, *carry out* (from **bher**, *carry*), cf. Gk. *ἐκ-φέρω*, Lat. *ef-ferō*, O.Ir. *as-biur*, or **eksei**, *go out* (from **eí**, *go*), cf. Gk. *ἔξ-εἶμι*, Lat. *ex-eō*, Lith. *iš-eĩti*, O.C.S. *iz-iti*. Derivatives include **eks**, **eks-**, *out of, away from*, as Lat. *ex, ex-*; **eks, ek**, *out of, from*, as Gk. *ex, ek*, as in **ekso-**, *exo-*, **eksotikós**, *exotic*, **eksoterikós**, *exoteric*, **komekdoká**, *synecdocha* (see **dek**), from Gk. *συνεκδοχή*; suffixed comparative variant **ekstrós**, *outward* (feminine **ekstrā**, *on the outside*), as in **ekstrāniós**, *extrange*, **ekstrnós**, **ekstriós**, *exterior*, **ekstrnālis**, *external*, etc; **ekstmós**, *outermost, extreme* (**-mo-** functioning as superlative, see comparison of adjectives), cf. **entmós**, but also **ekstrēmós**, as Lat. *extrēmus*; **eghskmtós**, *outermost, last*, Gk. *ἔσχατος*, as in **eghskmtologíā**, *eschatology*; Celtic *eks, out (of)*, or Balto-Slavic *iz, from, out of*.

For PIE **dek**, *take, accept*, compare **dekē**, *be fitting* (from “*be acceptable*”), Lat. *decēre*, as in **dekénts**, *decent*; suffixed causative o-grade **dokē**, *teach* (from “*cause to accept*”), as Lat. *docere*, as in derivatives **dokénts**, **dokilís**, *docile*, **doktór**, **doktrínā**, **dokoméntos**, etc.; **doko**, *appear, seem, think* (from “*cause to accept or be accepted*”), as in **dókmn**, *dogma*, **dokmntikós**, *dogmatic*, **doktologíā**, *doxology* (from **leg**), **parádoktos**, *conflicting with expectation*, as Gk. *παράδοξος* (from **para-**, *beside*, see **per**) as in **parádoktom**, *paradox*, as Lat. *paradoxum*, or **wrdhodoktíā** (see **wrdho-**, *straight*), *orthodoxy*, **wrdhódoktos**, *orthodox*, as Gk. *ὀρθόδοξος*; suffixed form **dékōs**, *grace, ornament*, as Lat. *decus, decoris*, and loans **dekosā**, *decorate*, **dekós**, *seemliness, elegance, beauty*, **dekosós**, *decorous*; **deknós**, *worthy, deserving, fitting, deign*, **déknitā**, *dignity*, **komdeknós**, *condign*, **deknidhakā**, *dignify*, **disdeknā**, *disdain*, **endeknā**, *indign*, **endeknānts**, *indignant*; reduplicated **didksko**, *learn*, Lat. *discere*, as in loans **di(dk)skípolos**, *disciple*, **di(dk)skiplínā**, *discipline*; Greek words include **pandéktās**, as Gk. *πανδέκται*, **ekdeko**, *understand*, **komekdeko**, *take on a share of*, as Gk. *συνεκδέχεσθαι*, and **komekdoká**, *synecdoche*, as Gk. *συνεκδοχή*; also, o-grade suffix **dókos**, *beam, support*, as Gk. *δοκός*, in **dwiplodókos**, *diplodocus* (see **dwo**).

90. For PIE **upo**, *under, up from under, over*, compare Gmc. *upp* (cf. Goth. *iup*, O.E. *up, uppe*, O.H.G. *uf*, M.L.G. *up*, Ger. *auf*); **uponos**, “*put or set up*”, *open*, as Gmc. *upanaz* (cf. O.N. *opinn*, O.E. *open*, O.H.G. *offan*, Swed. *öppen*, Dan. *aaben*, O.Fris. *epen*); suffixed **upt(o)**, *frequently*, as Gmc. *uft(a)* (cf. Goth. *ufta*, O.N. *opt*, O.Fris. *ofta*, Dan. *ofte*, Ger. *oft*); variant **sup**, as Lat. *sub*, in **súpter**, *secretly*, as Lat. *subter*, and **súpo**, as Gk. *ὑπο-*; variant **upso** (cf. also Hitt. *upzi*), as Greek **úpsos**, *height, top*; from compound **upo-sto-** (for **st-** see **stā**), “*one who stands under*”, *servant, young man*, as Cel. *wasso-*, into V.Lat. *uassus*, hence MIE **upóstos**, *vassal*; **úpolos**, *opal*, Skr. *upalah*, variant of **uperós**, *lower*, as Skr. *upara-* (from **upo**, Skr. *upa*, “*below*”), later borrowed as Gk. *opallios*, Lat. *opalus*. Compare Gmc. *upp*, Ita. *sub/sup*, Gk. *hupo*, Ind.-Ira. *upa*, Toch. */spe*, Bal.-Sla. *po*, Cel. *wo* (cf. Gaul. *Vo-*, O.Ir. *fo*, Welsh *go*).

91. For PIE **-wě**, *or*, cf. Lat. *ue*, Gk. *φέ, ἦ*, O.Ind.,Ira. *vā*, Toch. *wa-t/pa-t*, Cel. *ue*, O.Ir. *[n]ó, [n]ú*, Welsh *[ne-]u*.

92. PIE **bhábhā**, *bean, broad bean*, as Lat. *faba*, O.Pruss. *babo*, Russ. *боб*, Pol. *bób*, Welsh *ffāen*, Alb. *bathë*; also variant forms **bháunā**, as Gmc. *baunō* (cf. O.N. *baun*, O.E. *bēan*, O.H.G. *bona*, Ger. *Bohne*), and **bhákos**, *lentil*, as Gk. *φακός*.

93. Indo-European **snéich**, *snow* (and noun **snéichs**, *snow*), as Skr. *snēha*, Av. *snaēža*, Toch. *śiñcatstse*, O.Pruss. *snaygis*, Lith. *sniegas*, Ltv. *sniegs*, O.C.S. *snegu*, Russ. *снег*, Polish *śnieg*, O.Ir. *snechta*, Welsh *nyf*. Other

derivatives are o-grade **snóichos**, as Gmc. *snaiwaz* (cf. Goth. *snaiws*, O.N. *snjór*, O.E. *snāw*, O.S., O.H.G. *sneo*, O.Fris., M.L.G. *sne*, M.Du. *snee*, Du. *sneeuw*), and zero-grade **snichs**, as Lat. *nix*, *niuis*, and **sníchā**, as Gk. *νιφα*.

94. Verb **wegh**, *go, transport in a vehicle, move*, is attested as “*have weight, lift, carry*” in Gmc. *wegan* (cf. Goth. *gawigan*, O.S. *wegan*, O.N. *vega*, O.E. *wegan*, O.Fris. *wega*, Du. *wegen*, O.H.G. [*bi*]wegan, Ger. *bewegen, wiegen*), Lat. *vehō*, Osc. *veia*, Umb. *aṛveitu*, Gk. *ekhos*, Skr. *vahati*, Av. *vazaiti*, Toch. *wkäm/yakne*, O.Pruss. *vessis*, Lith. *vežu*, Ltv. *vest*, O.C.S. *vesti*, Russ. *vezti*, Polish *wieżé*, Gaul. *Uecturius*, O.Ir. *fecht, fén*, Welsh *gwain*, Alb. *vjedh, udhë*. Common derivatives include **wéghā**, *weight, unit of weight, wee*, from Gmc. *wēgō*; **wéghtis**, *weight*, as Gmc. (*ga*)*wikhtiz* (cf. O.N. *vætt*, O.E. *gewiht*, O.Fris. *wicht*, M.Du. *gewicht*); **wéghos**, *way, course of travel*, as Gmc. *wegaz* (cf. Goth. *wigs*, O.E., O.S., Du., O.H.G. *weg*, O.N. *vegr*, O.Fris. *wei*); o-grade **wóghnos**, *wagon*, as Gmc. *wagnaz* (cf. O.N. *vagn*, O.E. *wægn*, O.S., O.H.G. *wagan*, O.Fris. *wein*, Eng. *wain*); **wóghlos**, *populace, mob, multitude* (<“*moving mass*”), as Gk. *οἶλος*; from Lat. *uehere* is p.part. **weghtós**, *carried*, giving **weghtór**, *vector*, **wegheménts**, *vehement*, **wéghikolom**, *vehicle*, **komwéghtiōn**, *convection*, etc.; **wéghiā**, *way, road*, as Lat. *uia*, giving **weghiātikom**, *voyage, travel*, Lat. *uiaticum*, **weghiātikālís**, *viatical*, **komweghiā**, *convey*, and **komwóghis**, *convoy* (loan-translated from Fr. *convoier*, variant of *conveier*), **deweghiā**, *deviate*, **obhweghiā**, *obviate*, **obhweghiós**, *obvious*, **präiweghiós**, *previous*, **weghiādéuktos**, *viaduct*, etc.; also, **weghsā**, *agitate* (from “*set in motion*”), as Lat. *uexāre*; also, **komweghsós**, *convex*, (“*carried or drawn together to a point*”), from Lat. *conuexus*.

95. Originally PIE root **ter**, *over*, gives verb **tero**, *cross over, pass through, overcome*, as Skr. *tirati, tarati*; also contracted as athematic **trā**, as probable O.Lat. *trāre*, which gave **tran(t)s**, *across, over, beyond, through*, as Lat. *trans*. Other derivatives include zero-grade **trílos**, *hole* (<“*a boring through*”), as Gmc. *thurilaz* (cf. O.E. *þyrel*, M.H.G. *dürchel*, Eng. *thrill*); **tríqe**, *through*, as Gmc. *thurkh/thurukh* (cf. Goth. *þairh*, O.S. *thuru*, O.E. *þurh*, O.Fris. *thurch*, M.Du. *dore*, Du. *door*, O.H.G. *durh*); also, in **néktār**, *nectar, drink of gods*, from **nek**, *death*, and **-tar**, *overcoming*, as Gk. *véκταρ*, and derivative **nektarínā**; verb **trāio**, *protect*, as Iranian *thrāja-*; extended **truks**, *savage, fierce, grim* (from “*overcoming, powerful*”), as Lat. *trux*, as **trukulénts**, *truculent*; and therefore also nasalized extended **trunks**, *trunk, deprived of branches or limbs, mutilated* (from *overcome, maimed*), Lat. *truncus*. Compare all IE derivatives meanig *through, beyond*: Gmc. *thurkh*, Lat. *trans*, Umb. *traf*, Gk. *tar*, Skr. *tiras*, Av. *tarə*, O.Ir. *tre*, Welsh *tra*.

For **neks**, *death, dead person, murder, violent death*, compare ON *Naglfar*, Lat. *nex*, Toch. *nāk*, Lith. *našlys*, Ir. *éc*, Welsh *angeu*. Derivatives include **nekrós**, *dead, corpse*, as Gk. *νεκρός*; verb **nekio**, *injure, harm*, as Skr. *naśyati*, Av. *nasyeiti*, and its o-grade **nokē**, as Lat. *nocēre*, giving common derivatives as **nokénts**, *nocent*, or **ṇnokénts**, *innocent*, or **nokuós**, *nocuous*; also o-grade **noksá**, *injury, hurt, damage*, as Lat. *noxa*, in **noksiós**, *harmful, noxious*, and **obhnoksiós**, *obnoxious*.

96. Indo-European verb **dō**, *give*, evolved (outside Germanic languages) as Lat. *dare*, Osc. *dede*, Umb. *dadad*, Gk. *δίδωμι*, Skr. *dā, dádati*, Av. *dadāiti*, Pers. *dadātuv*, Pers. *dādan*, Phryg. *dadón*, Arm. *tal*, O.Pruss. *dātwei*, Lith. *dúoti*, Ltv. *dot, deva*, O.C.S. *damu*, Russ. *дамь*, Pol. *dać*, Gaul. *doenti*, O.Ir. *dán*, Welsh *dawn*, Alb. *dhashë*, (Tosk *dhënë*, Geg *dhqñë*), Osset. *daettyn*, Kashmiri *dýjün*; Hitt. *dā*, Luw. *da-*, Lyd. *da-*, Lyc. *da*. Derivatives include zero-grade (as Lat. *dare*) **datós**, *given*, from which **dātā**, *date* (The Roman convention of closing every article of correspondence by writing “*given*” and the day and month, meaning “*given to messenger*”, led to **data**,

“given (pl.)” becoming a term for “the time and place stated”), **datéiuos**, *dative* (“the case of giving”), **dátom**, *datum, trade*, **transdo**, (from **trans+da**), *deliver, hand over, trade*, part. **transdatós**, *delivered, handed over*, from which **transdátíōn**, *delivery, surrender, a handing over/down*, meaning both in Romance languages and English, as Lat. *traditio*, which gave O.Fr. *tra(h)ison* (Anglo-Fr. *treson*, Eng. *treason*, cf. It. *tradimento*, Spa. *traicio*), and O.Fr. *tradicion* (Eng. *tradition*, Fr. *tradition*, It. *tradizione*, Spa. *tradicio*); **perdo**, *do away with, destroy, lose, throw away*, as in **perdátíōn**, *ruin, destruction, perdition*; **redo**, *give back, return, restore, giving part*; **redatós**, *rendered*, and derivative **redátā**, *rent, payment for use of property* (Romance *rendita* through V.Lat. *reddita*, influenced by Lat. *vendita*, “sold”, or maybe Lat. *prendita*, “taken”); **wesnomdo**, (from **wésnom**, v.i.), *sell, praise*, as Lat. *uendere* (contacted from Lat. *uendumare*, from older *uēnumdare*); also **dónom**, *gift*, as in **dōnór**, *donor*, **dōnā**, *give, present, donate*, **komdōnā**, *condone*, **dōnátíōn**, *donation*, **dōnatéiuos**, *donative*, **perdōnā**, *grant, forgive, pardon*; **dótis**, *dowry, marriage, portion*, as Lat. *dos*, also Slavic **dōtiá**, *gift, dacha*, as Russ. *dacha*; **dórom**, *gift*, as Gk. *δωρον*; part. **dótis**, *something given*, as Greek *δόσις*, giving **antídotom**, *antidote*, lit. “given against”, **anékdōtā**, *anecdote*, **apódōtis**, *apodosis*, etc.

For PIE **wes**, *buy*, compare **wésnom**, *sale*, from Lat. *uēnum*, as in **wesnālís**, *venal*; suffixed **wosno**, *buy*, as in **wosnā**, *buying*, **opswosn**, *cooked food*, **opswosno**, *buy food*, hence **opswósniom**, *purchasing of provisions*, as Gk. *ὀψώνιον*, from which **monopswósniom**, *monopsony*; **wésā**, *sale*, which gives Eng. *bazaar* (see **qel**); suffixed **weslís**, *cheap, base*, hence *worthless, vile*, as Lat. *uīlis*, with derivatives like **weslidhakā**, *hold cheap, vilify*, **weslipendo**, *vilipend* (from (s)pen).

From PIE root **wes**, *live, dwell, pass the night*, compare Germanic derivatives meaning *to be*, as o-grade *was* (as O.E. *wæs*), lengthened *wēz* (cf. O.E. *wære*), or *wesan* (cf. O.N. *vesa, vera*, “be”), or Lat. *Vesta*, *household goddess*, **wástus**, *town*, “place where one dwells”, from Gk. *astu*, into Lat. *skill, craft (practiced in a town)*, as in **wastutós**, *astute*; also, **wésenom**, *house*, as Pers. *vahanam*, as in **diwésenom/diwán**, *divan*, from O.Ira. *dipivahanam*, “document house”, from *dipī-*, *writing, document*, from Akkadian *tuppu*.

Indo-European (s)pen, *draw, stretch, spin*, gives **spenuo**, *spin*, as Gmc. *spinnan* (cf. Goth. *spinnan*, O.N., O.Fris. *spinna*, O.H.G. *spinnan*, Dan. *spinde*, Du. *spinnen*, Ger. *spinnen*), from which **spéntrā**, “*spinner*”, *spider*, as Gmc. *spinthrō* (cf. O.E. *spīþra*, Dan. *spinder*, and other cognates M.L.G., M.Du., M.H.G., Ger. *spinne*, Du. *spin*); extended **pendē** (intransitive), *hang*, and **pendo**, *cause to hang, weigh*, p.part. **penstós** (<***pendto-**), with frequentative **penstā**, *weigh, consider*, as Lat. *pensāre*, as in **pendénts**, *pendant*, **péndolom**, *pendulum*, **pénstiōn**, **pénstom**, *weigh, peso*, **adpende**, *append*, **adpéndiks**, *appendix*, **kompendiā**, *compend*, **kompéndiom**, *compendium*, **kompentā**, *compensate*, **dependē**, *depend*, **dependo**, *pay, expend*, **ekspendo**, *expend*, **enpendo**, *inpend*, **propendē**, *propend*, **rekompénstā**, *recompense*, **supspendo**, *suspend*, etc.; suffixed **peniā**, *lack, poverty* (< “a strain, exhaustion”), as Gk. *πενια*, usually found as suffix -**peniā**; **peno**, *to toil*, and o-grade **pónos**, *toil*, verb **pono**, *toil*, as in **geoponikós**, *geoponic*, **lithoponos** (from Gk. loan word **lithos**, *stone*), *lithopone*; o-grade (s)pon-, as in **spono**, *span, stretch, bind*, as Gmc. *spannan* (cf. O.E. *spannen*, O.H.G. *spannan*, M.Du. *spannen*), **sponá**, *span*, Gmc. *spanō* (cf. O.E. *spann*; Gmc. word was borrowed into M.L. *spannus*, hence It. *spanna*, O.Fr. *espanne*, Fr. *empan* “distance”); also, **spongá**, *clasp, spangle*, from Gmc. *spangō* (cf. M.Du. *spange*); **póndos**, *weight*, giving Latin expression **líbra pónđō**, “balance by weight” (borrowed into Gmc. *punda*, “pound”, cf. Goth. *pund*, O.Fris., O.N. *pund*, O.H.G. *pfunt*, Ger. *Pfund*,

M.Du. *pont*); **póndōs**, *weight*, giving derivatives (affected by rhotacism, cf. Lat. *pondus*, *ponder-*), **pondesā**, *weigh*, *ponder*, as in **prāipondesā**, *preponderate*; also, compare **sponde**, “*of one’s own accord*”, as Lat. *sponte* (maybe from Gmc. *spanan*, “*entice*”), as in **spondaniós**, *spontaneous*.

97. Indo-European **bhāres-/bhars-**, *spelt*, *barley*, *grain*, is the root for Gmc. *bariz/barz* (cf. Goth. *barizīns*, O.N. *barr*, and also O.E. *bær-lic*, i.e. “*barley-like*”), Lat. *far* (stem *farr-*), Osc., Umb. *far*, Phryg. *brisa*, OCS *brašino*, Welsh *bara*. Latin derivatives include **bhar(s)inā**, *farina*, **bhar(s)inākiós**, *farinaceous*, **bharságō**, *farrago*, *medley*, *mix of grains for animal feed*.

98. PIE verb **bhél** means *thrive*, *bloom*, *sprout*, as in **bhóliom**, *leaf*, as Lat. *folium*, Gk. *φυλλον*, as in **eksbholiā**, *exfoliate*, **debholiā**, *defoliate*, **perbholiā**, *perfoliate*, **prt(b)hóliom**, *portfolio*, etc; suffixed o-grade **bhlōuo**, *to flower*, *blow*, as Gmc. *blōwan* (cf. O.E. *blawan*, O.H.G. *blaen*), **bhlómōn**, *flower*, *blossom*, as Gmc. *blōmōn* (cf. Goth. *blōma*, O.S. *blomo*, O.N. *blómi*, Du. *bloem*, O.H.G. *bluomo*, Eng. *bloom*); **bhlōs**, *flower*, *blossom*, as Gmc. **bhlōs-** (cf. O.E. *blōstm*, *blōstma*, Eng. *blossom*), Lat. *flōs* (stem *flōr-* due to rhotacism), as in **bhlōsā**, *flora*, **bhlōsālís**, *floral*, etc.; **bhlótōm**, *blood*, as Gmc. *blōthan* (cf. Goth. *bloþ*, O.N. *blóð*, O.E., O.Fris. *blōd*, M.Du. *bloet*, O.H.G. *bluot*), **bhlōdio**, *bleed*, as Gmc. *blōthjan* (cf. O.N. *blæða*, O.E. *blēdan*, Ger. *bluten*), **bhlōtisā**, *bless*, lit. “*treat or hallow with blood*”, (originally a blood sprinkling on pagan altars, this word was chosen in O.E. Bibles to translate Lat. *benedicere* and Gk. *eulogein*, and is not found with this sense in other Germanic dialects); **bhlótōs**, *blade*, *leaf*, from Gmc. *blathaz* (cf. O.N. *blad*, O.Fris. *bled*, Ger. *blatt*). Other derivatives include Oscan *Fluusai*, Toch. *pält/pilta*, O.Ir. *bláth*, Welsh *blawd*.

A proper PIE word for *blood* is **kréwis** (earlier root **kreuh₂*), as in O.E. *hrot*, Lat. *cruor*, Gk. *κρέας*, O.Ind. *kravīś*, Av. *xrū-*, *xrūm*, O.Pruss. *krawian*, Lith. *kraujas*, Ltv. *krevele*, OCS *крьвь*, O.Pol. *kry*, Russ. *кровь*, O.Ir. *cró*, Welsh *crau*. A common adjective is o-grade **krowós**, *raw*, *uncooked*, “*bloody*”, as Gmc. *khrawaz* (cf. O.N. *hrár*, O.E. *hrēaw*, M.Du. *rau*, O.H.G. *hrāo*, Eng. *raw*, Ger. *roh*), Lat. *crudus*, O.Ind. *kruras*, Av. *xrūra-*.

99. IE verb **der**, *split*, *peel*, *flay*, as Gmc. *teran* (cf. Goth. *gatairan*, O.E. *teran*, O.S. *terian*, M.Du. *teren*, O.H.G. *zeran*), Gk. *δερειν*, Skr. *darati*, Arm. *terem*, O.C.S. *dera*, and **dérom**, *piece*, as Bret. *darn*; **drtōm**, “*something separated or discarded*”, *turd*, Gmc. *turdam* (cf. O.E. *tord*, O.N. *tord-*, M.Du. *torde*, Du. *tort-*); **der(r)is**, *leather covering*, *derris*, from Gk. *δερρις*; **dérmn**, *skin*, *derma-*, as Gk. *δέρμα*, in compounds **dérmnto-**, *dermato-*.

English “*tear*” (*drop from eye*), comes from PIE **dákrus**, attested as Gmc. *takhruz* (cf. Goth. *tagr*, O.N. *tár*, O.Fris. *tar*, O.E. *tēahor*, O.H.G. *zahar*), Lat. *lacrīma* (from suffixed **dákru-mā**, O.Lat. *dacruma*, compare with evolution of O.Lat. *dīngua* -> Lat. *līngua*), Gk. *δάκρυ*, Skr. *asru*, Av. *asrūazan*, Toch. *ākär/akrūna*, Arm. *arc’unk’*, Lith. *ašara*, Ltv. *asara*, O.Ir. *dér*, Welsh *deigrin*.

100. PIE root **gno**, *know*, gives derivatives **gnēuo**, as Gmc. *knē(w)an*, (cf. O.E. *cnāwan*, O.H.G. *bichnaan*, *irchnaan*), **gno**, *know*, *know how to*, *be (mentally) able to*, Gmc. *kunnan* (cf. Goth. *kannjan*, O.N. *kenna*, O.E. *cunnan*, O.Fris. *kanna*, O.H.G. *irchennan*), o-grade causative **gónio**, *make known*, *declare*, as Gmc. *kannjan* (cf. O.N. *kenna*, O.E. *cennan*, Eng. *ken*), **gntós**, *known*, *well-known*, *usual*, *excellent*, *familiar*, as Gmc. *kunthaz* (cf. O.E. *cūth*, Eng. *couth*), **gntitā**, *knowledge*, *acquaintance*, *friendship*, *kinfolk*, as Gmc. *kunthithō* (cf. O.E. *cyththu*); **gnōsko**, **komgnōsko**, *get to know*, *get acquainted with*, as in **gnōtítīā**, *notice*, **gnōtíōn**, *notion*, **gnōtosiós**, *notorious*, **komgnōtíōn**, *cognition*, **rekomgnōsko**, *recognize*, etc.; suffixed **-ro-**, as **gnōrā**, *not to know*, *disregard*, *ignore*, or **gnáros**, *knowing*, *expert*, and verb **gnar(r)ā**, *tell*, *relate*, *narrate*; **gnōdhlís**,

knowable, known, famous, noble, as Lat. *nōbilis*; part. **gnōtós**, known, noun **gnōtis**, knowledge, inquiry, **gnómōn**, judge, interpreter, **prognōtis**, **diagnōtis**, **agnōtiā**, etc., as Gk. γνώσις, γνώμων; **gntis**, knowledge, as Av. *zainti-*; also probably **gnōtā**, note, mark, sign, cypher, as Lat. *nota*, as in **adgnōtā**, annotate, **komgnōtā**, connote, etc., and also **gnórmā**, carpenter's square, rule, pattern, precept, norm, as in **gnormālis**, normal, **apgnormālis**, abnormal, **eghnormís** (from **eghs+gnorm-**), irregular, extraordinary, very large, possibly a borrowing from Etruscan through Greek **gnórmōn**, γνώμων, carpenter's square, rule. For IE derivatives, compare Lat. *nōscō/cognōscō*, Umb. *naratu*, Gk. γινωσκειν, Skr. *jānāti*, Av. *paitizānanti*, O.Pers. *xšnāsātiy*, Toch. *knān/nān*, Arm. *canot'*, O.Pruss. *posinnāts*, Lith. *žinóti*, *žinaũ*, Ltv. *zināt*, *zinu*, O.C.S., O.Russ. *знати*, *знаѣ*, Russ. *знать*, Polish *znać*, Ir. *gnath*, Welsh *gnawd*, Alb. *njeh*, Kashmiri *zānun* Osset. *zon*; Hitt. *kaneš*.

101. PIE root **ni**, down, below, gives derivatives Skr. *nī*, Gk. *neiothen*, O.C.S. *nizu*, Russ. *низ*. A common derivative is **nitero-**, down, downwards, below, beneath, as **niteros** in Gmc. *nitheraz* (cf. O.S. *nithar*, O.N. *niðr*, O.E. *niþera*, *neþera*, O.Fris. *nither*, Du. *neder*, Ger. *nieder*), or **niterom** in Skr. *nitaram*.

For PIE **ndher**, under, also possibly derived from **ni**, compare Gmc. *under* (cf. Goth. *undar*, O.N. *undir*, O.Fris. *under*, Du. *onder*, O.H.G. *untar*), Pers. *zēr*, Arm. *ēndhup*; also, compare **ndhos**, below, as Skr. *adhah*; **ndhrós**, lower, as Av. *aðara-*, Lat. *īnferus*, and **ndhriós**, inferior; **ndhrnos**, lower, inferno, and **ndhrnālis**, infernal; **ndhrā**, *infra*, below.

English *hell*, a translation of Lat. *īnferus*, comes from an o-grade noun derived from PIE **kel**, cover, conceal, save, (cf. Skr. *cala*, O.Ir. *cuile*), viz. **koliā**, the underworld (from “concealed place”), Gmc. *khaljō* (cf. O.N. *hel*, O.E., O.Fris. *helle*, Ger. *Hölle*, Goth. *halja*; Eng. *hell* may be from O.N. *Hel*, the underworld, goddess of death, another transfer of a pagan concept and its word to a Christian idiom); **kol(I)ā**, covered place, hall, as (dialectally geminated) Gmc. *khallō* (cf. Goth. *halja*, O.N. *höll*, O.E. *heall*, O.H.G. *halla*, Du. *hal*); suffixed **koleiós**, sheath, as Gk. *κολεός*; zero-grade **kíos**, hole, hollow, as Gmc. *khulaz* (cf. Goth. *us-hulon*, O.N. *holr*, O.Fris., O.H.G. *hol*, O.E. *hol*, *hulu*, M.Du. *hool*, Ger. *hohl*, Eng. *hole*, *hull*); extended **klām**, in secret, as Lat. *clam*, in **klamdestēinós**, clandestine (possibly a merge of **klam-de-** and **entestēinós**, internal, from **entos**, within, which gives pl. **entestēina**, intestine), **kalupio**, cover, conceal, as Gk. *kaluptein*, part. **kaluptós**, covered, as in (a)**sukalúptos**, from Lat. *eucalyptus*, and MIE **apokalúptis**, revelation, from Gk. ἀποκάλυψις, also *apocalypsis*, from Church Lat. *apocalypsis*; **kélmōs**, helmet, helm, “protective covering”, as Gmc. *khelmaz* (cf. Frank. *helm*, O.E. *helm*, O.H.G. *helm*, M.Fr. *helmet*, dim. of *helme*); **obhkolo**, cover over, and part. **obhkoltós**, covered, occult, from which **obhkoltā**, to occult; suffixed **kólōs**, from Lat. *color*; **kélnā**, storeroom, chamber, cellar, as Lat. *cella*; **kéliom**, lower eyelid, cilium; lengthened-grade **kēlā**, hide, like in **komkēlā**, conceal.

102. A Proto-Indo-European stem (s)**klau**, hook, crooked or forked branch (used as a bar or bolt in primitive structures) is reconstructed for **klāustrom**, bar, bolt, barrier, as Lat. *claustrum*, and **klāustrā**, dam, wall, barricade, stronghold, for Lat. *claustra*; **klāwos**, nail, for Lat. *clauus*; **klāwis**, key, for Lat. *clauis*; **sklāuso**, close, Gmc. *skhleusan* (cf. O.E. *beclysan*, O.H.G. *sliozan*, Ger. *schlieel*); also, compare Gk. *kleidos*, *klobos*, Lith. *kliuti*, *kliaudziū*, *kliuwu*, O.C.S. *kljucu*, *kljuciti*, O.Ir. *clo*, M.Ir. *clithar*.

PIE verb **bhec**, run, flee, is attested in Balto-Slavic as Lith. *begu*, O.C.S. *begu*, *bezati*; also **bhécios**, stream, (possibly from an unattested verb **bhécio**) in Gmc. *bakjaz* (cf. O.N. *bekkr*, Eng. *beck*); and in Greek with the

meaning of *flee in terror*, also o-grade verb **bhoco**, *put to flight, frighten*, and noun **bhócos**, *panic, flight, fear*, as Gk. φόβος (hence **-bhociā**, Gk. -φοβία).

103. For PIE **ka(u)put**, *head*, and also fig. *top, upper end, chief person, leader*, compare Gmc. *khaubuthan* (Goth. *haubiþ*, O.N. *haufuð*, O.E. *heafod*, O.H.G. *houbit*, O.Fris. *haved*, Ger. *Haupt*), Skr. *kapucchala*, Lat. *caput*.

104. PIE verb **dem**, *domesticate*, gives o-grade **domio**, *tame, domesticate*, as Gmc. *tamjan* (cf. Goth. *gatamjan*, O.E. *temja*, O.E. *tem*, O.H.G. *zemmen*); **domós**, *domesticated, tame*, Gmc. *tamaz* (cf. O.N. *tamr*, O.S., O.Fris., M.L.G., M.Du., O.E. *tam*, O.H.G. *zam*, Ger. *zahm*); **domā**, *tame, subdue*, as Lat. *domāre*; **drño**, *tame*, as Gk. δαμαν, with derivative **ndmántis** [ἡ-dm̥-‘ants], *not malleable, adamant*, (lit. “not domesticable”) and also *diamond*, from Vulg.Lat. *diamas,-antis*, altered from Lat. *adāmas,-antis*, from Gk. ἀδάμας. Other derivatives include Skr. *dāmyati*, Av. *dam*, Pers. *dām*, O.Ir. *damnaim*, Welsh *addef*, Osset. *domun*; Hitt. *damaašzi*.

For **spek**, *observe, look at*, compare **spékōn**, *watcher, spy*, as Gmc. *spekhōn* (cf. Frank. *spehon*, O.H.G. *spehon*, M.Du. *spien*, Ger. *spähen*, *Spion*, Eng. *spy*); from Lat. *specere* are **spékimēn**, **spéktrom**, **spekolā**, *especulate*, **spékolom**, **adspéktos**, *aspect*, **ekspektā**, *expect*, **perspektéiuā**, *perspective*, **respektā**, *look, respect*, **supspektā**, *suspect*, etc.; **spékiēs**, *seeing, sight, form, species*, as in **spekiālis**, *special*; **speks**, *watcher, “he who sees”*, in Lat. compounds; **dēspekā**, *despise, look down on*; metathesized Grek forms as **spekio** (Gk. *skepio*), *examine, consider*, as in **spektikós**, *skeptic*, Gk. σκεπτικός; or o-grade **spókos** (Gk. *skopos*), *one who watches, or object of attention, aim, target*, (as Eng. *scope*) and verb **spokē**, *see*, as in modern **jorospókos**, *horoscope*, lit. “time-watcher”, from Gk. ὥροσκόπος, **qēlespókiom**, from Mod.Lat. *telescopium*, or **epispókos**, *overseer, bishop* (Eng. *bishop* comes from O.E. *bisceope*, itself from Vulgar Latin *ebiscopus*), **epispokālis**, *episcopal*, etc. – the change *spek->skep* happened comparatively late in Greek to be reconstructed in a proper common IE language.

105. For PIE **sals**, *salt*, compare Lat. *sāl*, Umb. *salu*, Gk. *hals*, Skr. *salila*, Illyr. *Salapia*, Toch. *sāle/sālyiye*, Arm. *ağ*, O.Pruss. *sal*, Lith. *saldus*, Ltv. *sāļš*, OCS *solī*, Russ. *соль*, Polish *sól*, O.Ir. *salann*, Welsh *halen*, Alb. *gjelbson*. It gives derivatives as **sáldom**, Gmc. *saltom* (cf. O.S., O.N., O.Fris., Goth. *salt*, O.E. *sealt*, O.H.G. *salz*, Du. *zout*), zero-grade **sídiā**, *salt, salt marsh, souse*, as Gmc. *sultjō* (cf. M.E. *cylte*, Dan., Nor. *sylt*, Eng. *silt*, and O.Fr. *sous*, into Eng. *souse*), **saldō**, *to salt*, as Lat. *sallere*, and p.part. **salstós** (<***saldtós**), as in **sálstā**, *sauce, salsa*; from Lat. *sāl* is **salásiom**, *salary*, **salátā**, *salad*, or **salámis**; it gives also words for sea, from “salty water”, as in Greek, or in Latin **sáloom**.

PIE root **sol** (or **solh₂*) means *whole*, and is attested in common derivative **soluós**, *whole, intact, uninjured*, as Gk. ὅλος (Ion. οὔλος), Skr. *sarvah*, Av. *haurva*, O.Pers. *haruva*, giving modern words like **soluokáustom**, *holocaust* (from neuter Lat. *holocaustum*, itself from Gk. ὀλόκαυστος, “burned hole”), **soluogrābhikós**, *holographic* (for **gerbh-**, v.i. A), or **katsoluikós**, *universal, catholic* (as Lat. *catholīcus*, Gk. καθολικός, for **kat**, v.i. B). Also, compare **solidós**, *solid*, in **komsolidā**, *consolidate*, **solidāsiós**, *jointly liable* (source akin to Eng. *soldier*), **sol(i)dātos**, *soldier*, from Lat. *solidātus* (from **sólidos**, a Roman gold coin, also *salary*, lit “one having pay”, cf. It. *soldato*, Fr. *soldat*, Spa., Pt. *soldado*, Swe., Nor., Ger. *soldat*, Du. *soldaat*, Russ., Ukr. *солдат* etc.); **sólos**, *whole, entire, unbroken*, as **solikitós**, *solicit, solicitous*, or **solemnís**, *solemn*, from Lat. (dialectal geminated form) *sollus*; as zero-grade **sálūts**, *health*, as in **salutā**, *greet*; also in **saluós**, *whole, safe, healthy, uninjured*, from Lat. *salvus* (into O.Fr. *sauf*, and then to Eng. *safe*).

A. For PIE **gerbh**, *scratch*, compare Gmc. *kerban* (cf. O.E. *ceorfan*, O.H.G. *kerban*, Eng. *carve*, Ger. *kerben*); zero-grade **gr̥bhis**, *a cutting(off)*, as Gmc. *kurbiz* (O.E. *cyrf*, Eng. *kerf*); o-grade **gróbbhis**, *edible crustacean*, as Gmc. *krabiz/krab(b)* (cf. O.E. *crabba*, O.N. *krafla*, O.H.G. *kerbiz*, L.Ger. *krabben*, Eng. *crab*, *crayfish*, *crawl*); **grbho**, *scratch, draw, write*, as **gr̥bhmn** [ˈgr̥bʰ-mn̥], *picture, letter, piece of writing*, and **gr̥bh̄mā**, *line*, with derivatives as (loan words) **gr̥bh̄mntiká**, *grammar*, from Gk. γραμματική, and **gr̥bh̄hikos**, *graphic*, **anágr̥bh̄mn**, *anagram*, **epígr̥bh̄mn**, *epigram*, **ḡgr̥bh̄hiā**, *agraphia*, **epigr̥bh̄há**, *epigraph*, as Gk. ἐπιγραφή, **parágr̥bh̄os**, *paragraph*, **prógr̥bh̄mn**, *programme*, etc; also, W.Gmc. *grafa*, “*count*” (cf. M.Du. *graave*, M.L.G. *grave*, Ger. *graf*, Eng. *-grave*), possibly a borrowing from **gr̥bh̄éus**, Gk. *grapheus*, “*scribe*”. For other IE derivatives, compare O.Pruss *gīrbīn*, Ltv. *grīpsta*, O.C.S. *žrěbŭ*, Russ. *žrebij*, Arm. *kerel/gerel*, Alb. *gërvish*.

B. For PIE **kat-**, *down*, compare Greek **kata**, *down*, and suffixed form **kátolos**, *young puppy, young of animals* (“*dropped*”), as Latin *catulus*.; also found in Ice. *haðna*, M.H.G. *hatele*, Sla. *kotiti sę* (cf. Russ. *kotítŭsja*), dial. *kóťka*, Sr.-Cr. *kot*, Pol. *wy-kot*

106. For Indo-European **hl̥éig**, *shine*, compare Gmc. *blīkh(j)an* (cf. O.N. *blíkja*, O.Ice. *bleikr*, O.H.G. *blīhhan*, *bleih*, O.E. *blīcan*, Ger. *Blech*), Lith. *blaikštaūs*, *blaikštýtis*, *blyškėti*, Ltv. *blīžģēt*, *blaiskums*, O.C.S. *блѣкѣ*, *блѣцѣ*, Russ. *blesk*, Pol. *blask*.

107. PIE verb **bhel**, *blow, swell, inflate*, is the root for various derivatives including round objects and the notion of tumescent masculinity; as, **bhl̥iā**, *round vessel, rounded object, bowl, bole, boll*, as in Gmc. *bullō* (cf. O.N. *bolle*, *bolr*, O.E., O.H.G. *bolla*, M.H.G. *bole*, M.Du. *bolle*, *bille*); zero-grade and **bhl̥ōn**, *fuller*, as Lat. *fullō*; **bhl̥ōnos**, *bull*, as Gmc. *bullōnaz* (cf. O.N. *boli*, O.E. *bula*, M.Du., Ger. *bulle*), **bhl̥okos**, *bull*, as Gmc. *bullukaz* (cf. O.E. *bulluc*), **bhl̥inos**, *phallus*, as Gk. φαλλός; o-grade (dialectally geminated -l in Germanic) **bhl̥ól(I)os**, *ball*, **bhl̥ól(I)ā**, *ball, bullet, round roll*, **bhl̥ól(I)ikos**, *testicles, bollix* (cf. O.E. *beallucas*); **bholtós**, *bold*, from Gmc. *balthaz* (cf. Goth. *balþei*, O.N. *ballr*, *baldr*, O.E. *bald*, *beald*, O.H.G. *bald*); suffixed **bhl̥ólnis**, *bellows, inflated ball*, as Lat. *follic* (cf. Eng. *follicle*, *folly*, *fool*); possibly **bhálaniā**, *whale*, from Gk. φάλαινα.

108. MIE **dímōn**, *time*, is a loan translation from Germanic *tīmōn*, (cf. O.Eng. *tīma*, O.N. *timi*, Swe. *timme*), and is derived from PIE root **dā**, *divide*, as in **dámos**, *people, land* (from “*division of society*”), from Gk. δημοσ, as in **dāmokratīā**, *democracy* v.i., **dāmogr̥bh̄hiā**, *demography*, **epidāmīā**, **pandāmīā**, **dāmagógos**, etc.; alternative root **dajo**, *divide*, as in **geōdáisia**, *earth division, geodesy*; **dáimōn**, *divider, provider*, hence *divinity*, later “*demon, daimon*”, v.i.; **d(á)itīs**, *division of time, time, season*, as Gmc. *tīdiz* (cf. O.S., O.E. *tid*, Du. *tijd*, O.H.G. *zīt*, Ger. *Zeit*, Eng. *tide*), and verb **dītio**, *happen*, from “*occur in time*”, Gmc. *tīdjan* (cf. O.E. *tīdan*).

It is unrelated to Lat. *tempus*, which has an unknown origin. For the Latin word and its derivatives, Modern Indo-European uses loan word **témpōs**; as, **komtempōsīós**, *contemporary*; **témpōsā**, *temple* (cf. Lat. *tempora* > V.Lat. *tempula*); **tempesā**, *temper, moderate, regulate*; **tempositiā**, *temporize*, etc.

PIE **krátos**, *power, strength*, (like Gk. κράτος) gives suffix **-kratīā**, *power, rule*, as Gk. -κρατία, adjective **kratús**, *strong*, as Gk. κρατυς or alternative **kartús**, *hard*, as Gmc. *kharthus* (cf. Goth. *hardus*, O.N. *harðr*, O.E. *heard*, O.H.G. *harto*, Du. *hard*), maybe from PIE root **kar-**.

Greek δαίμων meant *divinity*. For Greeks and Romans *dæmons* were *supernatural beings* “*replete with knowledge*”, “*divine power*”, “*fate*” or “*god*”, not necessarily evil. Within the Christian tradition, ideas of “*demons*” derived as much from the literature that came to be regarded as apocryphal and even heretical as it did

from the literature accepted as canonical. It happened more or less like with PIE **djéus** (originally meaning *heaven, sky*, hence *sky-god*, cf. O.E. *Tig*, Lat. *deus*, Gk. *Zeús*, Skr. *devaḥ*, Lith. *devas*, O.C.S. *deivai*), reduced in its Persian meaning as a special (bad) kind of divinity, giving *daēva-*, “*spirit, demon*”, so in *Asmodeus*, Old Persian *Āshma*, later *Āshmadæva*.

109. PIE root **bher-**, with derivatives meaning *brown, shining*, gives **bhrúnós**, *brown, shining*, as Gmc. *brūnaz* (cf. O.E. *brūn*, O.N. *brúnn*, M.Du. *bruun*, adopted into Romance languages through M.L. *brunus*, cf. It., Sp. *bruno*, Fr. *brun*); reduplicated **bhébhrus**, *brown animal, beaver*, as Gmc. *bebruz* (cf. O.E. *beofor*, O.H.G. *bibar*, Low Ger. *bever*), Lith. *bebrus*, Cz. *bobr*, Welsh *befur*; **bhérā/bhérnus**, *bear*, lit. “*brown animal*” (as O.E. *bera*, O.H.G. *bero*, from Gmc. *berō*, or O.N. *björn*, from Gmc. *bernuz*). Compare Lat. *fīber*, Gk. *phrynos*, Skr. *bhallas*, *babhrus*, Av. *bawra*, Toch. *parno/perne*, *parām/perne*, O.Pruss. *bebrus*, Ltv. *bērs*, *bebrs*, Lith. *bėras*, *bebras*, Russ. *bobr*, Gaul. *Bibrax*, Welsh *befur*.

110. Indo-European **līnom**, *flax*, although sometimes considered a borrowing from a non-Indo-European language, is found in many IE dialects; as, Gmc. *linam* (cf. Goth. *lein*, O.E. *lin*, O.H.G. *līn*, O.N. *līn*, Ger. *Leinen*, Eng. *linen*), Lat. *līnum*, Gk. *līnon*, O.Pruss. *linno*, Lith. *linas*, Ltv. *linī*, O.C.S. *līnŭ*, Russ. *lěn*, Polish *len*, O.Ir. *lín*, Welsh *llin*, Alb. *liri/līni*.

For PIE **wl̥nā**, *wool*, compare Gmc. *wulnō* (cf. Goth. *wulla*, O.N. *ull*, O.E. *wull*, O.Fris. *wolle*, M.Du. *wolle*, O.H.G. *wolla*, Du. *wol*, Ger. *Wolle*), Lat. *lāna*, *uellus*, Gk. *lēnos*, Skr. *ūrṇā*, Av. *varəṇā*, Pers. *gurs*, O.Pruss. *wilnis*, Lith. *vilna*, Ltv. *vilna*, O.C.S. *vlūna*, Russ. *volna*, Pol. *wełna*, Lith. *vilna*, O.Ir. *olan*, Welsh *gwlan*; Hitt. *hulana*.

111. PIE **chen**, *strike, kill, slay*, as Gk. *θεινω*, *φόνος*, Skr. *hánti*, Av. *ǰainti*, O.Pers. *ajanam*, Arm. *gan*, O.Pruss. *guntwei*, *gunnimai*, Lith. *genù*, *giñti*, *ginù*, *ginti*, Ltv. *dzeņu*, *dzīt*, O.C.S. *гънати*, *женъ*, O.Russ. *гънати*, *жену*, Cz. *hnáti*, *ženu*, Polish *gnać*, O.Ir. *gonim*, Ir. *gandr*, *gonadh*, Alb. *gjanj*; Hitt. *kwen*, Lyd. *qēn-*; Slavic *гънапъ*, which stands out in a Satem dialect, appears to be from a source akin to O.Ind. (*ā*)*ghnānás*, Av. *avaǰnāna-*, an original **ghn-** form, which didn't undergo the satemization trend. It gives derivatives as o-grade **chónōn**, *slayer, cause of ruin or destruction*, as Gmc. *banōn* (cf. Goth. *banja*, O.N. *bani*, O.E. *bana*, O.Fris. *bona*, O.H.G. *bana*), which gives also MIE loan word **choná**, *way, road*, as in **autochoná**, *Autobahn*, cf. M.H.G. *ban*, *bane*, Ger. *Bahn*, “*way, road*” (from “*strike*” in a technical sense like “*swath*”); suffixed **chntiā**, *war, battle*, as Gmc. *gundjō* (cf. O.Ice. *gandr*, O.E. *gūþ*, O.N. *gunnr* into O.E. *gunne*, giving Mod. Eng. *gun*), also in **chntiāpánōn**, *standard, “battle flag”*, as O.H.G. *gundfano*, It. *gonfalone* (for **pan-**, v.i.); suffixed form **chend**, giving prefixed verbs in Latin as **dēchendo**, *ward off, defend*, and **obhchendo**, *strike against, be offensive, offend*; also, suffixed zero-grade **chntros**, *poison*, as Pers. *zahr*, O.Ira. *jathra-*.

112. PIE **génus**, *knee*, perhaps originally *angle*, gives Lat. *genū*, Gk. *gonu*, Skr. *jānu*, Av. *znum*, Pers. *zānu*, Illyr. *Genusus*, Toch. *kanweṃ/kenīne*, Arm. *cunr*, Russ. *звено*; Hitt. *genu*, Palaic *ginu-*. Variants include Greek o-grade forms, as **gónus**, *knee*, which gives **polúgonom**, *polygonum*, and **góniā**, *angle, corner*, which gives **gonós**, *angled*, and derivative neuter suffix **-gonom**, Eng. *-gon*; also, alternate form **gnew-**, giving neuter noun **gnéwom**, *knee*, as Gmc. *knewam* (cf. Goth. *kniū*, O.N. *kne*, O.E. *cnēo[w]*, O.Fris. *kni*, M.Du. *cnie*, O.H.G. *kniū*), and extended verb **gnewio**, *kneel, “with bent knee”*, as Gmc. *knewjan* (cf. Goth. *knussjan*, O.E. *cneow[*l*]*ian**, Eng. *kneel*), or Gk. *γνυξ*.

Another meaning for PIE **génus** is *jawbone, cheek, jaw*. Compare Gmc. *gennuz* (from variant **génwus**, cf. Goth. *kinnus*, O.N. *kinn*, O.E. *cin*, O.H.G. *chinni*, Eng. *chin*, Ger. *Kinn*), Lat. *gena*, Gk. *genus*, Skr. *hanu* (from alternative form **ghénus**), Av. *zanu*, Pers. *goune(h)*, Phryg. *azon*, Toch. *śanwem*, Arm. *cnaut*, Lith. *žandas*, Ltv. *zods*, Welsh *genou*, O.Ir. *gin*, and Ancient Macedonian *kanadoi*. A common derivative is zero-grade alternative **géndhos**, *jaw*, from Greek.

113. PIE **chers**, *heat, warm*, gives common derivatives as Germanic alternative forms **chrenuo**, *burn, be on fire*, intransitive, as Gmc. *brennan* (cf. Goth. *brinnan*, O.N. *brenna*, O.E. *beornan, byrnan* O.H.G. *brinnan*), and **chrenuio**, *burn, kindle*, transitive, as Gmc. *brannjan* (cf. O.E. *bærnan*); **chróndos**, *burning or flaming torch*, hence also *sword*, as Gmc. *brandaz* (cf. O.E. *brand, brond*, Du. *branden*, also Frank. *brand*, into O.Fr., O.Prov. *brand*); **chermós/chormós**, *warm, hot*, and **chérmā**, *heat*, neuter **chérmom**, giving **-chermiā**, Eng. *-thermy*, as Gk. *θερμος*. Also, Lat. **chórkaps**, (**-kaps** is Lat. agential suffix, *-kaps*, “-taker”, from PIE **kap**), *forceps*; **chórnos**, *oven*, as Lat. *furnus*; **chórniks**, *arch, vault* (from “*vaulted brick oven*”), as in **chornikā**, *fornicate*; **chrtom**, *clarified butter, ghee*, as Skr. *ghṛtam*. Other known derivatives are Skr. *ghṛṇa*, Av. *garəma*, O.Pers. *garmapada*, Pers. *garm*, Phryg. *germe*, Thrac. *germas*, Arm. *jerm*, O.Pruss. *goro*, Lith. *garas*, Ltv. *gars*, Russ. *žar*, O.Ir. *fogeir*, Welsh *gori*, Alb. *zjarr*, Kashmiri *germi, garū'm*; Hitt. *war*.

114. Indo-European verb **éus**, *burn*, is attested in Gmc. *uzjan* (cf. ON *usli*, and in compound [*aim*]uzjo, cf. as O.N. [*eim*]yrja, O.H.G. [*eim*]uria, O.E. [*ǣm*]erge, Ger. [*Amm*]ern, Eng. [*emb*]er), Lat. *ūrō*, Gk. *heuō*, Skr. *oṣati*, Lith. *usnis*, Ltv. *usna*, Alb. *ushël*.

115. PIE root **noch-**, *naked*, gives **nochetós/nochotós**, as Gmc. *nakwethaz/nakwathaz* (cf. Goth. *naqaþs*, O.N. *nökkviðr*, O.Swed. *nakuþer*, O.E. *nacod*, O.Fris. *nakad*, O.H.G. *nackot*, M.Du. *naket*), **nochedós**, as Lat. *nūdus*, **nochmós**, metathesized in Gk. *γυμνος* (*gymnos*), as in **nochmasiā**, *gymnastics*, **nochmástā**, *gymnast*, from Gk. *γυμναστής*, etc., and **nochnós**, as Skr. *nagna*, Av. *maǰna*, O.Pers. *nagna-*; compare also Lith. *nuogas*, Ltv. *nogs*, OCS *nagŭ*, Russ. *nagoj*, Polish *nagi*, O.Ir. *nocht*, Welsh *noeth*, Kashmiri *naṅgay*, Hitt. *nekumant*.

116. Indo-European **cer**, *mount*, gives also **corá**, *mountain*; cf. Hom.Gk. *βορέης*, Att.Gk. *βορέās*, *βορρās*, O.Ind. *giríṣ*, Av. *gairi-*, O.Pers. *gar, gīr*, Arm. *ler*, O.Pruss. *garian*, Lith. *girià, guras*, O.C.S. *ropa, ropъ*, Russ. *zopa*, Pol. *góra*, Alb. *gur*.

English word “*mount*” comes from Anglo-Fr. *mount*, itself from O.Fr. *mont* and O.E. *munt*, both from Lat. *mons, montis*, MIE **móntis**, *mountain*, (cf. Welsh *mynydd*), which gives **montanós**, *mountainous*, **móntaniā**, *mountain* (from V.Lat. *montanĕa*, feminine noun of V.Lat. *montaneus*, in turn from Lat. *montanus*), **montíkolos**, *monticule*, **montā**, *go up, ascend, climb, mount*, as in **admontā**, *amount*. It is derived from PIE base **men**, *stand out, project*, source of some Western Indo-European words for projecting body parts, as zero-grade **mńtos**, *mouth*, Gmc. *munthaz* (cf. Goth. *munþs*, O.N. *munnr*, O.E. *muþ*, O.Fris. *muth*, M.Du. *mont*, Ger. *Mund*), or **méntom**, *chin*, as Lat. *mentum*; **mńā**, *projecting point, threat*, Latin *minae*, giving **mnákiā**, *menace*, **prōmnā**, *drive (animals) onward*, (from **prō**, *forth*, and **mnā**, *drive animals with shouts*), as in **prōmnátā**, *promenade*; **mnē**, *project, jut, threaten*, as **ekmnē**, *stand out*, giving **ekmnénts**, *eminent*, **enmnē**, *overhang*, giving **enmnénts**, *imminent*, or **promnē**, *jut out*, as in **promnénts**, *prominent*, or **promntósiom**, *promontory*, from p.part. **promntós**.

A proper PIE word for “mouth” is **ōs**, as in O.E. *ōr*, ON *oss*, Lat. *ōs*, Skr. *ās*, *oṣṭha*, Av. *aosta*, O.Pruss. *austo*, Lith. *uosta*, Ltv. *osta*, Russ. *usta*, Kamviri *âša*, Hitt. *aiš*. Derivatives affected by rhotacism are usually from Lat. stem *ōr-*, as in **ōsālis**, *oral*, **ōsidhākios**, *orifice*, but most are not affected, as dim. **ōskillom**, *swing* (from “small mask of Bacchus”), giving verb **ōskillā**, *oscillate*, and noun **ōskillātiōn**, *oscillation*; also, **ōskolom**, *osculum*, giving **enōskolā**, *provide with an opening, inosculate*, and also **ōstiom**, *door, ostium*, giving **ōstiasios**, *doorkeeper, ostiary* (M.Eng. *hostiary*), etc.

117. PIE root **cōus**, fem. *cow*, or masc. *bull, ox*, perhaps ultimately imitative of lowing (cf. non-IE Sumerian *gu*, Chinese *ngu, ngo*), gives Gmc. *kōuz* (>*kūz*, cf. O.N. *kú*, O.E. *cū*, O.H.G. *cuo*, Eng. *cow*, Ger. *Kuh*), Lat. *bōs* (stem *bou-*), Gk. *bous*, Skr. *gauḥ*. Derivatives include **coukánā**, *horn, trumpet, “bellower”* (compound with **kan-**, singer, v.i.), **coukanatōr**, *buccinator*; **cóucalos**, *gazelle* (orig. “wild cow”), later *buffalo*, as Gk. *βούβαλος* (compare with Lat. *būbulus*, and as alternative **cówalos** with Skr. *gavalaḥ*, all referring to wild animals); suffixed **cóunos**, *ox*, as Pali *goṇa-*; **cóuros**, *wild ox*, as Skr. *gaurah*; zero-grade suffixed **cwā**, as in compound **smkmtómewā**, *hecatomb, “sacrifice of a hundred oxen”* (see **sem**, one, **kmtóm**, hundred), Gk. *ἑκατόμβη*. Compare all IE derivatives: Gmc. *kōuz*, Lat. *bōs*, Osc. *buv-*, Umb. *bum*, Gk. *βους*, Skr. *gaus*, Av. *gáus*, Pers. *gāv*, Thrac. *bonassos*, Toch. *ko/keũ*, Arm. *kou* Ltv. *gous*, Russ. *goujado*, O.Ir. *bó*, Welsh *buw*, Kamviri *go*, Kashmiri *gāv*, Osset. *gal*.

118. Noun **ármos**, *arm, upper arm*, earlier **h₂rmo-*, is attested as Gmc. *armaz* (cf. Goth. *arms*, O.N. *armr*, Eng. *earm*, O.H.G. *aram*, O.S., M.Du., *arm*, O.Fris. *erm*), Lat. *armus*, Gk. *ἄρμός*, Skr. *irmas*, Arm. *armunk*, O.C.S. *ramo*, O.Pruss. *irmo* Osset. *arm*. Interesting derivatives include **árma**, (pl. of **ármom**), *tools, arms, armatós*, *armed*, **armátā**, *army*, **armátolos**, *armadillo*, **armatósā**, *armature*, loan word **alármā** (from O.It. *allarme*, from *all'arme*, “to arms”, which could be loan-translated as **ad armā**), **disarmā**, *disarm*, loan word **gendárme** (“mounted soldiers, men-at-arms”, from O.Fr. *gent-d'armes*, which could be loan-translated as **gntármā**); **armoníā**, from Gk. *ἄρμός*, *joint, shoulder*. Base **arm-** comes ultimately from PIE root **ar-**, which gives derivatives like **ártis**, *art, skill, craft*, from Lat. *ars*, as in verb **artio**, *instruct in the arts*, as Lat. *artire*, and its p.part. **artitós**, *skilled in the arts*, which gives **artitiános**, *artisan* (from It. *artigiano*, from V.Lat. *artitiānus*), **artístā**, *lettered person, artist*, from Med.Lat. *artista*; further suffixed **artiós**, *fitting, even*, as Gk. *ἄρτιος*; **ártus**, *joint* (Lat. *artus*, translation of Gk. *arthron*, v.i.) as in **artíkolos**, *joint, article*; **artós**, *tight*, as in **artā**, *compress*, and **komartā**, *coarctate*; **árdhrom**, *joint*, from Gk. *ἄρθρον*, as in **ardhrótis**, **enardhrótis**, **komardhrótis**, etc.; suffixed superlative **aristós**, *best*, as in **aristokratíā**, *aristocracy*, from Gk. *ἀριστοκρατία*.

Probably from the same root are (then o-grade suffixed form) **ōrdhio**, *begin to weave*, as Lat. *ōrdīrī*; further suffixed **órdhōn**, *order* (originally a row of threads in a loom), from Lat. *ōrdō*, as in loan words **ōrdhonā**, *order*, **ōrdhonatós**, *ordinate, orderly*, **komōrdhonā**, *coordinate*, **supōrdhonā**, *subordinate*, **enōrdhonā**, *inordinate*, **ōrdhonāsíós**, *ordinary*, etc.; or differently suffixed **ōrnā**, *adorn, ornate*, as Lat. *ōrnāre*.

Also variant form **rē**, *consider, reckon, confirm, ratify*, as Lat. *rērī*, as in **ratós**, *calculated*, which gives **rātiōn**, *calculation, ration, ratio, reason*, or **rátā**, *rate*, (Med. Lat. *rata*, from Lat. *prō ratā parte*, “according to a fixed part”, MIE **prō rátā párti**); suffixed **redho**, *advise, explain, counsel*, and **rédhos**, *counsel, opinion*, as Gmc. *redan, redaz* (cf. Goth. *rapjo*, O.N. *radan, redan*, O.Fris. *reda*, Du. *raden*, O.H.G. *radja, reda, ratan*, Eng. *read*,

rede, dread, Ger. *reden, Rede, raten*), as in **redhislio**, *riddle*, Gmc. *redisljan* (cf. O.E. *rædels*, O.S. *radisli*, M.Du. *raetsel*, Du. *rakadset*, O.H.G. *radisle*, Ger. *Rätsel*, Eng. *riddle*).

119. For PIE **bhrātēr**, *brother*, compare Gmc. *brothar* (cf. Goth. *brōþar*, ON *bróðir*, O.E. *brōþor*, O.H.G. *bruoder*), Lat. *frāter*, Osc. *fratrúm*, Umb. *fratrom*, Gk. φράτηρ (*phrātēr*), Skr. *bhrātṛ*, Av. *brātar*, O.Pers. *brātar*, Pers. *barādar*, Kurd. *bra*, Phryg. *brater*, Illyr. *bra*, Toch. *pracer/procer*, Arm. եղբայր (*elbayr* < **erbair*), O.Pruss. *brāti*, *bratrikai*, Lith. *broterėlis*, *brolis*, Ltv. *brātarītis*, *brālis*, OCS *бръпъ*, *бръпъ*, Russ. *бръпъ*, Polish *brat*, Gaul. *brātir*, O.Ir. *bráthir* Welsh *brawd*, Kamviri *brō*, Kashmiri *boy*, Osset. *ærvad* Lyd. *brafr-*, Venetic *vhратerei*. Derivatives include common **bhrātrīā**, *brotherhood* *phratry*, as O.Cz. *bratřie*, O.Pol. *braciá*, Gk. φράτρια; O.Ind. *bhrātryam*; also, Latin derivatives **bhrā**, *fra*, *monk*, **bhrāternālis**, *fraternal*, **bhrāternitā**, *fraternity*, **bhrāternitiā**, *fraternize*, **kombhrātēr**, *confrere*, **bhrātrikídiom**, *fratricide (the killing)*, **bhrātrikídā**, *fratricide (the killer)*.

120. For **cénā**, *woman, wife*, originally maybe “*honoured woman*”, compare Gmc. *kwenōn* (cf. Goth. *qino*, O.N. *kona*, O.S. *quan*, O.E. *cwene*, O.H.G. *quena*, Eng. *quean*), Gk. γυνή, O.Ind. *janis*, *gnā*, Av. *jainish*, *gənā*, Pers. *زَن* (*zæn*), Phryg. *bonekos*, Toch. *sām/sána*, Arm. *kin*, O.Pruss. *genno*, O.C.S. *žena*, Russ. *žena*, Polish *żona*, Alb. *zonjë*, O.Ir. *ben*, Welsh *benyw*; Luw. *wanatti*. Derivatives include West Gmc. **cénis**, *woman, wife, queen*, as Gmc. *kwēniz* (cf. Goth. *qéns*, O.E. *cwen*, see “*queen*”), and Greek **cnā** [g^wη-ā], giving **cnā**, *-gyne*, **cnō-**, *gyno-*, **cnós**, *-gynous*, **cnia**, *-gyny*, and derivatives with **cnai-ko-** (see *a-declension* in nouns for more on this special derivative, which appears also in Armenian, and which gives Mod.Gk. *γυναικα*), *gyneco-*, as **cnaiokratia**, *gynecocracy*, **cnaiología**, *gynecology*, etc., as well as V.Gk. *γυννίς*, *effeminate*, etc.

For other IE derivatives meaning “*woman, wife*” compare:

I. Latin has:

I.A. From PIE **dhē(i)**, *suck, suckle*, (also “*produce, yield*”), as **dhēmna**, *woman*, lit. “*she who suckles*”, as Lat. *femina* (cf. Fr. *femme*, Rom. *femeie*, as Mod.Eng. *female*), **dhēmnaínos**, *feminine*, **ekdhēmna**, *effeminate*, similar to **dhélus**, *female, fruitful* as Gk. *θήλυς*. Other derivatives from the same root include **dhétos**, *pregnancy, childbearing, offspring*, with adj. **dhētós**, **-á**, **-óm**, *pregnant*; suffixed reduced **dhēkuondós**, *fruitful, fecund*; **dhēnom**, *hay* (from “*produce*”), as Lat. *fēnum, faenum*; **dhēl(I)ā**, *suck*, as in **dhēl(I)ātiōn**, *fellatio*; **dhēlíks**, *fruitful, fertile, lucky, happy*, as Lat. *felix*, as in **dhēlíkitā**, *happiness, felicity*, **ndhēlíkitā**, *unhappiness, infelicity*, **dhēlíkitā**, *felicitate*; **dhēlá**, *mother’s breast, nipple*, as Gk. *θηλή*, hence **endodhēlá**, *endothelium*, **epidhēlá**, *epithelium*, **medhjodhēlá**, *mesothelium*. Other derivatives include Gmc. *dē-/dā-* (Goth. *daddjan*, O.Swed. *dia*, O.H.G. *tila*), Skr. *dhayati, dhayah*, O.C.S. *dojiti, dojilica, deti*, Russ. *дѣмъ*, Pol. *dzieję*, O.Prus. *dadán*, Lith. *dele*, O.Ir. *denaim, dinu*.

I.B. From **dómūnos**, *lord* (cf. O.Ind. *damūnas*, Lat. *dominos*), is **dómūnā**, *woman, woman in charge, lady*, Lat. *domina* (cf. It. *donna*, Cat. *dona*, also found as Fr. *dame*, Spa. *doña/dueña*, Pt. *dona*), derived from **dómos**, *house*, already seen. From Fr. *dame* are loan words as Nor. *dame*, Ger. *Dame*, etc. as well as Eng. *madame, madam, ma’am*, from O.Fr. *ma dame*, lit. “*my lady*”, from L. *mea domina* (cf. It. *madonna*), MIE **mā dómūnā**.

I.C. Lat. *mulier* (cf. Spa. *mujer*, Pt. *mulher*, Rom. *muiere*) is reconstructed as MIE **mliér**. Although probably unrelated, compare **melg**, *to milk* (in parallel with the pair **dhē-dhēmna**), as in zero-grade **mílgē**, *to milk*, as Lat. *mulgēre*; full grade **mélg**, *to milk*, as Gmc. *melkan* (cf. O.N. *mjólka*, O.E., O.H.G. *melcan* Du., Ger. *melken*),

and **mélugs**, *milk*, as Gmc. *meluks* (cf. Goth. *miluks*, O.N. *mjölkr*, O.E. *meoluc*, *milc*, O.H.G. *miluh*, Du. *melk*, Ger. *Milch*); compare Lat. *mulgeō*, Gk. *amelgō*, Skr. *marjati*, Toch. *malke/malkwer*, Lith. *melžti*, Russ. *molozivo*, O.Ir. *bligim*, Welsh *blith*, Alb. *mjelalso*. Also, variant **melks**, *milk*, compare Gk. ἀμέλω, Lith. *malkas*, *melzu*, Ltv. *malks*, O.C.S. млько, Russ. *молоко*, Polish *mleko*.

A similar (maybe related through an earlier zero-grade *-(**m**)*l̥k-t-*) PIE word is (**ga**)**lakts**, *milk*, as Gk. *galakt-*, Lat. *lact-*, also Hitt. *galank*, found in (**ga**)**laktiós**, *milky*, **galaktikós**, *galactic*, **galáktiā**, *galaxy*, etc.

PIE **mélits** (early **mélh₁-it-*), *honey*, could be also originally related; compare Gmc. *militis* (cf. Goth. *miliþ*, Eng. *mildēaw*, O.H.G. *milltou*, Eng. *mildew*, Ger. *Mehltau*), Lat. *mel*, Gk. *melitos*, Arm. *mełr*, Gaul. *Melissus*, O.Ir. *mil*, Welsh, Cor. *mel*, Alb. *mjal*; Hitt. *milit*, Luw. *mallit-*, Palaic *malit-*.

And all the aforementioned PIE bases may have been originally (but unlikely) derived from root **mel/mol** (from older **melh₁*), *to grind, rub, crush*, with derivatives referring to various ground or crumbling substances. Common derivatives include **méluōn**, *flour, meal*, as Gmc. *melwan* (cf. Goth. *malan*, O.N. *mala*, O.E. *melu*, O.H.G. *malan*, Eng. *meal*, Ger. *malen*), **míldā**, *soil, earth*, as Gmc. *muldō* (cf. Goth. *mulda*, O.N. *mold*, O.Fris., O.E. *molde*, O.H.G. *molta*); **molá**, *millstone, mill (coarse meal customarily sprinkled on sacrificial animals)*, as in Lat. *molere*, which gives **molāsís**, *molar*, **molínom**, *mill, moulin*, **enmolā**, *immolate*, **ekmolo**, *grind out*, as in **ekmoloméntom**, *emolument, gain*, originally *a miller's fee for grinding grain*; suffixed **mélijom**, *millet*, as Lat. *milium*; suffixed variant **málnios**, *hammer, mallet*, Lat. *malleus*; zero-grade Greek **míā**, **míos**, *millstone, mill*; extended **míinos**, *pancake*, as O.Russ. *blinu*. Also, compare Umb. *kumaltu*, Toch. *malyw-/mely-*, Arm. *malem*, Lith. *malti*, Ltv. *malt*, OCS *meję*, Russ. *mejju*, Polish *mleć*, O.Ir. *melim* Welsh *malu*, Alb. *miell*; Hitt. *mallanzi*.

PIE root **mel** means also:

a. IE (**s**)**mel**, “soft”, with derivatives referring to soft or softened materials of various kinds. Extended as **meldo**, *melt*, as Gmc. *meltan*; **meldio**, *milt*, as Gmc. *miltja* (cf. O.E., M.Du. *milte*), **móldos**, *malt*, as Gmc. *maltaz* (cf. O.N. *malt*, O.E. *malt*, *mealt*, Ger. *Malz*); suffixed variant **mlédsnos**, *slime*, as Gk. *blennos*; **mldús**, *soft*, as Lat. *mollis*; nasalized variant **mlandós**, *smooth, caressing, flattering, soft-spoken*, as Lat. *blandus*; variant form **smeld**, *smelt*, as Gmc. *smelt* (cf. O.E. *smelt*, *smylt*, O.H.G. *smalz*, M.Du., M.L.G. *smelten*, Ger. *Schmelz*, and O.Fr. *esmail*), also loan word (from a Gmc. source into It. *smalto* or Prov. *esmalt*), **smáldos**, *smalt, enamel, glaze*; extended **meldhiós**, *mild*, as Gmc. *mildjaz* (cf. Goth. *mildþa*, O.N. *mildr*, O.E. *milde*, O.Fris. *milde*, O.H.G. *milti*, Du. *mild*); **máldhā**, *mixture of wax and pitch*, as Gk. *maltha*; **mélskos**, *mild, mellow*, as Gmc. *milskaz* (cf. O.E. *melisc*, *mylsc*, Eng. *mulch*), *mlakos*, *soft*, as Gk. **mlakós** [m̥-a-^hkos], *soft*, as Gk. μαλακός, as in **mlakologíā**, *malacology*, **osteomlákiā**; Celtic **móltōn**, *sheep*, as O.Fr. *moton* into Eng. *mutton*; zero-grade **mlús**, *blunt, dull, dim*, as Gk. *amblus*. Other derivatives include Skr. *mrduh*, Lat. *molere*, Gk. *myle*, O.C.S. *mlato*, also borrowing Finnish *mallas*.

English “soft” comes from O.E. *softe* “gentle, easy, comfortable”, from W.Gmc. *samfti*, MIE from Gmc. *samftijaz* “level, even, smooth, gentle, soft” (cf. O.S. *safti*, O.H.G. *semfti*, Ger. *sanft*, M.Du. *sachte*, Du. *zacht*), MIE **sombhtis**, **sombhtijós**, from IE base **som-** “fitting, agreeable”, as in modern English compound **sombhtoworá**, *software*.

For PIE **wer**, *perceive, watch out for*, compare **(kom)worós**, *watchful, aware, alert, wary*, as Gmc. *(ga)waraz* (cf. Goth. *wars*, O.N. *varr*, O.S. *giwar*, O.E. *(ge)wær*, O.H.G. *giwar*, M.Du. *gheware*, Eng. *wary*, Ger. *gewahr*); suffixed **wórtos**, *guard, watching, keeper*, as Gmc. *wardaz* (cf. O.S. *ward*, O.N. *vörðr*, O.E. *weard*, O.H.G. *wart*, also Fr., Da. *garde*, Spa., Pt. *guarda*, also into Eng. ‘lord’ and ‘steward’), and **wortā**, *guard, ward*, as Gmc. *wardōn* (cf. O.N. *varða*, O.S. *wardon*, O.E. *warian*, *wearian*, O.Fris. *wardia*, O.H.G. *warten*, M.Du. *waerden* Ger. *warten*, O.N.Fr. *warder*, O.Fr. *garder*); **worá**, *goods, protection, ware*, as Gmc. *waro* (cf. O.E. *waru*, O.Fris. *were*, M.Du. *were*, M.H.G., Ger. *ware*, Du. *waar*, Swed. *vara*, Dan. *vare*), as in English loan translations **sombhtoworá**, *software*, and **kartuworá**, *hardware* (see **kratós**); also, suffixed **wóruos**, *guard*, as Gk. *ouros*; variant **sworā**, see, as Gk. *horān*, in **panswóramn**, *panorama*; suffixed **werē**, *respect, feel awe for*, as Lat. *uerērī*, in **rewerē**, *revere*.

b. MIE **mel**, *strong, great*, **meliós**, *better* (originally “stronger”), as Lat. *melior*, in **meliosā**, *meliorate*; suffixed zero-grade **mltos**, *much, many*, as Lat. *multus*; compare also Osc. *moltam*, Umbr. *motar, mutu*, Gk. *mela*, Ltv. *milns*.

c. IE **mel**, *false, bad, wrong*, gives Latin **mális**, *ill*, **malós**, *bad*, (< **mali-chnós**, *harmful*, from IE **chen**), as in **malghábitos**, *malady*, from **mali-ghabitós**, *in poor condition* (see **ghabh**), **malária**, “bad air”, *malaria* (from **malá-áweriā**), **malidhaktór**, *malefactor*, **malidhakós**, *malefic*, etc.; zero-grade **mls**, into **mlsbhāmós**, “speaking evil”, *blaspheme* (from **bhā**, *speak*); **meliós**, *treacherous*, as Av. *mairiia-*, into Eng. ‘markhor’.

II. Germanic has:

II.A. English “wife” is possibly from PIE nominal root **ghwībhs**, *shame, pudenda*, as Toch. *kip/kwipe*, “female pudenda”, giving **(gh)wíbhom**, *woman, wife*, (with semantic weakening from the original meaning) from Gmc. *wībam* (cf. O.N. *vif*, O.S., O.Fris., O.E. *wif*, Dan., Swed. *viv*, M.Du. *wijf*, O.H.G. *wib*, Ger. *Weib*). Some reconstruct this root as ultimately from the same source as general IE **cénā**, *woman*.

English “woman” is an especial compound restricted to English and Dutch, lit. “woman-man”, O.E. *wīfmann*, from *wīf* (‘adult female’, Eng. *wife*) and *mann*, later *wimman* (pl. *wimmen*), as Du. *vrouwmen*, “wife”; it was originally opposed to *wæpen-mann*, “weapon-man”, *male*, with clear sexual overtones.

MIE **wébnom**, *weapon*, is the regular IE reconstruction of Gmc. *wepnam* (cf. O.S. *wapan*, O.N. *vapn*, Dan. *vaaben*, O.Fris. *wepin*, M.Du. *wapen*, O.H.G. *waffen*, Ger. *Waffe*), without known derivatives outside Germanic.

II.B. Indo-European **prówā**, *mistress, woman*, gives Gmc. *frawō* (cf. O.H.G. *frouwa*, M.H.G. *vrouwe*, Ger. *Frau*, Du. *vrouw*, Yiddish *froy*), and comes from PIE **per**.

III. Common Hindustani *aurat* (cf. Urdu عورت, Hindi 3f) comes from Pers. عورت, in turn from Arabic عَوْرَة (*imperfection*), although the usual Persian word is *zæn*, from Indo-European **cénā**.

121. Proto-Indo-European **ékwos** may have been a suffixed form **eku-** akin to the lengthened o-grade adjective **ōkús**, *swift, fast* (as Lat. *ocior, ocius*, Gk. *ὠκύς*, Skr. *āsús*); compare Gmc. *ekhwaz* (cf. Goth. *aiha*, O.N. *iór*, O.Eng. *eoh*) Lat. *equus*, Gk. *ἵππος*, Skt. *asva*, Av. *asva-*, Phryg. *es'*, Pers. *aspa/asb*, Kamviri *ušpa*, Toch. *yuk/yakwe*; Old. Pruss. *awinan*, Lith. *ašva*, Gaul. *epos*, O.Ir. *ech/each*; Welsh *ebol*; Arm. *ēš*, Thrac. *esvas*, Venetic *ekvon*; Hitt. *asuwās* Lyc. *esbe-*. Common words derived from Greek are **ekwopótmos**, *hippopotamus* (from Gk. **pótmos**, *river*, from **pet**, v.i.), lit. “river-horse”, **ekwokámpos**, *hippocampus*, **ekwodrómos** (from Gk. -δρόμος, *racecourse*), *hippodrome*, **ekwogrúps**, *hippogriff* (from It. *grifo*, Lat. *gryphus*, Gk. *grúps*).

For PIE **pet**, *rush, fly*, compare derivatives **petrā**, *feather*, as Gmc. *fethrō* (cf. O.N. *fjöðr*, O.E. *feðer*, M.Du. *vedere*, Ger. *Feder*), **peto**, *go toward, seek*, as Lat. *petere*, as in **petitiōn**, **petolānts**, *petulant*, **adpeto**, *strive after*, **adpetitos**, *strong desire, appetite*, **kompeto**, *compete*, **enpeto**, *attack*, **énpetus**, *impetus*, **enpetuós**, *impetuous*, **repeto**, *repeat*; **pétnā**, *feather, wing*, as Lat. *penna, pinna*, as in diminutive **petnákolom**, *pinnacle*; **propetiós** (in compound with **pro-**, *forward*), *favorable, gracious, propitious*, originally a religious term meaning “*falling or rushing forward*”, hence “*eager*,” “*well-disposed*” said of the gods; also, from alternative root **pte-**, **ptérōn**, *feather, wing*, and **ptérũks**, *wing*, as Gk. *περον*, as in compounds **ptero-** and **-pteros**, **-pterũks**; **ptílōn**, *soft feathers, down, plume*; **pténos**, *winged, flying*; reduplicate **pipto**, *fall*, and verbal adjective **ptōtós**, *falling, fallen*, and nominal derivatives **ptōtis**, *fall, ptosis*, and **ptóm̄n**, *a fall, fallen body, corpse*, as in **kompipto**, *converge, coincide*, from which **komp̄tōtós**, *intersecting*, and **ñkomp̄tōtós**, *not intersecting, asymptote*, and also **kóm̄ptōm̄n**, *a happening, symptom of a disease*; o-grade **pótmos** (in compound with Gk. suffix *-amo-*), “*rushing water*”, *river*; **péttrom**, *feather, leaf*, as Skr. *pattram*.

Modern English “*horse*” comes from Gmc. *khursaz* (cf. O.Eng. *hors*, O.N. *hross*, O.Fris. *hors*, M.Du. *ors*, Du. *ros*, O.H.G. *hros*, Ger. *Roß*), which has an uncertain origin; following Germanic phonetic changes it should be translated as MIE **k̄rsos**, which is possibly related with PIE **kers**, *run* (cf. O.N. *horskr*, Lat. *currere*, Lith. *karsiu*, Celtic *karr*), hence maybe originally the same PIE word **k̄rsos**, giving Celtic **kárros**, *wagon*.

122. For PIE **gher**, *grasp, enclose*, compare derivatives as verb **ghrdhio**, *gird, girt*, and noun **ghrdhs**, *girdle, girth*, as Gmc. *gurd-* (cf. O.N. *gjördh*, O.E. *gyrdan, gyrdel*); suffixed o-grade **ghórtos** (or Gmc. **ghórdhos**), *enclosure, hence garden, pasture, field*, as Gmc. *gardaz* (cf. Goth. *gards*, O.N. *garðr*, O.E. *geard*, O.Fris. *garda*, O.H.G. *garto*, Du. *gaard*), Lat. *hortus*, Gk. *khortos*, O.Ir. *gort*, Bret. *garz*, and also, with a wider meaning of *house, village, town, city*, compare Goth. *garþs* and O.Ice. *gerði*, Phryg. *-gordum*, Gk. *κορθίλαι*, Alb. *garth, -dhi*, Toch. *kerciye* (from **ghórdhiom**), and (not satemized) O.Ind. *gr̄hás*, Av. *garəðō*, Lith. *gařdas, gardinys*, O.C.S. *zpadŭ*, Rus. *zopod, -zpad*, Pol. *gród*, hence Proto-Balto-Slavic *gardōs*, suggesting an irregular evolution (for satemized Baltic forms, cf. O.Pruss. *sardis*, Ltv. *zardi*). Also, prefixed and suffixed zero-grade **komghrtis**, *enclosure, yard, company of soldiers, multitude, cohort*, as Lat. *cohors, cohortis*, or *cors, cortis*, hence also *court*, as in **komghrtisiā**, *courtesy, curtsy*, or **komghrtitiā**, *cortege*, **komghrtitiānos**, *courtier*, (from It. *cortigiano*) and **komghrtitiānā**, *courtesan*; and Greek **ghóros**, *dancing ground, dance, dramatic chorus*, as in **ghorális**, *choral, chorale* (for Med.Lat. *cantus chorális*, MIE **ghorális kántos**), or **ghoristā**, *chorister*, etc.

123. Adjective **swādús**, *sweet, pleasant*, is the origin of Gk. *ἡδύς*, Skr. *svādu*, Av. *xwāsta*, Toch. *swār/swāre*, Lith. *sūdyti*, Polish *ślodki*, Gaul. *Suadu*, O.Ir. *sant*, Welsh *chwant*, and even of further suffixed **swāduis*, *delightful*, as Lat. *suāuis*. Also, compare derivatives from PIE root **swād-**, as **swādiós**, *sweet*, as Gmc. *swotijaz* (cf. Goth. *sutis*, O.N. *sötr*, O.S. *swoti*, O.E. *swēte*, O.H.G. *suozī*, M.Du. *soete*, Eng. *sweet*, Ger. *süß*); **swādē**, *advise, urge* (<“*recommend as good*”), as in modern derivatives **swástiōn** (<**swādtio-*), *advice*, **disswādē**, **perswādē**; also, **swādōs**, *pleasure, aedes*, as Gk. *ἡδός*, and further suffixed **swādonā**, *pleasure*, as Gk. *ἡδονή*, giving modern derivatives **swādonikós**, *hedonic*, and **swādonísmos**, *hedonism*.

124. PIE root **neqt-** comes probably from an older verbal root **nec**, *be dark, be night*. Common words attested are usually from o-grade **nóqts/nóqtis** (but compare older Hitt. *nekuz*, maybe from IE II **néqus**), as Gmc. *nakhts* (cf. Goth. *nahts*, O.N. *natt*, O.E. *niht, neaht*, O.H.G. *naht*, O.Fris., Du., Ger. *nacht*), Lat. *nox* (stem *noct-*),

Gk. *νύξ*, Skr. *nakti*, Toch. *nakcu/nekciye*, Old Prussian *naktin*, Lith. *naktis*, Ltv. *nakts*, O.C.S. *nosti*, Russ. *ночь*, Polish *noc*, O.Ir. *innocht*, Welsh *nos*, Alb. *natë*. Derivatives include **nóqtuā**, *night owl*; and suffixed plain verbal root **necrós**, *black*, as Lat. *niger*, as in **denecrā**, *blacken, soil*, hence *denigrate*.

125. For PIE **mreghús**, *brief*, compare zero-grade **mrghijós**, “*short-lasting*”, hence *pleasant*, as Gmc. *murgijaz* (cf. Goth. *gamaurgjan*, O.E. *myrige*, O.H.G. *murgi*, Eng. *merry*), or extended **mreghúis*, as Lat. *brevis*; compare also Gk. *brakhus*, Av. *mərəzujiti*.

126. Indo-European **kan**, *sing*, gives Gmc. *khannjo* (cf. O.E. *hana*, O.H.G. *henna*, M.Du. *henne*), *khan(e)nī* (cf. O.E. *hen, henn*), Lat. *canere*, frequentative **kantā**, as Lat. *cantāre*, as in **kantātā**, **adkántos**, *accent*, **enkantā**, *enchant*, **enkantātiōn**, *incantation*, **enkántēiuos**, *incentive*; suffixed **kánā**, *singer*; **opskan**, “*one that sings before the augurs*”, as Lat. *oscen*, *a singing bird used in divination*; **kánmēn**, *song, poem, charm*, Lat. *carmen*.

127. Different PIE words for “*ship, nave*”:

I. For Indo-European **náus/náwis**, *ship, nave*, possibly from an earlier verbal root **nau**, *swim*, compare O.E. *nōwend*, ON *nōr*, Lat. *navis*, Gk. *ναύς*, Skr. *nāu*, Av. *navāza*, O.Pers. *nāviyā*, Arm. *nav*, Ir. *nau*, Welsh *noe*, Alb. *anije*, Osset. *nau*. Common derivatives include **nawālis**, *naval*, **nawigā**, *navigate*, **náwigiom**, *ship*, (pl. **náwigiā**, *ships*, from which Eng. *navy*); from Gk. *ναύς, ναύτης*, are MIE **náutā**, *sailor, mariner*, **nautikós**, *nautical*, **nautílos**, *sailor, nautilus*, **āweronáutā**, *aeuronaut* (see **wer**, *air*), **aqanáutā**, *aquanaut* (see **aqā**, *water*), **astronáutā**, *astronaut* (see **astér**, *star*), **kosmonáutā**, *cosmonaut* (from Gk. **kósmos**, *cosmos*).

I.1. The English term “*mariner*” comes from PIE **móris**, *sea, lake, pond*, as Gmc. *mariz* (cf. Goth. *marei*, O.N. *marr*, O.E. *mere*, O.H.G. *marī*, M.Du. *meer*, Ger. *Meer*), Lat. *mare*, Skr. *maryādā*, O.Pruss. *mary*, Lith. *marios*, Ltv. *mare*, O.C.S. *morje*, Russ. *more*, Polish *morze*, Gaul. (Are) *morici*, O.Ir. *muir*, Welsh *môr*, Alb. *përmjerr*; giving derivatives **móriskos**, *marsh, water-logged land*, as Gmc. *mariskaz* (cf. O.E. *mersc, merisc*, O.Fr. *maresc, mareis*, Du. *mars*, Ger. *Marsch*); **morinós**, *marine*, **moriqéltosā**, *mariculture*, **oltrāmorinós**, *ultramarine*.

I.2. For IE **áwis** (earlier **h₂ewis*), *bird*, compare Lat. *avis*, Umb. *avif*, Gk. *aetos*, Skr. *vis*, Av. *viš*, Arm. *hav*, Lith. *višta*, Ltv. *vista*, Ir. *aoi*, Welsh *hwyad*; derivatives include **awiāsiós**, *aviary*, **awiqéltosā**, *aviculture*, **awiātiōn**, *aviation*, and MIE loan word for *aeroplane*, **awión** (cf. Fr. *avion*, Spa. *avión*, Pt. *avião*, Rom., Slo. *avion*); **awispéks**, *augur, auspice* (“*observer of birds*”, see **spek**, *observe*).

Possibly from o-grade are **ówjom**, *egg* (also alternative form **ójjom**, both from earlier **h₁óh₂wiom*), as Gmc. *ajjam* (cf. Goth. *ada*, O.N. *egg*, O.E. *æg*, O.H.G. *ei*, Eng. [cockn]ey) Lat. *ōuum*, Gk. *ōion*, Pers. *xāyah*, Kurd. *hék*, Arm. *dzu*, O.C.S. *ajise*, Rus. *jajco*, Ir. *ubh*, Welsh *ŵy*, Bret. *ui*, Alb. *ve,vo*. From Latin are **owjalís**, *oval*, **ówjolos**, *ovule, ovolo*, or **owjásios**, *ovary*; from dim. **owjókos**, O.Ira. *āvyakah*, are MIE ‘*partial*’ loan word **owjár** or ‘*full*’ loan word **kawjár**, *caviar*, from M.Pers. *khāvyar*, through Turkish into French *caviar*.

For “*aeroplane*”, different words exist in MIE, as loan words (from English using Latin words) **āweroplánom**, from **āwēr+plánom** (cf. Lat. *aeroplanum*, Eng. *airplane*, Gk. *αεροπλάνο*, It., Spa., Pt. *aeroplano*, Lith. *aeroplanas*, Russ. *аэроплан*, Pol. *aeroplan*, Alb. *aeroplan*, even Saami *jarplan*, Hebrew *āvīrōn*, etc.), Germanic **pleukomāghaná**, from **pléuk+māghaná** (cf. Ger. *Flugmaschine*, Da. *flyvemaskine*, *flyver*, Swe. *flygmaskin*, Fris. *fleanmaschine*) or **plánom** (cf. Swe. [flyg]plan, Eng. *plane*), Balto-Slavic **[somo]lékts** (m., cf. Lith. *lėktuvas*, Russ. *самолёт*, Ukr. *лімак*, Pol. *samolot*, Cz. *letadlo, letoun*, Slk. *lietadlo*, Bulg. *самолет*, Slo. *letaló*).

An Indo-European root (**á**)**wer**, *raise, lift, hold suspended*, older **h₂wer*, is reconstructed for different Greek derivatives: **awero**, *raise*, and **awrtériā**, *windpipe, artery*, also **metáworos**, *meteor, “lifted in the air”* (from **méta-**, *meta-*, and **-aworós**, *lifted*), Gk. μετέωρος; **áwēr**, *air* (from lengthened **āwer-**), as in **āweriālis**, *aerial*, or **malá-āweriā**, *malaria*, lit. “*bad air*” (see Lat. **malós**, *bad*); zero-grade **áurā**, *breath, vapor, aura*.

For Indo-European **pleu**, *flow*, compare metathesized Lat. *pluere*, *rain*, as in **plewiós**, *rainy, pluvius*, **plewiālis**, *pluvial*; Greek **pléutis**, *sailing, pleusis*; zero-grade suffixed **plúos**, *trough, basin*, dissimilated in Greek *pyelos*; suffixed **plémōn**, “*floaters*”, *lung*, as Lat. *pulm* (from *plumon*), Gk. *pneumōn* (influenced by **pneu**, “*breath*”), Skr. *kloman*, O.Pruss. *plauti*, Lith. *plaučiai*, Ltv. *plaušas*, Russ. *pljuče*, Serb. *pluća*, as in **pleumonós/pleumonāsiós**, *pulmonary*, or **pleumoníā**, *pneumonia*; o-grade **plóutos**, *wealth, riches* (<“*overflowing*”), as in **ploutokratíā**, *plutocracy* (see **kratos**), as Gk. *πλουτοκρατία*; o-grade lengthened **plōwo**, *flow*, as Gmc. *flōwan* (cf. O.N. *flóa*, O.E. *flōwan*, O.H.G. *flouwen*, Du. *vloeien*), suffixed **plótus**, *flowing water, deluge, flood*, as Gmc. *flōthuz* (cf. Goth. *fiodus*, O.N. *flōð*, O.E. *flōd*, O.Fris. *flod*, M.Du. *vloet*, Ger. *Flut*); extended **pleuko**, *soar through air, fly*, also *swim*, as Gmc. *fleugan* (cf. O.N. *flügja*, O.E. *flēogan*, O.H.G. *fliogan*, M.Du. *vlieghe*, Ger. *fliegen*), Lith. *plaukiu*, and **pléukā**, *fly, flying insect*, as Gmc. *fleugōn* (cf. O.S. *fleiga*, O.N. *fluga*, O.E. *flēoge*, M.Du. *vlieghe*, Ger. *Fliege*), and also maybe **pleuko**, *flee, take flight*, as Gmc. *fleukhan* (cf. O.N. *flöja*, O.E. *flēon*, O.H.G. *fliohan*, Du. *vlieden*, Ger. *fliehen*, although sometimes reconstructed as Gmc. *thleukhan*, as Goth. *þliuhan*, then later influenced by this root), causative **ploukio**, *put to flight*, as Gmc. *flaugjan* (cf. O.E. *flygan*, *flegan*, Eng. *fley*), **pléukikā**, *arrow*, from Gmc. *fleugika* (cf. Frankish into O.Fr. *flèche*, It. *freccia*, Spa.,Pt. *flecha*); zero-grade **plúktis**, *flight*, as Gmc. *flugtiz* (cf. O.E. *flyht*, *fluht*, Low Ger. *flugt*, Ger. *Flucht*); also **plúgos**, *bird*, dissimilated as Gmc. *fuglaz* (cf. Gothic *fugls*, O.E. *fugol*, O.N. *fugl*, M.Du. *voghel*, Ger. *vogel*, Goth. *fugls*), also in **plúgilos**, *wing*, as Gmc. *flugilaz* (cf. M.H.G. *vlügel*, Ger. *Flügel*); extended **pleudo**, *float, swim*, as Gmc. *fleutan* (cf. O.E. *flēotan*), and **pléutos**, *fleet, swift*, as Gmc. *fleutaz* (cf. O.N. *fljōtr*, O.E. *fleot*), also as zero-grade **plud(i)o**, *float*, as Gmc. *flotōn* (cf. O.E. *flotian*, Fr. *flotter*, Spa. *flotar*, also from same root Lith. *plaukti*, Du. *vloeien*),

PIE **pneu**, *breath*, is probably an imitative root, which appears in **pneuso**, *sneeze*, as Gmc. *fneusan* (cf. O.N. *fnysa*, O.E. *fnēosan*, O.H.G. *fnehan*, Eng. *sneeze*), zero-grade **pnus(k)o**, *sneezing, snore*, as Gmc. *fnus(k)an* (affected by rhotacism, cf. O.E. *fnora*, similar to M.H.G. *snarchen*, Du. *snorken*, Ger. *schnarchen*, Swed. *snarka*), and variant **pneso**, *snort, gnash one’s teeth*, as Gmc. *fnesan* (cf. O.E. *fnæran*, Eng. *sneer*). Modern Greek derivatives include o-grade **pnówiā**, **-pnowiā**, *breathing*, and **pnowā**, *breath*, as in **ἡpnówiā**, *apnea*, **(a)supnówiā**, *eupnea*, **superpnówiā**, *hyperpnea*, **supopnówiā**, *hypopnea*, etc.; also, **pnéumn**, *breath, wind, spirit*, as in **pneumo-**, **pneumnto-**.

Also, a Modern Indo-European reconstructed **lúptus**, *air, sky*, is the source of Gmc. *luftuz* (cf. Goth. *luftus*, O.E. *lyft*, O.N. *lopt*, O.H.G. *luft*, Du. *lucht*).

For **magh**, *be able, have power*, compare Gmc. *magan* (cf. Goth. *magan*, O.N. *mega*, O.E. *magan*, O.H.G. *magan*, Ger. *mögen*, Eng. *may*, also into V.Lat. *exmagāre*, MIE **[d]eksmaghā**, “*deprive of power*”, *frighten*, O.Fr. *esmaier*, Anglo-Norman *desmaier*, Eng. *dismay*, Spa. *desmayar*), Att.Gk. *μῆχος*, Dor.Gk. *μᾶχος*, Skr. *magha*, Toch. *mokats*, Arm. *mart’ans*, Lith. *māgulas*, *magùs*, *mégstu*, *mégti* Ltv. *megt*, Sla. *mogø*, *mogti*, (cf. O.C.S. *могъ*, *моути*, O.Russ. *могу*, *мочу*, Russ. *мочь*, Pol. *móc*, *mogę*, Sr.-Cr. *могу*, *моћу*, Cz. *moħu*, *můžeš*,

moci); **mághtis**, *power*, as Gmc. *mahtiz* (cf. Goth. *mahts*, O.N. *matr*, O.E. *miht*, *meht*, O.Fris., M.Du. *macht*, Ger. *Macht*, Eng. *might*), **mághinom**, *power, strenght*, as Gmc. *maginam* (cf. O.E. *mægen*, O.N. *megenn*, Eng. *main*); suffixed lengthened **māghaná**, *machine, device*, “*that which enables*”, from Att.Gk. *μηχανή*, Dor.Gk. *μαχανά*, **māghanikós**, *mechanic*, and **māghanísmos**, *mechanism*, from Mod.Lat. *mēchanismus*, or **māghano-**; suffixed **mághus**, *magus, member of a priestly caste, magician*, (from “mighty one”), as O.Pers. *maguš* (said by ancient historians to have been originally the name of a Median tribe, borrowed into Gk. *μάγος* and then into Lat. *magus*), as in **maghikós**, *magic*, or **mághikā**, *sorcery, magic*, (as O.Fr. *magique*, from Lat. *magice*, from Gk. *magikē*, fem. of *magikos*) or **Mághes**, *Magi*.

Common MIE **lekto**, *fly* (cf. O.C.S. *летѣти, лештѣ*, Russ. *лететь*, Pol. *lecieć, leceć*, also O.C.S. *лѣтати*, Russ. *летать* Pol. *latać*), and noun **lekts**, “*flyer*”, *airplane*, (cf. Russ. *лѣт*, Sr.-Cr.,Slo. *lèt*, Pol. *lot*, Cz. *let*) is reconstructed for Balto-Slavic common words, cf. Lith. *lekiù, lėkti, lakstýti*, Ltv. *lèkt, lēcu, lēcu, lēkat*; compare also O.H.G. *lecken*, Nor. *lakka*, Ger. *löcken*, Lat. *lōcusta*, Gk. *ληκῶν, λάξ, λακτίζω*.

I.3. PIE (a)**stér**, earlier **h₂ster*, is found in Gk. *ἀστήρ*, **asterískos**, *asterisk*, **asterowéidā**, *asteorid* (in compound with Gk. *-ο-ειδής*, IE **-o-weidā**, from **wéidos**, *shape, form*, from **weid**, *see, know*) as Gk. *ἀστεροειδής*, **astro-**, as Gk. *ἀστρο-*, **astrālís**, *astral*, **ástrom**, as Gk. *astron*, into Lat. *astrum*, as in **disástrom**, *disaster*; suffixed **stersā**, Gmc. *sterzōn* (cf. Goth. *stairno*, O.S. *sterro*, O.N. *stjarna*, O.E. *steorra*, O.Fris. *stera*, O.H.G. *sterro*, Du. *ster*, Ger. *Stern*), **stérlā**, as Lat. *stēlla*, as in **sterlalís**, *stellar*, **komsterlātiōn**, *constellation*. Also, compare Skr. *tāras*, *str̥bhis*, Pers. *setāre*, Kurd. *stérk/estére*, Oss. *sthaly*, Toch. *šre/šcírye*, Arm. *astl*, Welsh *seren*, Kam. *ṛášto*, Hitt. *šittar*.

II. Indo-European **bheid**, *split*, as Gmc. *bītan* (cf. Goth. *beitan*, O.E. *bītan*, O.Fris. *bita*, M.Du. *biten*, Ger. *beissen*), zero-grade **bhídís**, *bite, sting*, as Gmc. *bitiz* (cf. O.E. *bite*), or **bhídā**, *bit, a pice bitten off*, as Gmc. *bitōn* (cf. O.N. *biti*, O.E. *bite, bita*), **bhidhrós**, *bitter, sharp*, as O.E. *bit(t)er*, **bhoidhio**, *harass or hunt with dogs*, as Eng. *bait* or *abet*, Gmc. *baitjan* (cf. O.N. *beita*, O.Fr. *beter*), **bhóids**, *boat* (< “*dugout canoe*” or “*split planking*”), as Gmc. *bait-* (cf. O.E. *bāt*, Ger., Du. *boot*, Da.,Nor.,Swe. *båt*, also O.Fr. *batel*, Fr. *bateau*, It. *battello*, Spa. *bote*, Sco. *bàta*, Welsh *bad*, Hi. *pot*, even Estonian *paat*, Japanese *bōto*, etc.); also nasalized zero-grade **bhindo**, *split*, as Lat. *findere*, with p.part. **bhistós** (<**bhidto-*) giving **bhístiōn**, *fission*, **bhistósā**, *fissure*.

III. Greek *baris* “*Egyptian boat*”, from Coptic *bari* “*small boat*”, was adopted as **bár(i)kā** in Latin, as O.Fr. *barge* (from M.L. *barga*, and into Bret. *bag*, Eng. *barge*), Gk. *βάρκα*, It. *barca*, Spa., Pt. *barco, barca*, Rom. *barcă*, Alb. *varkë*, Slo. *barka*.

IV. Germanic “*ship*” is reconstructed as MIE **skibs**, *ship, boat*, from Gmc. *skip-* (cf. O.N., O.S., Goth. *skip*, O.E., M.Du. *scip*, O.H.G. *skif*, Dan. *skib*, Swed. *skepp*, Du. *ship*, Ger. *Schiff*, Yid. *shif*), possibly a zero-grade extended derivative from **skei** (in turn derived from PIE **sek**), *cut, split*, giving suffixed **skéinā**, *shin, shinbone*, (as O.E. *scinu*), or **ekskéinā**, *backbone, chine*, as O.Fr. *eschine*; from Lat. *scire*, “*know*” (from “*separate one thing from nother, discern*”), are MIE **skejéntia**, *knowledge, learning, science*, **komskejéntiā**, *conscience*, inchoative **skeisko**, *vote for*, giving **skéitom**, *decree*, from which **pledhuweskéitom**, *plebiscite* (see **plēdhūs**, *people*); **skíjenā**, *knife*, as O.Ir. *scīan*, Eng. *skean*; **skeido**, *separate, defecate*, as Gmc. *skītan* (cf. O.N. *skīta*, O.E. *scītan*, O.H.G. *skīzzan*, Eng. *shīt*); **skidio**, *split*, as (aspirated) Gk. *σχίζειν*, found in **skísmn**, *schism*, **skidio-**, *schizo-*; nasalized zero-grade **skindo**, *split*, as Lat. *scindere*, p.part. **skistós** (<**skidto-*), in **skístiōn**, *scission*, also in

ekskindo, *exscind*, **prāiskindo**, *prescind*, **reskindo**, *rescind*; extended **skeito**, *separate*, as Gmc. *skaithan* (cf. Goth. *skaidan*, O.S. *skethan*, O.E. *scēadan*, *scadan*, O.Fris. *sketha*, M.Du. *sceiden*, O.H.G. *sceidan*, Du. *scheiden*, Ger. *scheiden*), **skéitom**, *log*, *stick*, *snowshoe*, hence *ski*, as O.N. *skīdh*, from Gmc. *skīdam*, also as MIE loan word **skī(t)**; **skóitom**, *shield* (< “board”), as Lat. *scūtum*; extended *skeipo*, *slice*, *split*, as Gmc. *skīfan*, as in O.N. *skīfa*, M.E. *sheve*, M.L.G. *schever*, Eng. *sheave*, *skive*, *shiver*.

V. For Slavic “*lod-*” (cf. O.C.S. *лъдуи*, *ладуи*, O.Russ. *лодья*, *лодка*, Ukr. *лодь*, Bel. *лодка*, Pol. *łódź*, Cz. *lod’*, *lodí*, Sr.-Cr. *lađa*, Slo. *ládja*, Bul. *ла́дя*) a common Slavic *oldī*, MIE **óldīs**, is reconstructed (cf. Lith. *aldijà*, *eldijà*), also attested as O.E. *ealdod*, “*alviolum*”, Swe. *ålla*, Da. *aalde*, *olde*, Nor. *olda*, dial. *olle*.

VI. Common Greek loan words for “*boat*”, also “*crab*, *beetle*”, are **karábiōn**, as Gk. *καράβιον*, borrowed in O.C.S., Russ. *корабль*, O.Pol. *korabia*, Ukr. *корабель*, Slk. *koráb*, Sr.-Cr. *korab*, *корабаль*, also Rom. *caraban*, also **kárabos**, as Gk. *κάραβος*, borrowed in Lat. *carabus* (cf. Fr. *caravelle*, It. *caravella*, Spa. *carabela*, Pt. *caravela*), Alb. *karabishte*, even Arab *qārib*, as well as (probably) **skarabáios**, *scarab*, as V.Lat. *scarabaius* (cf. Fr. *scarabée*, It. *scarabeo*, Spa. *scarabajo*, Pt. *escaravelho*, also in Gk. *Σκαραβαίος*, Russ., Bul. *скарабеѝ*, Sr.-Cr. *skarabej*, etc.). Probably unrelated to Eng. “*crab*”, from IE **gerbh**, “*scratch*”.

VII. For Persian *کشتی* (*kešti*), “*ship*”, found in Hindustani *kašti* (cf. Hi. *कशी*, Ur. *کشتی*), from a source akin to Indo-Iranian *kath*, “*wood*”, MIE **kadh**, **kástis** (< **kadhti-*), possibly non-IE, but maybe a secondary root derived from an earlier **ka-*, related to *forest*, *wood*; compare with Indo-European roots **kat-** (“*hut*”, cf. Lat. *casa*, Av. *kata-*, Pers. *kad*, v.s.), **kaito-** (“*forest*”, v.i) and **kald-** (“*wood*”, as O.C.S. *klada* “*beam*, *timber*”, Gk. *klados* “*twig*”, O.Ir. *caill* “*wood*”, and zero-grade **kídom**, Gmc. *khultam*, cf. O.E., O.Fris., M.Du. *holt*, O.H.G. *holz*)

Indo-European root **kaito-**, *forest*, *uncultivated land*, also *wood*, is attested (in Celtic and Germanic) as Gaul. *kaito-briga* (Lat. *cēto-briga*), O.Welsh *coit*, O.Cor. *cuit*, Bret. *coet*, and also from **káitis**, Gmc. *khaithis* (cf. Goth. *haiþi*, O.N. *heiðr*, O.E. *hæð*, O.H.G. *heida*, Eng. *heath*, Ger. *heide*), and loan-translated Germanic **káitinos**, *heathen*, as Gmc. *khaithinaz* (cf. Goth. *haiþnō*, O.N. *heiðinn*, O.E. *hæðen*, O.H.G. *heidan*), from Lat. *paganus*, from Lat. *pagus*, “*land*”.

Proto-Indo-European **pag**, also **pak**, *fasten*, gives **pakio**, *join*, *fit*, as gmc. *fōgjan* (cf. O.E. *fēgan*, Eng. *fay*), nasalized **panko**, *seize*, as Gmc. *panhan* (cf. O.E. *fang*, *feng*, Du. *vangen*, O.H.G. *fangen*), and **pango**, *fasten*, as Lat. *pangere*, as in **enpango**, *impinge*, or loan words **kompagtós**, *compact*, **enpágtos**, *impact*; **pāks**, *peace* (from “*a binding together by treaty or agreement*”), as Lat. *pax*, in **pakidhakā**, *pacify*, **pakidhakós**, *pacific*; **pakisko**, *agree*, as Lat. *paciscī*, as **paktós**, *agreed*, **páktom**, *pact*; **pákslos**, *stake* (*fixed in the ground*), *pole*, as Lat. *pālus*, in MIE **pákslikiā**, *palisade* (from V.Lat. *pālicea*, into Prov. *palissada*, Fr. *palissade*, Spa. *palizada*), **enpakslā**, *impale*, **tripakslīā**, *work hard* (from **tripáksliom**, *instrument of torture*, from **tri-pakslī**, *having three stakes*, Lat. *tripaliāre*, Fr. *travailler*, It. *travagliare*, Spa. *trabajar*, Pt. *trabalhar*, Cat. *treballar*, Filipino *trabaho*, etc., also Eng. *travel*, from Fr. *travail*); loan **pákslā**, *spade*, as Lat. *pāla*; lengthened-grade **págos**, “*boundary staked out on the ground*,” *district*, *village*, *country* (cf. Fr. *pays*, It. *paese*, Pt., Spa., Cat. *país*, Rom. *pajais*), as in **pāgānós**, *country-dweller*, *civilian*, then extended as *pagan*, and **pāgéntis**, *inhabitant of a district* (as Lat. *pāgēnsis*, M.Fr. *paisant*, Eng. *peasant*, Spa. *paisano*, Cat. *pagès*, etc.), **pāginā**, “*trellis to which a row of vines is fixed*”, hence (by metaphor) *column of writing*, *page*, as Lat. *pāgina*; **prōpāgā**, *propagate* (from “*fix*

before”, with **prō-**, *before*); **pagno**, *fasten, coagulate*, as in **pāgtós**, *coagulated*, Gk. πηκτός, or **pāgtinā**, *pectin*, and **pāgos**, *mass, hill*.

VIII. Common Slavic word *cheln*, “boat”, (cf. Russ. челн, Ukr. човен, Cz. člun, Slk. čln, Slo. čoln), MIE **tsheln**, was the name used by the Cossacks of Zaporizhian Sich within the first military campaigns of the Russian Navy against the Tatars and Turks, using sailboats and rowboats, in the 16th-17th centuries.

IX. Persian *qayeq* and Greek *καϊκι*, “boat”, are from a source akin to French *caïque*, It. *caicco*, i.e. probably Turkish *kayik*, O.Turkish *qayghug*, maybe from an old Turkic (or otherwise old Asian) word, possibly related to American Indian *kayak*, and American Spanish *cayuco*. Hence, MIE **kájik**, *boat, caïque, kájak, kayak*.

A PIE root similar (but unrelated) to these non-IE words is **kaikós**, *blind*, as Goth. *haihs*, Lat. *caecus*, Gk. *kaikias*, Skr. *kekara*, Lith. *keikti*, Polish *Kajko*, O.Ir. *caech*, Welsh *coeg*.

A common Iberian word for “bat” is MIE **kaikomūs**, “blind mouse” (cf. Gl.-Pt. *morcego*, Spa. *murciégalo*, Cat. *muricec*), from PIE **mūs**, *mouse*, Gmc. *mūs* (cf. O.N., O.Fris., M.Du., O.E., O.H.G. *mūs*, Eng. *mouse*, Ger. *Maus*), Lat. *mūs*, Gk. *mūs*, Skr. *mūṣ*, Av. *mus*, Pers. *muš*, Arm. *muk/mug*, Lith. *musė*, O.C.S. *mysu*, Russ. *мышь*, Polish *mysz*, Alb. *mi*, Kamviri *musa*. Compare for MIE **pleukomūs, lektomūs**, “flying mouse”, as Da. *flaggermus*, Nor. *flaggermus*, Swe. *fladdermus*, Fae. *flogmús*, Du. *vleermuis*, Ger. *Fledermaus*, Russ. *летучая мышь*, Bel. *ляличая мыш*;; cf. also Sr.-Cr. *slepi miš, šišmiš*, etc. Also, cf. words for *night*, Gk. *νυχτερίδα*, Lat. *uespertilio*.

X. Persian *jahāz*, also found in Hindustani (cf. Hi. जहाज, जहाज़, Ur. جہاز), is of Arabic origin.

XI. English *vessel* comes from O.Fr. *vessel*, in turn from V.Lat. *uascellum* “small vase or urn”, also “a ship” (cf. Fr. *vaisseau*, It. *vascello*, Cat. *vaixell*, Spa. *bajel*, and, from Lat. pl.n. *uascēlla*, Spa. *vajilla*, Pt. *baixela*), dim. of *uasculum*, itself a dim. of *uās* “vessel” (cf. Fr. *vase*, It., Spa., Pt. *vaso*, Cat. *vas*), hence MIE loan words **wās**, *vessel, vase, wáskolom, vessel, ship*.

128. Indo-European words for “war, battle”:

I. A common PIE word seems to have been **kóros**, *war, strife*, as O.Pers. *kāra*, Pers. *kārzār*, Kurd. *šer*, O.Pruss. *kargis*, Lith. *karas*, Ltv. *kaŗš*, Russ. *кара*, Pol. *kara*; with derivatives **kórios**, *armed force, war-band, host, army, troop*, as Gmc. *kharjaz* (cf. Goth. *harjis*, O.N. *herr*, O.E. *here*, O.H.G. *heri*, Eng. *heriot*, Ger. *Heer*), Lith. *karias*, Gaul. [Tri]corii, O.Ir. *cuire*; **koriános**, *ruler, leader, commander*, as Gk. *koiranos*; **koriobhérgnos**, “army hill”, *hill-fort, later shelter, lodging, army quarters*, as Gmc. *kharjabergaz* (cf. O.N. *herbergi*, O.E. *herebeorg*, Du. *herberg*, Ger. *Herberge*, Swedish *härbarge*; meaning shift in Eng. *harbor*, into Welsh *harbwr*, see **bhergh**, v.i. for Germanic *haven, “harbour”*); **koriowóldhos**, *army-commander, herald (woldho, rule, power, see wal)*, as Gmc. *kharja-waldaz* (cf. Anglo-Norman *herald*, Ger. [Wappen]herold, Fr. *héraut*, It. *araldo*, Spa. *heraldo*, Pt. *arauto*, etc.), **korionéstom**, “army provisions”, *harness* (from **néstom**, *food for a journey*, see **nes**), as Gmc. *kharja-nestam* (cf. O.Fr. *harneis*, Eng. *harness*); denominative **korio**, *harry, ravage, plunder, raid*, as Gmc. *kharjōn* (cf. O.E. *hergian*); **korikréngnos**, “host-ring”, *assembly, public square (kréngnos, ring, see sker)*, as Gmc. *kharihring* (cf. O.It. *aringo, arringa*, Prov. *arenga*, Eng. *harangue*, Spa. *arenga*, etc.).

I.1. PIE **wal**, *be strong*, is found as suffixed stative **walē**, Lat. *ualēre*, as in **walós**, *strong, wálōs, strength, komtrāwálōs, countervail, walénts, brave, valiant, waléntiā, valence, ambhiwaléntiā, ambivalence, walidós, valid, ŋwalidós, invalid, adwális, avail* (from Fr. *aval*), **komwalēsko**, *convalesce, ekwaluā, evaluate, praīwalē, prevail, walideiko, say farewell*, (see **deik, show**), **walidéiktiōn, valediction, aiqiwalē**,

have equal force (as Lat. *aequi-*, Eng. *equi-*), **aiqiwalénts**, *equivalent*; extended o-grade **woldho**, *rule, govern*, as Gmc. *waldan* (cf. O.S., Goth. *waldan*, O.N. *valda*, O.E. *wealdan*, *wieldan*, O.Fris. *walda*, O.H.G. *waltan*, Ger. *walten*, Eng. *wield*), and suffixed **wólstis** (<**wold-ti-*), *rule*, as Sla. *volstь* (cf. O.C.S. *vlasti*, Russ. *власть*, *власть*), as in **opwólstis**, *oblast*, Sla. *ob-volstь* (cf. O.C.S. *область*, O.Russ. *облоость*, Cz. *oblast*, etc.).

PIE verbal root **deik**, *show, pronounce solemnly*, gives Lat. *dīcere*, *say, tell*, as in borrowings **déiktiōn**, *diction*, **deiktā**, *dictate*, **déiktātos**, *dictate*, **déiktom**, *dictum*, **addeiktós**, *addict*, **dwenideiko** (see **dwenós**, *good*), *bless*, **dwenédéiktiōn**, *benediction*, **komdéikiōn**, *condition*, **komtrādeiko**, *contradict*, **ekdeiko**, *edict*, **enterdéiktom**, *interdict*, **jowosesdeikós**, *juridicial*, (Lat. *iūs*, *iūris*, corresponds to MIE **jówos**, **jowosés**, see rhotacism), **jowosesdéiktiōn**, *jurisdiction*, **malideiko**, *maledict*, **prāideiko**, *predict*, **wērideiko**, “*tell the truth*” (see **wērós**, *true*), **wērideikós**, *veridical*, **wēridéiktos**, *verdict*; suffixed zero-grade verb **dikā**, *proclaim*, Lat. *dicāre*, as in **apdikā**, *abdicate*, **dedikā**, *dedicate*, **prāidikā**, *predicate*; agential suffix **-dik-**, in **éndiks**, *index, indicator, forefinger*, **endikā**, *indicate*, also **jówosdiks**, *judge*, Lat. *iūdex*, **jowosdikiālís**, *judicial*, **prāijowosdikā**, *prejudge*, **prāijowosdikiom**, *prejudice*; **wíndiks**, *surety, claimant, avenger*, as Lat. *uindex*, as in **wíndikā**, *vindicate, avenge, take revenge*; **deikno**, *show*, **déikmn**, *sample, pattern*, as in **deiktis**, *deixis*, **deiktikós**, *deictic*, **paradéikmn**, *paradigm*, **apódeiktis**, *proof, demonstration, policy* (cf. Gk. ἀπόδειξις, into Lat. *apodixa*, “*receipt*”, then It. *polizza*, into Fr. *police*, Spa. *póliza*, etc.); zero-grade **dikā**, *justice, right, court case*, as in **komdikós**, *syndic*, as Gk. σύνδικος, **dhesodikā**, *theodicy*, and **diko**, *throw* (from “*direct an object*”), as in **diskos**, *disk*, Gk. δίσκος; o-grade **doikuā**, *toe (“pointer”)*, as Gmc. *taihuo* (cf. O.N. *ta*, O.E. *tahe*, O.Fris. *tane*, O.H.G. *zecha*, M.Du. *te*). Variant form **deig-** gives o-grade **doigio**, *show, instruct*, as Gmc. *taikjan* (cf. Goth. *ga-teihan*, O.E. *tācan*, O.H.G. *zihan*, Eng. *teach*, Ger. *zeihen*), **dóignom**, *mark, sign, token*, as Gmc. *taiknam* (cf. Goth. *taikns*, O.S. *tekan*, O.N. *teikn*, O.E. *tācen*, *tācn*, O.H.G. *zeihhan*, O.Fris., M.Du. *teken*, Du. *teken*, Ger. *zeichnen*), zero-grade **dígitos**, *finger* (from “*pointer, indicator*”).

Indo-European **wērós** (earlier **werh₁-o-*), *true, trustworthy*, and **wérā**, *faithfulness, faith*, hence *pledge, agreement, promise, treaty*, gives Gmc. *wēro-* (cf. O.E. *wār*, O.Du., O.H.G. *war*, Du. *waar*, Ger. *wahr*), Lat. *verax* (cf. O.Fr. *verai*, Anglo-Fr. *verrai*, O.E. *verray*, Eng. *very*), O.C.S. *вѣра*, Russ. *вера*, Pol. *wiara*, Bul. *вяра*, Welsh *gwyr*, O.Ir. *fir*. Derivatives include **wērāks**, *truthful, veracious*, **wéritā**, *verity*, **wēridhakā**, *verify*, etc.

I.2. PIE **nes**, *turn out well, rest, return safely home*, gives O.Gk. *nehomai* (**ninsomai*), O.Ind. *nasate*, Toch. *nas-/nes-*; also, suffixed **néstom**, *food for a journey*, as Gmc. *nestam* (cf. O.E., O.H.G., O.N. *nest*), as in **korionéstom**, *harness* (for **kóros**, *war*, v.s.); o-grade **nóstos**, *a return home*, as Gk. νόστος, found in common **nostalgíā**, in compound with Gk. borrowing **-algíā**, Gk. ἀλγία, from **álgos**, *pain*, Gk. ἄλγος.

I.3. PIE **(s)ker**, *turn, bend*, gives Germanic nasalized extended **skreng**, *wither, shrivel up*, as Gmc. *skrink*, **kréngā**, *a crease, fold*, (cf. O.N. *hrukka*, Eng. *ruck*), and **krengio**, *wrinkle* (cf. Frank. *hrukjan*, O.Fr. *fronce*, Eng. *flounce*), as Gmc. *khrunk-*; nasalized extended **krénghos**, *circle, something curved, ring*, as Gmc. *khringaz*, (cf. O.E. *hring*, O.N. *hringr*, O.Fris. *hring*, M.Du. *rinc*, Ger. *Ring*), also found in O.Fr. *renc*, *reng*, “*line, row*”, which gives loan words **krenghs**, *rank, range*, **adkrengho**, *arrange*; extended *kreukios*, *back*, as Gmc. *khrujjaz* (cf. O.N. *hryggr*, O.E. *hrycg*, O.Fris. *hregg*, O.S. *hruggi*, O.H.G. *hrukki*, Du. *rug*, Eng. *ridge*, Ger. *Rücken*); suffixed variant **kurwós**, *bent, curved*, as Lat. *curuus*, as in **kúrwā**, *curve*, **kurwatós**, *curved*, or **kurwatósā**, *curvature*; suffixed extended **krísnis**, *hair*, as Lat. *crīnis*, **krístā**, *tuft, crest*, as Lat. *crista*, **kripsós**, *curly*, as

metathesized Lat. *crispus*, hence MIE **krispós**, *crisp*; expressive **krisā**, *wiggle the hips during copulation*, as Lat. *crīsāre*, in **krísom**, *crissum*; reduplicated **kíkros**, *ring* (metathesized as **kirkos* in Latin), also *circus*, **kíkrolos**, *circle*, **kikrom-**, *circum-*, **kíkrā**, *go around*, hence *search*, **rekíkrā**, *research*; suffixed o-grade **korónós**, *curved*, as in **korónā**, *anything curved, kind of crown*; variant **kurtós**, *convex*, as in **kurtósis**.

Another similar PIE root is (s)**ker**, *cut*, also “*shear, separate*” as in Gmc. *skeran* (cf. O.E. *scieran*, *sceran*, Low Ger., Du. *scheren*, Eng. *shear, sheer*), Gk. *keirein*, Skr. *krnati, krntati*, Lith. *skiriu*, O.Ir. *scaraim*, Welsh *ysgar, ysgyr*, Hitt. *karsh*; **skéros**, *share, portion, division*, as Gmc. *skeraz* (cf. O.N. *skör*, O.E. *scēar, scearu, scaru*, O.H.G. *scara*, Ger. *Schar*); **skérā**, *scissors*, as O.E. *scēar*, in **skērbhérgs**, “*sword protector*”, *scabbard*, as Gmc. *skerberg* (cf. O.H.G. *scarberc*, O.Fr. *escauberc*, see **bhergh**); **skrá**, *notch, tally, score*, from Gmc. *skuro* (cf. O.N. *skor*, O.E. *scoru*); **skóriom**, *low reef* (“*something cut off*”), as Gmc. *skarjam* (cf. O.N. *sker*, Eng. *scar, skerry*), **skórpos**, *diagonally-cut end of a board*, as Gmc. *skarfaz* (cf. O.N. *skarfr*, Eng. *scarf*), suffixed o-grade **skórdos**, *cut, notch*, as Gmc. *skardaz* (cf. O.E. *sceard*, Eng. *shard*); **skrdós**, *short*, and **skórdos**, *skirt, shirt* (“*cut piece*”), as Gmc. *skurtaz* (cf. O.N. *skyrta*, Swed. *skjorta*, O.E. *scort, sceort; scyrte*, M.Du. *scorte*, M.H.G. *schurz*, Du. *schort*, Ger. *Schurz*); extended **skermo**, *protect*, as Gmc. *skirman* (cf. O.H.G. *skirmen*, O.Fr. *eskermir*), as in MIE **skérmā**, *skirmish* (cf. Eng. *skirmish*, Du. *schermutseling*, Swe. *skärmytsling*, O.It. *scaramuccia*, Spa. *escaramuza*, etc.), **skérmos**, *shield*; variant form **kórōn**, *flesh*, as Lat. *caro* (stem *carn-*), as in **koronālis**, *carnal*, **koronātiōn**, *carnation*, **koron(es)lechālis**, *carnival*, (cf. O.It. *carnevale*, haplology from Lat. *carneleuare*) also MIE partial loan **karnichālis**, **koroniuorós**, *carnivorous*; **kóriom**, *leather* (from “*piece of hide*”), as Lat. *corium*; **krtós**, *short*, as Lat. *curtus*; Greek **kórmos**, *trimmed tree trunk*, **kóris**, *bedbug* (from “*cutter*”); **skrá**, *shore*, as Gmc. *skurō* (cf. O.E. *scora*, M.L.G. *schor*, M.Du. *score*); **kórteks**, *bark* (“*that which can be cut off*”); **kértsnā**, *meal* (“*portion of food*”), as Lat. *cēna*; **skerbhós**, *cutting, sharp*, as Gmc. *skarpaz* (cf. Goth. *skarp-*, O.S. *scarp*, O.N. *skarpr*, O.E. *scearp*, O.Fris. *skerp*, Du. *scherp*, Ger. *scharf*), **skróbā**, “*pieces*”, *remains*, as Gmc. *skrapo*, **skróbho**, *scrape*, as Gmc. *skraban*, **skróbis**, *trench, ditch*, as Lat. *scrobis*, or **skróbhā**, *a sow* (from “*rooter, digger*”), as Lat. *scrōfa*; extended suffixed **epikrsiós**, *at an angle, slanted, “biased”*, as Gk. *epikarsios* (cf. Fr. *biais*, Eng. *bias*).

I.4. Germanic “*haven*” comes from IE **kápnā**, *harbour*, perhaps “*place that holds ships*”, from P.Gmc. **khafnō* (cf. O.N. *hofn*, O.E. *hæfen*, M.L.G. *havene*, Ger. *Hafen*, also O.N. *haf*, O.E. *hæf*, “*sea*”), from PIE **kap**, *grasp* (compare with **ghabh**) cf. Skr. *kapati*, Gk. *kaptein*, Ltv. *kampiu*, O.Ir. *cacht*, Welsh *caeth*. Common derivatives include **káptiom**, *handle*, as Gmc. *khafjam* (cf. O.E. *hæft*, O.H.G. *hefti*, Du. *hecht*, Eng. *haft*, Ger. *Heft*); basic form **kap**, *have, hold*, as Gmc. *khabb-* (cf. Goth. *haban*, O.N. *hafa*, O.S. *hebbjan*, O.E. *habban*, O.Fris. *habba*, Eng. *have*, Ger. *haben*); **kapigós**, “*containing something*”, *having weight, heavy*, as Gmc. *khafīgaz* (cf. O.N. *hebig*, O.E. *hefig*); **kápokos**, *hawk*, as Gmc. *khabukaz* (cf. O.N. *haukr*, O.E. *h[e]afoc*, M.Du. *havik*, Ger. *Habicht*, compare with Russ. *kobec*); **-kaps**, “*taker*”, as Lat. *-ceps*; **kapio**, *take, seize, catch, lift*, as Gmc. *hafjan* (cf. Goth. *hafjan*, O.N. *hefja*, O.E. *hebban*, Du. *heffen*, Ger. *heben*), Lat. *capere*, as in **kapáks**, *capable, capacious*, **káptiōn**, *caption*, **kaptēiuā**, *captivate*, **kaptēiuós**, *captive*, **kaptós**, *captive*, **kaptór**, *captor*, **kaptosā**, *capture*, **antikapio**, *anticipate*, **komkapio**, *conceive*, **dekapio**, *deceive*, **ekskapio**, *except*, **enkapio**, *incept*, **enterkapio**, *intercept*, **preismkáps**, *prince*, **moineskáps**, *citizen*, **moineskápiom**, *city, municipality*,

obhkapā, *occupy*, **partikapā**, *participate*, **perkapio**, *cerceive*, **rekapio**, *receive*, *recover*, *recuperate*, **supkaptibhilís**, *susceptible*; variant Greek **kōpā**, *oar*, *handle*.

PIE **ghabh**, also **ghebh**, *give* or *receive*, has derivatives as Gmc. *geban* (cf. Goth. *giban*, O.N. *gefa*, O.E. *giefan*, O.H.G. *geban*, Eng. *give*, Ger. *geben*), Lat. *habēre*, Oscan *hafiar*, Umbrian *habe*, Skr. *gabhasti*, Lith. *gabana*, Ltv. *gabana*, O.C.S. *gobino*, Gaul. *gabi*, O.Ir. *gaibid*, Welsh *gafael*, Alb. *grabit/grabis*. Common derivatives include **perghebho**, *give away*, *give up*, *leave off*, *remit*, as Gmc. *fargeban* (cf. Eng. *forgive*, Du. *vergeven*, Ger. *vergeben*); **ghébh̄tis**, *something given* (or *received*), *gift*, as Gmc. *giftiz* (cf. O.N. *gipt*, *gift*, O.Fris. *jeftē*, M.Du. *ghifte*, Ger. *Mitgift*), **ghóbbholom**, *something paid* (or *received*), *tribute*, *tax*, *debt*, as Gmc. *gabulam* (cf. O.E. *gafol*, M.H.G. *gaffel*, Eng. *gavel*, Ger. dial. *gaffel*); **ghabhē**, *hold*, *possess*, *have*, *handle*, and **ghabitā**, *dwel*, as Lat. *habēre*, *habitāre*, in **ghabbhilís**, *habile*, *able*, **ghábitos**, *habit*, **ghabbhitābhilís**, *habitable*, **ghabbhitānts**, *habitant*, **ghábbhitā**, *habitat*, **eksghabhē**, *exhibit*, **enghabē**, *inhibit*, **proghabē**, *prohibit*; **deghabhe**, *owe*, as Lat. *debere*, as in **deghabitós**, *due*, **deghábbhitom**, *debit*, **deghábbhita** (n.pl), *debt*.

The proper PIE term for debt seems to be **deléghlā**, cf. O.Ir. *dligim*, Goth. *dulgs*, O.Sla. *dlъgъ*, and also Lat. *indulgeō*, Gk. *ἐν-δελεχῆς*, Alb. *glatë*, etc., presumably from extended **d(e)legh-**, from **del**, *long*, see **dlongho-**.

I.5. For PIE **bhergh**, *hide*, *protect*, compare Gmc. *bergan* (cf. Goth. *bairgan*, O.N. *bjarga*, O.H.G. *bergan*, Ger. *bergen*), OCS *bręgq*, Russ. *bereč'*, as in zero-grade **bhrghio**, *bury*, Gmc. *burgjan* (cf. O.E. *byrgan*, Eng. *bury*).

Related PIE **bhergh**, *high*, with derivatives referring to *hills* and *hill-forts*, gives Lat. *fortis*, Skr. *barhayati*, Av. *bərazant*, Pers. *burj*, Thrac. *bergas*, Illyr. *Berginium*, Toch. *pärk/pärk*, Arm. *bardzut'iun*, Russ. *bereg*, Gaul. *Bergusia*, O.Ir. *brí*, Welsh *bre*, *bera*, Alb. *burg*; Hitt. *parku*, Lyc. *prije;pruwa*, A.Mac. *Berga*. Common MIE derivatives include borrowing **isobhérḡhs**, *iceberg* (for MIE loan **iso-**, Gmc. *isa-*, “ice”, cf. O.N. *iss*, O.E. *is*, O.Fris. *is*, Du. *ijs*, Ger. *Eis*), zero-grade **bhrghs**, *hill-fort*, *castle*, hence *fortified town*, *city*, as Gmc. *burgs* (cf. Goth. *baurgs*, O.N. *borg*, O.E. *burg*, *burh*, *byrig*, O.H.G. *berg*, Eng. *borough*, Ger. *Burg*, into Lat. *burgus*, O.Fr. *burg*, O.Spa. *burgo*, etc.), **bhrghwóron**, “city protector”, *townsman*, as Gmc. *burg-warōn* (see **wer**, cf. O.H.G. *burgari*, Eng. *burgher*); suffixed zero-grade **bhrgh̄tis**, *strong*, **bhr̄gh̄tiā**, *force*, as Lat. *fortis*, *fortia* (some relate it to **dher**), in **ekbhr̄gh̄tis**, *effort*, **enbhr̄gh̄tiā**, *enforce*, **bhr̄gh̄tidhakā**, *fortify*, **reenbhr̄gh̄tiā**, *reinforce*, etc.

The proper IE word for “ice” is **jeg**, which gives Lith. *įža*, Ltv. *ieze*, Russ. *ikra*, O.Ir. *aig*, Welsh *ia*, and suffixed **jéghilos**, *ice*, *icicle*, *glacier*, as Gmc. *jekilaz* (cf. O.N. *jaki*, dim. *jökull*, O.E. *gicel*, O.H.G. *ichil*, M.E. [*is*]ykle, Ger. *gicht*, *oighear*, Eng.dial. *ickle*, Eng. [*ic*]icle).

PIE root **gel-**, *cold*, gives Lat. *gelū*, Oscan *gelan*, Lith. *gelmenis*, Gk. *gelandron*; extended adjective **goldós** gives Gmc. *kaldaz* (cf. Goth. *kalds*, O.N. *kaldr*, O.E. *cald*, *ceald*, O.H.G. *kalt*), O.C.S. *hlad*, Pol. *chlód*.

PIE **dher**, *hold firmly*, *support*, gives **dhermós**, *firm*, *strong*, as Lat. *firmus*, in **addhermā**, *affirm*, **komdhermā**, *confirm*, **ndhermós**, *infirm*, *ill*, **ndhermāriā**, *infirmery*; suffixed zero-grade **dhrónos**, *seat*, *throne* (from “support”); suffixed **dhér̄mn**, *statute*, *law*, as Skr. *dharma* (“that which is established firmly”); suffixed **dhérenā**, *a holding firm*, Prakrit *dharana*; **dhóros**, *holding*, as Ira. *dāra-*, Pers. *-dār*.

IE **wer**, *cover*, gives **wériā**, *defence*, *protection*, as Gmc. *werjōn* (cf. Goth. *warjan*, O.N. *ver*, O.E. *wer*, O.Fris., M.Du. *were*, O.H.G. *wari*, Eng. *weir*, Du. *weer*, Ger. *Wehr*); compound **apwerio**, *open*, *uncover*, (**ap-**, *off*, *away*, see **apo**), as Lat. *aperire*, as in **apwertós**, *opened*, *overt*, **apwertósā**, *aperture*, *overture*; **opwerio**, *cover* (**op-**,

over, see **epi**), as Lat. *operire*, as in **komopwerio**, *cover*; **wértros**, *enclosure*, as Skr. *vatah*; o-grade **wornio**, *take heed, warn*, as Gmc. *warnōn* (cf. O.E. *warenian*, O.N. *varna*, O.H.G. *warnon*, Eng. *warn*, Ger. *warnen*), in **worónts**, *warrant, authorization*, (cf. O.N.Fr. *warant*, O.Fr. *garant*), **worontíā**, *warranty, guaranty* (cf. O.N.Fr. *warantir*, Fr. *garantie*), **woro**, *guard, protect* (cf. O.Fr. *garer, guerrer*), in **worótikom**, *garage*, **worio**, *defend, protect* (cf. O.Fr. *guarir*), **wórisōn**, *garrison*, **wornio**, *to equip* (cf. O.Fr. *guarnir*).

Derivatives of PIE **apo**, or **ap-**, *off, away*, are Gmc. *af-* (cf. Goth., O.N. *af*, O.E. *of, æf*, O.Fris. *af, of*, O.H.G. *ab, aba*, Eng. *of, off*, Du. *af*, Ger. *ab*), Lat. *ab*, Gk. *apo*, I.-I. *apa*, Bl.-Sl. *po*. Common MIE words include **apton**, *behind*, as Gmc. *aftan* (cf. O.E. *æftan*, Eng. *aft, abaft*), **aptero**, *after, behind*, as Gmc. *aftar* (cf. O.E. *æfter*), **apuko**, *turned backward*, as Gmc. *afugo* (cf. O.N. *öfugr*, O.E. *awk*); variant **po-**, *on, in*, as Balto-Slavic *po*, Latin extended **post**, also in verb **posino** (from Lat. *pōnere*, from *po+sinere*, “leave, let”, of obscure origin), p.part. **positós**, both giving common MIE **pógrom**, **posteriós**, *posterior*, **postmrtim**, (see PIE **mer**), *postmortem*, **positósā**, *posture*, **positiōn**, **adposine**, **adpositiōn**, **komposino**, *compose*, **kompositiōn**, **komtrāpositós**, **deposino**, **deposítós**, **disposino**, *dispose*, **eksposino**, *expose*, **enposino**, *impose*, **enpositós**, *imposed*, **enpósitom**, *impost*, **enterposino**, *interpose*, **obhposino**, *oppose*, **obhpositiōn**, **supposino**, *suppose*, **suppositiōn**, *supposition*, **transposino**, *transpose*, etc.

For PIE **mer**, *rub away, harm*, compare **morá**, *goblin, incubus*, as Gmc. *marōn* (cf. O.E. *mare, mære*, Eng. [*night*]mare), O.Ir. *Morri*[gain], Bulg., Serb., Pol. *mora*, Fr. [*cauche*]mar; **mfo**, *waste away, wither*, as in **mrasmós**, *marasmus*, as Gk. μαρασμός; **mrtáriom**, *mortar* (from “ground down”) as Lat. *mortāriom*; extended **mordē**, *bite*, as Lat. *mordēre*, as in **mordáks**, *mordacious*, **remordē**, *remorse*, etc.; suffixed **mórbhos**, *disease*, as Lat. *morbus*, in **morbhidós**, *morbid*. Probably the same root is **mer**, *die* (cf. Hitt. *mer*), with derivatives **mrtrom**, *murder*, as Gmc. *murthra-* (cf. Goth *maurþr*, O.N. *morð*, O.E. *morðor*, O.Fris. *morth*, M.Du. *moort*, Ger. *Mord*, also in M.Lat. *murdrum*, O.Fr. *mordre*), **mrtis**, *death*, as Lat. *mors*, O.Ind. *mṛtiṣ*, Lith. *mir̃tis*, Ltv. *mir̃te*, Sla. *mǎrtь* (cf. O.C.S. [с̣]мр̣ьт̣ь, с̣ from *svo-*, reflexive **swe-**, Russ. *смерть*, O.Slo. *smṛti*, Pol. *śmierć*, Cz. *smrt*, etc.), with common Latin derivatives **mrtális**, *mortal*, **mrtidhakā**, *mortify*, **admortisā**, *amortize*; **mrio**, *die*, with irregular p.part. **mrtuós**, *death*, as Lat. *morire, mortuus*, in **mrtuāsiós**, *mortuary*, **mribhundós**, *moribund*, **mrtuótikom**, *mortgage* (from O.Fr. *mort* and *gage*, “pledge”, from Frank. *wadja*, “pledge”, IE **wotio**); common adjectives **mrwós**, *death*, **mrtós**, *mortal*, as Gk. βροτος, **nmrtós** [n̥-mr̥-tos], *immortal, undying*, hence also *divine*, as Lat. *immortalis*, Gk. ἄμβροτος, Skr. *amrtam*; **mortiós**, *mortal*, as O.Pers. *martiya*, into Gk. *manticore*. Other IE derivatives include Skr. *marati*, Av. *miryeite*, O.Pers. *amariyata*, Pers. *mordan*, Kurd. *mirin*, Arm. *meñil*, Lith. *mirti*, Ltv. *mirt*, O.C.S. *mr̃tvũ*, Russ. *meret'*, Pol. *mord, umrzeć*, Gaul. *marvos*, O.Ir. *marb*, Welsh *marw*, Kamviri *m̃e*, Osset. *maryn*.

MIE **assassinós** via Fr. and It., from Arabic *hashishiyyin* “hashish-users” pl. of *hashishiyy*, from *hashish* (Arabic *hashish* “powdered hemp”, lit. “dry herb”, from *hashsha* “it became dry, it dried up”). A fanatical Ismaili Muslim sect of the time of the Crusades, with a reputation for murdering opposing leaders after intoxicating themselves by eating hashish. The pl. suffix *-in* was mistaken in Europe for part of the word (cf. *Bedouin*).

II. IE **wers**, *confuse, mix up*, (compare with IE **ers**), gives common **wérsos**, *confusion*, and loan word fem. MIE **wérsā** (see rhotacism), both from Gmc. *werzaz* (cf. O.S. *werran*, O.H.G. *werran*, Ger. *verwirren*; Eng. *war* is from O.E. *wyrre, werre*, from O.N.Fr. *were*, from Frank. *werra*, as O.H.G. *werra, strife*, borrowed in Fr.

guerre, It.,Spa.,Pt,Cat. *guerra*); comparative **wersiós**, *worse*, and superlative **wersistós**, *worst*, as Gmc. *wersizōn*, *wersistaz* (cf. Goth. *wairsiza*, O.S. *wirs*, *wirsista*, O.N. *verri*, *verstr*, O.E. *wyrsa*, *wyrsta*, O.Fris. *wirra*, *wersta*, O.H.G. *wirsiro*, *wirsisto*); **wřstis**, *sausage* (from “mixture”), as Gmc. *wurstiz* (cf. O.H.G. *wurst*)

PIE **ers**, *be in motion*, gives variant **rēs**, *rushing, race*, as Gmc. *rēsan* (cf. O.N. *rás*, O.E. *ræs*, M.Du. *rasen*, Ger. *rasen*); suffixed **ersā**, *wander*, Lat. *errāre*, as in **ersātikós**, *erratic*, **ersāta**, *errata*, **ersāniós**, *erroneous*, **ersór**, *error*, **apersātiōn**, *aberration*; zero-grade **řsis**, *poet, seer*, Skr. *rsih*.

III.Indo-European **wen**, *strive after, wish, desire, be satisfied*, is the source for **wóinos**, *soldier*, and **wóinā**, *war*, as Sla. *voin’* (O.C.S., O.Russ. *войнѣ*, Ukr. *воїн*, Sr.-Cr., Slo.,Bul. *vojnĭk*, Cz.,Slk. *vojin*) and *vojna*; with similar meanings of *hunt, chase, pursue*, cf. O.N. *veiðr*, O.E. *waþ*, O.H.G. *weida*, Lat. *venāri*, Gk. *ἔμει*, O.Ind. *vēti*, Av. *vayeiti*, Lith. *vejù*, *výti*, O.Ir. *fiad*. Other IE derivatives include **wénos**, *desire*, as Skr. *vanas*; **wénuo**, *win*, Gmc. *winn(w)an* (cf. f. Goth. *gawinnen*, O.S. *winnan*, O.N. *vinna*, O.E. *winnan*, O.Fris. *winna*, O.H.G. *winnan*, Du. *winnen*), suffixed zero-grade **wniā**, *pleasure, joy*, as Gmc. *wunjō* (cf. O.E. *wen*, *wynn*, Ger. *Wonne*); stative **wnē**, *be content, rejoice*, extended as *be accustomed to, dwell*, as Gmc. *wunēn* (cf. O.E. *wunian*, O.S. *wunon*, O.Fris. *wonia*, O.H.G. *wonen*, Eng. *wont*); suffixed causative o-grade **wonē**, *accustom, train, wean*, as Gmc. *wanjan* (cf. O.N. *venja*, O.E. *wenian*, Du. *vennen*, O.H.G. *giwennan*, Ger. *gewöhnen*); **wēnis**, *hope*, and verb **wēnio**, *expect, imagine, think*, as Gmc. *wēniz* and *wēnjan* (cf. Goth. *wenjan*, O.S. *wanian*, O.N. *væna*, O.E. *wenan*, O.Fris. *wena*, O.H.G. *wanen*, Ger. *wähnen*, Eng. *ween*); suffixed zero-grade **wnsko**, *desire, wish*, **wńskos**, *wish*, as Gmc. *wunskan*, *wunskaz* (cf. O.N. *æskja*, O.E. *wyscan*, M.Du. *wonscen*, O.H.G. *wunskan*); **wénōs**, *love*, giving **wenesā**, *worship, venerate*, **wenesiós**, *venereal*, etc., with rhotacism as Lat. *uenus*, *ueneris*; **wenésnom**, *poison* (originally *love poison*), as Lat. *uenēnum*, **wéniā**, *favor, forgiveness*, Lat. *uenia*; **wenā**, *hunt*, from Lat. *uēnārī*; **wénom**, *forest*, as Skr. *vanam*.

IV.Indo-European **cer-** (or **g^werh₂*), *heavy*, gives **crús**, *heavy, venerable*, as Goth. *kaurus*, Gk. *βαρύς*, Skr. *guruh*, **cruspháirā**, *barysphere* (from Gk. *spháirā*, *sphere*), **crútonos**, *baritone*, and extended Lat. **g^wruís*, *heavy, weighty, grave*, as Lat. *gravis*, **cfuitā**, *gravity*, **cruā**, *burden*, **adcruā**, *aggravate*, etc.; **cfōs**, *weight, heaviness*, as Gk. *βάρος*, as in **wiswocfōs**, *isobar* (from Gk. *ἴσος*, *equal*, probably either from **widwós**, *who has seen*, from **weid**, *know, see*, or **wiswós**, *all*, as O.Ind. *visvaḥ*); **uderi** (see **ud**); **crūtós**, *heavy, unwieldy, dull, stupid, brutish*, as Lat. *brūtus*; **crígos**, *strenght, vigor*, **crígā**, *strife*, as in **crígátā**, *brigade*, found in Celt. *brīgo* (cf. Prov. *brīu*, Spa. *brío*), Gmc. *krīg* (cf. O.H.G. *krēg*, *chrēg*, M.H.G. *kriec*, Sca. *krig*, Ger. *Krieg*), Cel. *brīgā* (cf. O.Ita. *brīga*, Fr. *brigade*); **cérnā**, *millstone*, as Gmc. *kwernōn* (Goth. *quirnus*, O.N. *kvern*, O.E. *cweorn*, O.Fris. *quern*, O.H.G. *quirn*, Eng. *quern*, Ger. *Querne*), Skr. *grava*, Arm. *erkan*, O.Pruss. *girnoywis*, Lith. *girna*, *girmos*, Ltv. *dzirnis*, O.C.S. *zrunuwi*, Russ. *žěrnov*, Pol. *żarno*, O.Ir. *braó*, Welsh *brevan*.

V. Indo-European **dwéllom**, *war*, also *duel* (O.Lat. *duellum*, Lat. *bellum*), is maybe cognate with O.Ind. *dunoti*, *duta-*, O.Gk. *du*, *duero*, Alb. *un*, from a PIE verbal root **du** meaning *torment, pain*; common Latin loans include **dwelligeránts**, *belligerent* (from Lat. **dwelligerā**, *make war*, from Lat. *gerere*, “*wage*”), **kástos dwélli**, *casus belli* (see **kad**).

For PIE **kad**, *fall, befall*, also *die*, compare Lat. *cadere*, O.Ind. *sad*, Arm. *chacnum*, M.Ir. *casar*, Welsh *cesair*, Corn. *keser*, Bret. *kasarc’h*; Latin derivatives include **kadáuēr**, *cadaver*, **kadénts**, *cadent*, **kadéntiā**, *cadence*, *chance*, **adkado**, *happen*, **adkadénts**, *accident*, **enkado**, *happen*, **enkádents**, *incident*, **dekado**, *decay*,

obhkado, *fall*, **obhkádents**, *occident*, and from p.part. **kastós** (<***kadto-**), giving **kastkátā**, *cascade*, **kástos**, *case*, **kastuālis**, *casual*, **kastuístā**, *casuist*, **obhkástos**, *sunset*, **obhkástiōn**, *occasion*, etc.;

A similar but probably unrelated PIE root is **dheu** (older ***dheuh₂**), *die*, also **dhwei**, found as **dhoutós**, *dead*, Gmc. *dauthaz* (cf. O.E. *dēad*), o-grade **dhóutus**, *death*, (with suffix **-tus** indicating “act, process, condition”), as Gmc. *dauthuz* (cf. O.E. *dēath*); suffixed o-grade **dhowio**, *die*, as O.N. *deyja*; extended zero-grade **dhwino**, *diminish, languish*, as Gmc. *dwinan* (cf. O.E. *dwinan*, Du. *dwijnen*, Eng. *dwindle*). The verb comes probably from **dhew**, *close, finish, come full circle*; cf. Lat. *funus, -eris*, Arm. *di* (gen. *diog*), Cel. *dwutu-* (cf. OIr *duth*). Derivatives include suffixed zero-grade **dhúnos**, *enclosed, fortified place, hill-fort*, as Gmc. *dūnaz* (cf. O.E. *dūn*, M.Du. *dūne*, Eng. *down, dune*); also, from the same source is Celtic *dūnos*, “hill, stronghold”, borrowed in Gmc. *tūnaz* (cf. O.E. *tun*, Eng. *town*); **dhúnōs**, *funeral*, as Lat. *fūnus*.

The same IE root **dhew** means also “run, flow”, as in Gmc. *dauwaz*, (cf. O.E. *deaw*, M.Du. *dau*, Eng. *dew*), Skr. *dhautiḥ*, M.Pers. *davadan*; and also “shine, be light”, as O.Gk. *theousan*, O.Ind. *dhavala-*, Av. *fraavata*.

VI. Common Greek loans are **pólemos**, *war*, Gk. *πόλεμος*, giving **polemikós**, *hostile*, hence *polemic*.

129. For PIE **swésōr**, (possibly from reflexive **swe**, and **ésōr**, *woman*, then lit. “woman of one’s own kin group” in an exogamous society, see also **swe-kuro-**), with zero-grade alternative **swésr**, compare Gmc. *swestr-* (cf. Goth. *swistar*, O.N. *systir*, O.S. *swestar*, O.E. *sweostor*, *swuster*, O.Fris. *swester*, M.Du. *suster*, O.H.G. *swester*, Du. *zuster*, Eng. *sister*, Ger. *Schwester*), Lat. *soror*, O.Gk. *eor*, Skr. *svasṛ*, Av. *xvañhar*, Pers. *xāhar*, Toch. *ṣar/ṣer*, Arm. *k’uyr*, O.Pruss. *swestro*, Lith. *sesuo*, O.C.S. *sestra*, Russ. *cecmpa*, Pol. *siostra*, Gaul. *suiior*, O.Ir. *siur*, Welsh *chwaer*, Kamviri *sus*. It gave common derivatives latin **swesrikídiom**, *sororicide*, **swesorālis**, *sororal*, suffixed **swesrínos**, *cousin*, from Lat. *sobrīnus*, “maternal cousin”.

130. For PIE **súnus**, also **súnjus**, *son*, compare Gmc. *sunuz* (cf. Goth. *sunus*, O.N. *sonr*, O.E. *sunu*, O.S., O.Fris. *sunu*, O.H.G. *sunu*, M.Du. *sone*, Dan. *søn*, Swed. *son*, Du. *zoon*, Ger. *Sohn*), Gk. *huios*, Skr. *sunus*, Av. *hunush*, Arm. *ustr*, Lith. *sunus*, O.C.S. *synu*, Rus., Pol. *syn*, from PIE root **su**, *give birth*, Skr. *sauti*, O.Ir. *suth*.

I. For Romance words from Lat. *filius*, MIE **dhéilios**, “suckling”, *son*, and **dhéiliā**, *daughter*, as in **dhéiliālis**, *filial*, **addheiliā**, *affiliate*; probably from PIE **dhēi**, *suck*, although some relate it to PIE **bhew**, *be, exist* (in both IE **dh-** and **bh-** evolved as Lat. *f-*), thus maybe IE ***bhúlios** – but, v.i. for Slavic derivative ‘diti’ meaning “child, son”, from the same root **dhēi**.

For IE **bhew**, *be, exist, grow*, and common derivative **bhwijo**, *be, become, give* Gmc *biju* (cf. O.E. *beon*, O.H.G. *bim, bist*, Eng. *be*), Skt. *bhavaḥ, bhavati, bhumiḥ*, Lat. *fieri, fui*, Gk. *phu-*, Lith. *bu’ti*, O.C.S. *byti*, O.Ir. *bi’u*, Rus. *быть*; **bhowo**, *live, dwell*, as Gmc. *bowan* (cf. O.N. *buā, buask*, O.H.G. *buān*, Eng. *bound, husband*, Ger. *bauen*); zero-grade **bhútlos**, *dwelling, house*, from Gmc. *buthlaz* (cf. O.E. *bold, byldan*, M.Du. *bodel*, Eng. *build*), **bhwo**, *bring forth, make grow*, as Gk. *phuein*, as in **bhútos, bhútom**, *plant*, and **bhútis**, *growth, nature*, as in **bhútikā**, *physics*, **bhútikós**, *physic*, **epíbhutis**, *epiphysis*, **diábhutis**, *diaphysis*, **supóbhutis**, *hypophysis*, etc.; suffixed **bhutús**, “that is to be”, and Lat. **bhutúros**, *future*; zero-grade **bhúrom**, *dweller* (especially *farmer*), gives Gmc. *buram* (cf. O.E. *bur*, Eng. *bower*, Ger. *Bauer*), **kombhúrom**, *dweller, peasant*, (cf. O.E. *gebur*, M.Du. *gheboer, ghebuer*, Eng. *neighbor*, Du. *boer, boor*), **bhúriom**, *dwelling*, as Gmc. *burjam* (cf. O.E. *byre*), or **bhúwis**, *settlement* (cf. O.N. *byr*, Eng. *by[law]*); **bhúlom**, *tribe, class, race*, Gk. *φύλον*, and **bhúlā**, *tribe, clan*, as in Eng. *phylum, phyle, phylo-*; zero-grade reduced suffixal form **-bhw-** in Lat. compounds

dubhwiós, *doubtful* (from zero-grade of **dwo**, *two*), Lat. *dubius*, **dúbhwitā**, *doubt*, Lat. *dubitāre*, **probhwós**, *upright*, Lat. *probus*, “*growing well or straightforward*”, **superbhwós**, *superior, proud*, “*being above*”, as Lat. *superbuus*; **bhóumos**, *tree* (“*growing thing*”), as Gmc. *baumaz* (cf. O.E. *beam*, M.Du. *boom*, Eng. *beam*).

II. Slavic “*ditī*”, “*child, son*”, comes from Slavic *děte*, *дѣть* (cf. O.C.S. *дѣти*, S.C.S. *дѣти*, Russ. *дети*, Pol. *dziecię*, Cz. *dítě*, Bul. *деме*), MIE **dhéitis**, “*suckling*”, *child*, (see also Lat. *filius*), from PIE **dhēi**, also found in Lat. *fēlāre*, *fēmina*, Gk. *θήσατο*, *θηλή*, O.Ind. *dhātavē*, Lith. *dėlė*, O.Ir. *dínim*.

III. Germanic “*maiden*” comes from Indo-European **mághotis**, *maid, young womanhood, sexually inexperienced female, virgin* (dim. **mághotinom**, “*little maid*”), as Gmc. *magadinam* (cf. O.E. *mægeð*, *mægden*, O.S. *magath*, O.Fris. *maged*, O.H.G. *magad*, Ger. *Magd, Mädchen*), from **mághus**, *young person of either sex, unmarried person*, cf. O.E. *magu*, Avestan *magava*, O.Ir. *maug*.

131. Indo-European **dhúg(a)tēr**, older **dhug(h₂)ter*, *daughter*, Gmc. *dukter* (cf. Goth. *dauhtar*, O.N. *dóttir*, O.E. *dohtor*, O.H.G. *tohter*, Scots, Du. *dochter*, Swe. *dotter*), Osc. *fútir*, Gk. *θυγατήρ* (*thugatēr*), Skr. *duhitṛ*, Av. *duydar*, Pers. *doxtar*, Toch. *ckācar/tkacer*, Arm. *dustr*, O.Pruss. *duckti*, Lith. *duktė*, O.C.S. *dūšti*, Russ. *дочь*, *dočer'*, Gaul. *duxtīr*, Kamviri *jū*; Hitt. *duttariyatiyaš*, Luw. *duttariyata*.

132. Other PIE common words referring to relatives, apart from **patēr**, **mātēr**, **bhrātēr** and **snúsos** are:

A. IE **jénatēr** (older **jenh₂ter*), *brother-in-law's wife*, gives Lat. *ianitrícēs*, Gk. *einatēr*, Skr. *yātar*, Phryg. *ianatera*, Arm. *ner*, Lith. *jentė*, Ltv. *ietere*, Russ. *jatrov'*, Pol. *jątrew*, Kamviri *iāri*.

B. IE **dáiwiēr** (older **deh₂iwer*), *husband's brother*, O.E. *tācor*, O.H.G. *zeihhur*, Lat. *lēvir*, Gk. *dāēr*, Skr. *devar*, Kurd. *diš/héwer*, Arm. *taygr*, Lith. *dieveris*, Ltv. *dieveris*, OCS *děverŭ*, Russ. *dever'*, Pol. *dziewierz*.

C. A comon **gálōus** (PIE **gh₂lōus*) gave Gk. *galōs*, Phryg. *gelaros*, O.C.S. *zlŭva*, Russ. *zolovka*, Pol. *zełwa*.

D. For PIE **áwos**, **áwjos**, *paternal grandfather, maternal uncle* (originally **h₂eu_hos*, an adult male relative other than one's father), compare Gmc. *awaz* (cf. Goth. *awó*, O.E. *ēam*, O.H.G. *ōheim*, Ger. *Oheim*), Lat. *avus*, *avunculus*, Gk. *aia*, Arm. *hav*, O.Pruss. *awis*, Lith. *avynas*, O.C.S. *uy*, Russ. *uj*, Pol. *wuj*, Gaul. *avontīr*, O.Ir. *aue*, Welsh *ewythr*; Hitt. *huhhas*. Also found in feminine **áwjā**, *grandmother* (cf. Lat. *avia*).

E. IE **népōts** (gen. **neptós**), *grandson, nephew*, gives Gmc. *nefat-* (cf. O.E. *nefa*, O.H.G. *nevo*, Eng. *nephew*, Ger. *Neffe*), Lat. *nepōs*, Gk. *anepsios*, Skr. *napāt*, Av. *napāt*, O.Pers. *napā*, Pers. *nave*, Lith. *nepuotis*, O.C.S. *nestera*, Russ. *nestera*, Pol. *nieściora*, Gaul. *nei*, OIr. *necht*, *níath*, Welsh *nai*, Kamviri *nāvo*, Alb. *nip*.

F. PIE **swékuros**, *father-in-law*, give Gmc. *swikhura-* (cf. Goth. *swaihrō*, O.N. *sværa*, Eng. *swēor*, O.H.G. *swehur*, *swagur*), Gk. *hekuros*, Skr. *śvaśura*, Av. *xvasura-*, Arm. *skesur*, Lith. *šešuras*, O.C.S. *svěkūrŭ*, Russ. *svekrov'*, Pol. *świekra*, Welsh *chwegr*, Alb. *vjehërr*, Kamviri *č.uč.* probably ultimately derived from fem. **swekrūs**, *mother-in-law*, as O.H.G. *swigar*, Ger. *Schwieger*, Lat. *socrus*, Skr. *śvaśrū*, O.Sla. *svekry*, etc.

133. PIE **jéwos**, *norm, right, law* (possibly from PIE **jeu**, *bind*), as in O.Ind. *yōh*, Av. *yaožda*, refers in MIE to the body of rules and standards to be applied by courts; **jówos**, *law*, as Lat. *iūs*, *iūris* (O.Lat. *iouis*), and **jowosā**, *swear*, Lat. *jūrō* (O.Lat. *iouesat*, see rhotacism), p.part. **jowosātós**, *swearred*, giving Latin common borrowings **jowosístos**, *jurist*, **apjowosā**, *abjure*, **adjowosā**, *adjure*, **komjowosā**, *conjure*, **jówosātos**, *jury*, **enjowosā**, *injury*, **perjowosā**, *perjure*, **jowoseskomséltos**, *jurisconsult*, **jowosesproweidéntiā**, *jurisprudence* (from **proweidéntiā**, from IE **per** and **weid**); Italo-Celtic **jowest(i)ós**, *just*, as Lat. *iustus*, O.Ir. *huisse* (<**justjos*).

MIE **komselo**, *counsel, call together, deliberate, consider*, as Lat. *consulere*, found in Lat. *consulere senatum*, MIE **komséltu senátum**, “*to gather the senate (to ask for advice)*”, from **kom-** “with” + **selo** “take, gather together” from PIE base **sel-** “to take, seize”.

134. For “law” as a written or understood rule or the body of rules from the legislative authority, i.e. the concept of Lat. *lex*, MIE has different words:

I. Latin *lex, legis*, comes possibly from PIE lengthened ***lēgs**, hence lit. “collection of rules” (see PIE **leg**, *collect*), although it is used as Modern Indo-European **lēghs** (both IE **g** and **gh** could evolve as *g* in Latin), from PIE **leg**, *lie, lay*, because its final origin remains uncertain, and this root gives also Germanic o-grade **lóghom**, *law*, “that which is set or laid down”, Gmc. *lagam* (cf. O.N., O.E. *lagu, lag-*, O.H.G. *lāga*, Eng. *law*, Sca. *lov*, Ger. *Lage*), with common derivatives **lēghālís**, *legal*, **lēghitimā**, *legitimate*, **lēghialís**, *loyal*, **lēgheslatór**, *legislator*, **preiwolégghiom**, *privilege* (“a law affecting one person”, from **preiwós**, *private*), and from Latin denominative **léghā**, *depute, commission, charge, legate* (“engage by contract”), as Lat. *legāre*, are **léghātom**, *legacy*, **komléghā**, *colleague*, **komlēghialís**, *collegial*, **deléghātos**, *delegate*, **reléghā**, *relegate*. Other known derivatives include **léghio**, *lay*, as Gmc. *lagjan* (cf. Goth. *lagjan*, O.S. *leggian*, O.N. *leggja*, O.E. *leccan*, O.Fris. *ledza*, O.H.G. *lecken*, M.Du. *legghan*, Eng. *lay*, Ger. *legen*, Du. *leggen*), suffixed **léghros**, *lair, bed*, as Gmc. *legraz* (cf. O.E. *leger*, O.H.G. *legar*, M.Du. *leger*, Eng. *lair*), and **léghtos**, *bed*, as Lat. *lectus*; o-grade Greek **lóghos**, *childbirth, place for lying in wait*. Cf. Gk. *lekhesthai*, Toch. *lake/leke*, Lith. *at-lagai, lagaminas*, Ltv. *lagača*, O.C.S. *lego, ležati*, Russ. *ležat'*, Pol. *leżeć*, Gaul. *legasit*, O.Ir. *lige*, Welsh *gwely*, Hitt. *laggari*.

For the same sense of “that which is set or laid down”, compare IE **statútom**, Lat. *statutum*, “statute”, from Lat. *statuere*, “establish” or **statúmos**, Lith. *istatymas*, from *istatyti* “set up, establish” (from IE **stā**, *stand, set down*); also, Ger. *Gesetz* (from O.H.G. *gisatzida*, IE **kom+sedio**, *set*).

For PIE **stā**, *stand*, “place or thing that is standing”, compare common derivatives **stālos**, *stool*, as Gmc. *stōlaz* (cf. Goth. *stols*, O.N. *stoll*, O.E. *stōl*, O.H.G. *stuol*, O.Fris. *stol*, Ger. *Stuhl*), **stántiā**, *stance, stage*, **stātēiuós**, *stative*, **kikromstántiā**, *circumstance*, **komstántis**, *constant*, **komtrāstā**, *contrast*, **di(s)stā**, **distántis**, *distant*, **ekstántis**, **enstántis**, **obhstákolos**, **obhstātrikós**, *obstetric*, **supstántiā**, *substance*; **stāmēn**, *thread of the warp* (a technical term), *stamen*; **stāmōn**, *thread*, as Gk. *stēmōn*; **starós**, *old*, “long-standing”, as Slavic *staru*; zero-grade nasalized extended **stanto**, *stand*, as Gmc. *standan* (cf. O.N. *standa*, O.E., O.S., Goth. *standan*, O.H.G. *stantan*, Swed. *stå*, Du. *staan*, Ger. *stehen*), as in **ndherstanto**, *stand under*, **stántkarts** (see **kar-**, *hard*), *standard*; suffixed **stámmis**, *stem*, as Gmc. *stammiz* (cf. O.N. *stafn*, O.S. *stamm*, O.E. *stemn*, *stefn*, O.H.G. *stam*, Dan. *stamme*, Swed. *stam*, Ger. *Stamm*); **státis**, *place*, as Gmc. *stadiz* (cf. Goth. *stafs*, O.S. *stedi*, O.N. *staðr*, O.E. *stede*, O.H.G. *stat*, Swed. *stad*, Du. *stede*, Ger. *Stadt*), Lat. **státim**, *at once, stat*, **stātiōn**, *a standing still, station*, **armistátiom**, *armistice*, **sāwelstátiom**, *solstice*; Greek **státis**, *standing, stanstill*, **statós**, *placed, standing* as Gmc. *stadaz* (cf. O.N. *stadr*, Eng. *bestead*), Gk. *statos*, as in **-stat**, **statikós**, *static*; **dekstanā**, *make firm, establish, destine*, **obhstanā**, *set one's mind on, persist*; **státus**, *manner, position, condition, attitude*, with derivatives **statúrā**, *height, stature*, **statuo**, *set up, erect, cause to stand*, and **superstáts** (Lat. *superstes*), *witness*, “who stands beyond”; **stádhlom**, *stable*, “standing place”, as Lat. *stabulum*; **stadhlís**, *standing firm, stable*, **stadhlisko**, *establish*; Greek **-statās**, *-stat, one that causes to stand, a standing*; zero-grade reduplicated **sisto**, *set, place, stop, stand*, as Lat. *sistere*, in **komsisto**, *consist*, **desisto**, *desist*, **eksisto**, *exist*, **ensisto**, *insist*,

entersistátíom, *interstice*, **persisto**, *persist*, **resisto**, *resist*, **supsiso**, *subsist*, and from Gk. *histanai*, with **státis**, *a standing*, as in **apostátis**, **katastátis**, **epistátis**, **epistámā**, *knowledge* (Gk. ἐπιστήμη), **epistāmologíā**, **supostátis**, *hypostasis*, **ikonostátis**, **wiswostátis**, **metastátis**, **próstatā**, **komsto**, *establish*, **komstámn**, *system*; **sistos**, *web, tissue, mast* (“that which is set up”), Gk. ἵστός, **sistoghfbhmn**, *histogram*, etc.; compound **pórstis**, *post*, “that which stands before” (**por-**, *before, forth*, see **per**), Lat. *postis*; extended **stau**, “*stout-standing, strong*”, as **stáuā**, *place, stow*, Gmc. *stōwō*; o-grade Greek **stóuiā**, *porch*, in **stōuikós**, *stoic*; suffixed extended **stáuros**, *cross, post, stake* (see also **stáuros**, *bull*), **enstaurā**, *restore, set upright again*, **restaurā**, *restore, rebuild*, **restauránts**, *restaurant*; zero-grade extended **stúlos**, *pillar*, as in **epistúlos**, **supostúlos**, **októstúlos**, **peristúlos**, **prostúlos**; **steuirós**, *thick, stout, old*, as Skr. *sthavirah*; suffixed secondary form **steu-**, suffixed **stéurā**, *steering*, as Gmc. *steurō*, and denominative verb **steurio**, *steer*, as Gmc. *steurjan* (cf. Goth. *stuirjan*, O.N. *styra*, O.Fris. *stiora*, O.E. *steran*, *stieran*, O.H.G. *stiuren*, Du. *sturen*, Ger. *steuern*), a verb related to **stéuros**, *large domestic animal, ox, steer* (see **stáuros**), and **stéurikos**, *calf, stirk*. Derivatives include Gmc. *standan*, Lat. *stare*, Osc. *staíet*, Umb. *stahmei*, Gk. *histami*, Skr. *tiṣṭhati*, Av. *hištaiti*, O.Pers. *aištata*, Pers. *istādan*, Phryg. *eistani*, Toch. *ṣtām/stām*, Arm. *stanam*, O.Pruss. *stacle*, Lith. *stoti*, Ltv. *stāt*, O.C.S. *stati*, Russ. *stat'*, Polish *stać*, O.Ir. *tá*, Welsh *gwastad*, Alb. *shtuara*; Hitt. *išta*, Luw. *išta-*, Lyc. *ta-*.

II. PIE **leg**, *collect*, with derivatives meaning *gather, speak*, gives Lat. *legere*, “*gather, choose, pluck, read*”, Gk. *legein*, “*gather, speak*”, from which MIE **légtiōn**, *lection, lesson*, **legtós**, *read*, **legtósā**, *lecture*, **legéndā** (from a gerundive), *legend*, **legibhilís**, *legible*, **légiōn**, **komlego**, *gather, collect*, **komlégtiōn**, *collection*, **dislego**, *esteem, love*, **dislegénts**, *diligent*, **eklego**, *elect*, **eklégtiōn**, *election*, **enterlego**, *choose*, **enterlegē**, *perceive*, **enterlegénts**, *intelligent*, **ne(g)lego**, *neglect*, **prāilego**, *prelect*, **sakrilegós**, *one who steals sacred things*, **sakrilégiom**, *sacrilege* (see **sak**), **selego**, *select*, **sortilégos**, *diviner* (see **ser**) **sortilégiom**, *sortilege*; **légsikom**, *lexicon*, **-logos**, *-logue*, **-logiā**, *-logy*, **katalago**, *to list*, **katálogos**, *catalogue*, **dialego**, *discourse, use a dialect, dialogue*, **dialégtos**, *dialect*, **légtis**, *speech, diction*, **dislegtíā**, *dyslexia*, **eklegtikós**, *eclectic*, etc.; **légnom**, *wood, firewood* (“that which is gathered”), as Lat. *lignum*; **lógos**, *speech, word, reason*, as Gk. λόγος, as in **lógikā**, *logic*, **logikós**, *logic*, **logístikā**, *logistic*, **análogos**, *analogous*, **apologíā**, *apology*, **epílogos**, *epilogue*, **komlogísmos**, *syllogism*, **prólogos**, *prologue*.

For PIE **sak**, *sanctify*, gives **sakrós**, *holy, sacred, dedicated*, as Lat. *sacer* (O.Lat. *saceres*), in **sakrā**, *make sacred, consecrate*, **sakristános**, *sacristan*, **komsakrā**, *consecrate*, **eksakrā**, *execrate*; compound **sakrodhóts**, *priest*, “*performer of sacred rites*” (for **dhōt**, *doer*, see **dhē**), as Lat. *sacerdōs*, in **sakrodhótālís**, *sacerdotal*; nasalized **sankio**, *make sacred, consecrate*, with p.part. **sanktós**, *sacred*, as Lat. *sancire*, *sanctus*, as in **sanktidhakā**, *sanctify*. Compare also Osc. *sakrim*, Umb. *sacra*, and (outside Italic) maybe all from IE ***saq**, *bind, restrict, enclose, protect*, as IE words for both “*oath*” and “*curse*” are regularly words of *binding* (Tucker).

Also, with the meaning of “*holy*”, PIE root **kwen**, gives suffixed zero-grade **kwínslom**, *sacrifice*, as Gmc. *khunslam* (cf. Goth. *hunsl*, O.N. *hunsl*, O.E. *hūsl*, *hūsel*, Eng. *house*), Av. *spanyah*, O.Pruss. *swints*, Lith. *šventas*, Ltv. *svinēt*, O.C.S. *světŭ*, Russ. *svjatoj*, Polish *święty*.

PIE **ser**, *line up*, gives Lat. *serere*, “*arrange, attach, join (in speech), discuss*”, as in **sériēs**, **adsero**, *assert*, **desertós**, *desert*, **dissertā**, *dissertate*, **eksero**, *put forth, stretch out*, **ensero**, *insert*; **sérmōn**, *speech*,

discourse, as Lat. *sermō*; **srtis**, *lot, fortune* (perhaps from the lining up of lots before drawing), as in **srtiásios**, *sorcerer*, **komsrtis**, *consort* (“*who has the same fortune*”); **sérā**, *lock, bolt, bar*, (perhaps “*that which aligns*”).

III. For PIE **dhē**, *set, put, place*, gives some common terms referring to “(divine) *law, right, fate*” (cf. Eng. *doom*), cf. Gmc. *dōn* (cf. Goth. *gadeths*, O.N. *dalidun*, O.E. *dōn*, O.H.G. *tuon*, Eng. *do*, Ger. *tun*) Lat. *faciō*, Osc. *faciīad*, Umb. *feitu*, O.Gk. *tithēmi*, Skr. *dadhāti*, Av. *daḍaiti*, O.Pers. *adadā*, Phryg. *dak-*, Thrac. *didzos*, Toch. *tās/tās*, Arm. *ed*, Lith. *dėti*, Ltv. *dēt*, Russ. *det'*; *delat'*, Polish *dziać*; *działac*, Gaul. *dede*, Welsh *dall*, Alb. *ndonj*, Hitt. *dai*, Lyc. *ta-*. Common MIE words include **dhētós**, *set down, created*, as O.Ira. *datah*; suffixed **dhētis**, “*thing laid down or done*”, *law, deed*, Gmc. *dēdiz* (cf. O.E. *dēd*, Eng. *deed*); **dhékā**, *receptacle*, Gk. *θήκη*, Eng. *theca*, as in **apodhékā**, “*store, warehouse*”, then extended as *pharmacy* (and also to Spa. **bodega** and Fr. **boutique**, both left as MIE loans), as in **apodhékários**, *apothecary*, **apodhékion**, *apothecium*, **bubliodhékā** (from Greek loan **búbliom**, *book*, from the Greek name of the Phoenician city *Gubla*, **Búblos** or **Cúblos**, Gk. *βύβλος*, as in n.pl. **Búbliā**, *bible*, lit. “*the books*”), *library*, **ambhidhékion**, *amphithecium*, **endodhékion**, *endothecium*, **peridhékion**, *perithecium*; o-grade **dhō**, *do*, as Gmc. *dōn*; suffixed and prefixed **apdhómēn**, *belly, abdomen*, Lat. *abdōmen*, perhaps “*part placed away, concealed part*”; suffixed **dhómos**, *judgement*, “*thing set or put down*”, and **dhómio**, *judge*, as Gmc. *dōmaz*, *dōmjan* (cf. Goth. *dōms*, O.N. *dōmr*, O.E. *dōm*, *dēman*, Eng. *doom*, *deem*; also into Russ. *Duma*, from a Germanic source), also as abstract suffix -**dhómos** indicating *state, condition, power* (cf. O.N. *-domr*, O.E. *-dom*, Du. *-dømme*, Eng. *-dom*); zero-grade **komdho**, *put together, establish, preserve*, as Lat. *condere*, in **apskomdho**, *abscond*, **rekomdhítós**, *recondite*, and suffixed **komdhio**, *season, flavor*, as Lat. *condire*, in **komdhiméntom**, *condiment*; suffixed zero-grade form **dhakio**, *do, make*, as Lat. *facere*, usually found as Latin combining form **-dhaks**, Lat. *-fex*, “*maker*”, -**dhakion**, Lat. *-ficium*, “*a making*”, both Eng. *-fice*, and **-dhakā**, Lat. *-ficāre*, **-dhakio**, Lat. *-facere*, both normally Eng. *-fy*; some common words include **-dhakients**, *-facient*, **dháktos**, *fact*, **dháktiōn**, *faction*, **dhaktór**, *factor*, **dhaktoríā**, *factory*, **addhaktā**, *affect*, **addháktiōn**, *affection*, **amplidhakā**, *aplify*, **artidháktos**, *artifact*, **artidhákion**, *artifice*, **dwēiatidhakós**, *beatific*, **komdháktiōn**, *confection*, **komdhaktionā**, *confect*, **dedhakio**, *fail*, **dedhakiénts**, *deficient*, **nisdodhakio**, *nidify* (see **nisdos**, *nest*), **aididhakā**, *edify* (from Lat. **aidis**, *a building*), **aididhákion**, *edifice*, **ekdháktos**, *effect*, **endhaktā**, *infect*, **jowostidhakā**, *justify*, **malidhaktór**, *malefactor*, **manudhaktósā**, *manufacture* (see **mánus**, *hand*), **modidhakā**, *modify*, **gnotidhakā**, *notify*, **opidháks**, *workman* (see **op**, *work*), **opidhákion**, *service, duty, business, occupation, performance of work*, (from Lat. *opificium*, later *officium*), **op(i)dhakínā**, *office*, (cf. Lat. *opificina*, later *officina*), **perdhakio**, *finish*, **perdhaktós**, *perfect*, **ōsidhákion**, *orifice* (see **ōs**, *mouth*), **ekdhakio**, *accomplish*, **ekdháktos**, *effect*, **ekdhakiénts**, *efficient*, **ekdhakáks**, *efficacious*, **endhaktā**, *infect*, **pontidháks**, *pontifex* (see IE **pent**), **prāidháktos**, *prefect*, **prodháktos**, *profit*, **prodhakiénts**, *profiting* (Eng. “*proficient*”), **putridhakio**, *putrify* (see **pu**, *rot*), **qālidhakā**, *qualify* (see **qo**), **pertidhakā**, *petrify*, **rāridhakā**, *rarefy* (from borrowing **rārós**, *rare*, Lat. *rārus*), **regtidhakā**, *rectify* (see **regtós**, *right, straight*), **redhakio**, *feed, refect*, **redhaktóriom**, *refectory*, **reudhidhakio**, *redde*, **reudhidhakiénts**, *rubefacient*, (see **reudhós**, *red*), **sakridhakā**, *sacrify*, **satisdhakio**, *satisfy* (see **sā**), **supdhakio**, *suffice*, **supdhakiénts**, *sufficient*; from Lat. **dhákiēs**, *shape, face* (“*form imposed on something*”), are **dhakiālís**, *facial*, **superdhákiēs**, *surface*; further suffixed **dhaklís**, *feasible, easy*, as Lat. *facilis* (from O.Lat. *facul*), as in

dháklitā, *ability, power, science*, also noun **dhaklís**, with the sense of *faculty, facilities*, **disdháklitā**, *difficulty*; **dhās**, *divine law, right*, as Lat. *fas*; reduplicated Greek **dhidho**, *put*, Gk. *tithenai*, as in **dhátis**, *a placing*, Gk. *θέσις*, also *thesis*, and adjective **dhatós**, *placed*, as in **dhatikós**, *thetic*, **anadhámn**, *anathema*, **antidhátis**, *diadhasis*, **epidhátos**, **supodhakā**, *hypothecate*, **supodhátis**, *hypothesis*, **metadhátis**, **par(a)endhidho**, *insert*, **parenthátis**, *parenthesis*, **prosdhátis**, *prothesis, prosthesis*, **komdhátis**, *synthesis*; **dhámn**, “*thing placed*,” *proposition, theme*, Gk. *θέμα*, as in **dhamntikós**, *thematic*; reduplicated Sanskrit **dhedhē**, *place*, Skr. *dadhāti*, p.part. **dhatós**, *placed*, Skr. *-hita-*.

In Proto-Indo-European, another common verb meaning “*make*” existed, **qer**, as Skr. *karoti*, “*he makes*”, as in **Sómsqrtom**, *Sanskrit*, Skr. *saṃskṛtam*; also, common derivatives Greek **qéras**, *monster*, or dissimilated **qélōr**, *monster, peloria*; also, suffixed **qérmn**, *act, deed*, as Skr. *karma*.

III.1. Indo-European **op**, *work, produce in abundance*, include **ópōs**, *work*, Lat. *opus*, with denominative verb **opesā**, *operate*, as Lat. *operārī*, as in **óperā**, *opera* (affected by Lat. rhotacism), **komopesā**, **manuopesā**, *maneuver*; **openentós**, *rich, wealthy, opulent*, as Lat. dissim. *opulentus*, **ópnis**, *all* (from “*abundant*”), Lat. *omnis*, as in **ópniḃhos**, *omnibus*; **optmós**, *best* (“*wealthiest*”), as Lat. *optimus*; **komópiā**, *profusion, plenty*, also *copy*, as in **komopionts(ós)**, *copious*.

III.2. For PIE **pent**, *tread, go*, compare Gmc. *finthan*, “*come upon, discover*” (cf. Goth. *finþan*, O.N. *finna*, O.E. *find*, O.S. *findan*, M.Du. *vinden*, Ger. *finden*); suffixed **póntis**, *way, passage*, found in Lat. *pōns*, “*bridge*” (earliest mening of “*way, passage*” preserved in priestly title **pontidháks**, *pontifex*, “*he who prepares the way*”), also found in Russ. *nymь*, “*path, way*” (as in ‘*sputnik*’, *fellow traveler*, which could be translated as MIE “**kompontinikós**”); zero-grade **pnto**, *tread, walk*, in **peripntetikós**, *peripatetic*, Gk. *περιπατητικός*; suffixed **púntos**, from Iranian (cf. Av. *panta* (nominative), *paθa* (genitive) *way*, Old Persian *pathi-*), into W.Gmc. through Scythian, as Gmc. *patha-* (cf. O.E. *paþ*, *pæþ*, Fris. *path*, M.Du. *pat*, O.H.G. *pfad*, Eng. *path*, Du. *pad*, Ger. *Pfad*).

III.3. For PIE **pu**, *rot, decay* (from older **puh*, it becomes **pū**, **puw-** before vowels), compare **pūlós**, *rotten, filthy*, as Gmc. *fūlaz* (cf. Goth. *fūls*, O.N. *fúll*, O.E. *fūl*, O.H.G. *fūl*, M.Du. *voul*, Ger. *faul*), **pūtrís**, *rotten*, as Lat. *puter*, **púwos/m**, *pus*, as Lat. *pūs*, Gk. *puon*, *puos*, also in **enpuwo**, *suppurate*, as in **enpuwémn**, *empyema*.

III.4. Indo-European root **man-**, *hand*, gives Lat. **mánus**, with derivatives **manudiā**, *manage* (from V.Lat. *manidiāre*, into O.It. *maneggiare*, Fr. *manager*, Eng. *manage*, Spa. *manejar*, etc.), **manuālis**, *manual*, **manúdhriom**, *handle, manubrium* (from instr. suffix **-dhro-**), **manteno**, *maintain* (see **ten**), **manikóisā** (from Lat. *cura*, Archaic Latin *koisa*, “*cure*”), **manighestós**, *caught in the act, blatant, obvious*, (see **chedh**), **manuskreibhtós**, *handwritten* (see **skreibh**), **manuskreibhtom**, *manuscript*; **manúpolos**, *handful* (for **-polos**, *full*, see **pel**), **manupolā**, *manipulate*; **mankós**, *maimed in the hand*; **mankáps**, “*he who takes by the hand*” *purchaser*, (*-ceps*, agential suffix, “*taker*”; see **kap**), in **ekmankapā**, *emancipate*; **mandā**, “*to put into someone’s hand*,” *entrust, order*, from Latin compound *mandāre*, (*-dare*, “*to give*”, see **dō**, although possibly from “*put*”, see **dhē**), **mandátom**, *mandate*, **kommandā**, *command, entrust, commend*, **kommándos**, *commando*, **komtrāmandā**, *countermand*, **demandā**, *demand*, **rekommandā**, *recommend*.

III.4.a. PIE **ten**, *stretch*, gives derivatives suffixed **tendo**, *stretch, extend*, as Lat. *tendere*, in **adteno**, *attend*, **komteno**, *contend*, **deteno**, *detent*, **disteno**, *distend*, **eksteno**, *extend*, **enteno**, *intend*, **prāiteno**, *pretend*, **supteno**, *subtend*; **porteno**, *portend* (“*to stretch out before*”, a technical term in augury, “*to*

indicate, presage, foretell”); suffixed **tenio**, Gk. *teinein*, with o-grade **ton-** and zero-grade **títis**, a *stretching, tension, intensity*, as in **katatóniā**, **entítis**, *entasis*, **epítítis**, *epitasis*, **supotenióntiā** (Gk. ὑποτείνουσα), *hypotenusa*, **protítis**, *protasis*, **komtonikós**, *syntonic*, etc.; reduplicated zero-grade **tétnos** [‘te-tŋ-os], *stiff, rigid*, as Gk. τέτανος, also *tetanus*; suffixed **téntrom**, *loom*, as Skr. *tantram* (cf. Pers. *tār*); stative **tenē**, *hold, keep, maintain* (from “*cause to endure or continue, hold on to*”), as lat. *tenēre*, in **tenáks**, *tenacious, tenor*, **apstenē**, *abstain*, **komtenē**, *contain*, **komtenuós**, *continuous*, **komtenuā**, *continue*, **detenē**, *detain*, **entertenē**, *entertain*, **tenántis**, *holder, tenant, lieutenant*, **manutenē**, *maintain*, **obhtenē**, *obtain*, **pertenē**, *pertain*, **pertenáks**, *pertinacious*, **retenē**, *retain*, **suptenē**, *sustain*; derivatives meaning “*stretched*”, hence “*thin*” include **tnús**, as Gmc. *thunniz, thunwiz* (cf. O.N. *þunnr*, O.E. *thynne*, W.Fris. *ten*, O.H.G. *dunni*, M.L.G. *dunne*, Du. *dun*, Ger. *dünn*, Eng. *thin*), **tenús**, *thin, rare, fine*, as Lat. *tenuis*, in **adtenuā**, *attenuate*, **ekstenuā**, *extenuate*, **tenrós**, *tender, delicate*, as Lat. *tener*, (**en**)**tenresko**, *touch, intenerate*; derivatives meaning “*something stretched or capable of being stretched, a string*” include Greek **ténōn**, *tendon*, o-grade suffixed **tónos**, *string*, hence *sound, pitch, tone*, and suffixed zero-grade **tńia**, *band, ribbon*.

III.4.b. PIE **chedh**, *ask, pray*, gives suffixed **chedhio**, *pray, entreat*, Gmc. *bidjan* (cf. O.E. *biddan*, Ger. *bitten*, O.E. *bid*), **chédhom**, *entreaty*, as Gmc. *bidam* (cf. Goth. *bida*, O.E. *bedu, gebed*, O.H.G. *beta*, M.Du. *bede*, Eng. *bead*, Ger. *bitte*); **chestós** (<***chedhto-**), into Lat. *-festus*, giving **ŋchestós**, *hostile* (from “*inexorable*”), **manuchestós**, *manifest, caught in the act*.

Some assign Lat. *-festus* to a common PIE **dhers**, *dare, be bold*, as Gmc. *derzan* (cf. Goth. *gadars*, O.E. *dearr, durran*, Eng. *dare*), Gk. *thrasys*, Skt. *dadharśa*, O.Pers. *darš-*, O.C.S. *druzate*.

III.4.c. PIE **skreibh**, *cut, separate, sift* (an extension of **sker**), used as *scratch, incise*, hence *write*, as Lat. *scribere*, giving **skreibhtós**, *written*, **skréibhā**, *scribe*, **skréibhtos**, *script*, **skreibhtóriom**, *scriptorium*, **skréibhtā/skreibhtósā**, *scripture*, **adskreibho**, *ascribe*, **kikromskreibho**, *circumscribe*, **komskreibho**, *conscript*, **deskreibho**, *describe*, **enskreibho**, *inscribe*, **prāiskreibho**, *prescribe*, **proskreibho**, *proscribe*, **reskreibho**, *rescript*, **supskreibho**, *subscribe*, **superskreibho**, *superscribe*, **tran(s)skreibho**, *transcribe*; from Greek is **skréibhos**, *scratching, sketch, pencil*, as Eng. *scarify*.

III.5. Common PIE **sā**, *satisfy*, as zero-grade **satós**, *sated, satiated*, as Gmc. *sathaz* (cf. Goth. *sąþs*, O.N. *saðr*, O.H.G. *sat*, M.Du. *sat*, Eng. *sad*, Ger. *satt*, Du. *zad*), verb **satio**, *satisfy, sate*, as Gmc. *sathōn* (cf. O.E. *sadian*, Eng. *sate*); suffixed zero-grade **saturós**, *full (of food), sated*, as Lat. *satur*, in **sáthurā**, *satire*, Lat. *satyra*, and **saturā**, *saturate*, Lat. *saturā*; **satís**, *enough, sufficient*, as Lat. *satis*, **satiā**, *satisfy*, **satisdhakio**, *satisfy*, **satiatā**, *satiety*; **sadrós**, *thick*, as Gk. *hadros*.

135. Indo-European root (s)**teu**, *push, stick, knock, beat*, is behind suffixed **studio**, *be diligent* (“*be pressing forward*”), Lat. *studere*, giving **stúdiom**, *eagerness*, then “*study, application*”, as in **studiā**, *study*, M.L. *studiāre*; other derivatives include extended (s)**teupo**, *push, stick, knock, beat*, as Gk. *typtein, typos*, Skt. *tup-, tundate*, Goth. *stautan* “*push*”, O.N. *stuttr*, and common Germanic **steupós**, *high, lofty*, as Gmc. *staupaz* (cf. O.E. *steap*, O.Fris. *stap*, M.H.G. *stouf*, Eng. *steep*).

136. PIE **sūs**, *pig, swine*, and derivatives **swinos/-m**, give Gmc. *swinam* (cf. Goth. *swein*, O.S., O.Fris. M.L.G., O.H.G., O.E. *swin*, M.Du. *swijn*, Du. *zwijn*, Ger. *Schwein*), **súkā**, *sugō* (cf. O.N. *sýr*, O.E. *sū*, O.S., O.H.G. *su*, Du.

zeug, Eng. *sow*, Ger. *Sau*), cf. Lat. *sūs*, *suinus*, Umb. *sif*, Gk. *hūs*, Skr. *sūkara*, Av. *hū*, Toch. *-/suwo*, Ltv. *sivēns*, O.C.S. *svinija* Russ. *svin*, Polish *świnia*, Celtic *sukko* (cf. O.Ir. *socc*, Welsh *hwch*, O.E. *hogg*), Alb. *thi*.

Related Indo-European **pórkos**, *young or little pig*, gives Gmc. *farkhaz* (cf. O.E. *fearh*, M.L.G. *ferken*, O.H.G. *farah*, M.Du. *varken*, Ger. *Ferkel*, Eng. *farrow*), Lat. *porcus*, Umb. *purka*, Gk. *porkos*, Kurd. *purs*, O.Pruss. *parstian*, Lith. *paršas*, Russ. *porosja*, Polish *prosię*, *prosiak*, Gaul. *orko* O.Ir. *orc*, Lusitanian *porcos*.

137. PIE **kákkā**, *shit, excrement*, and verb *shit*, cf. Ger. *Kacke*, Lat. *cacāre*, Gk. *kakkaō*, Pers. *keke(h)*, Arm. *k'akor*, Lith. *kaka*, Russ. *kakat'*, O.Ir. *cacc*, Welsh *cach*.

Other words for “*shit*” are Gmc. *skitan*, from PIE **skeit-**, “*split, divide, separate*”, and Lat. **ekskreméntom**, from **ekskerno**, “*separate*”, therefore both revealing an older notion of a “*separation*” of the body.

For IE **krei**, *sieve, discriminate, distinguish*, compare **kéidhrom/kéitrom**, *sieve*, as Gmc. *khriþram* (cf. O.E. *hriddet*, *hriddel*, Eng. *riddle*), Lat. *crībrum*; suffixed **kréimēn**, *judgment, crime*, as Lat. *crīmen*, as in **kreimenālis**, *criminal*, **rekreimenā**, *recriminate*, **diskréimēn**, *distinction*, **diskreimenā**, *discriminate*; suffixed zero-grade **krino**, *sift, separate, decide*, as metathesized Lat. *cernere*, in p.part **kritós**, (Lat. **kirtos*) *certain*, **komkrino**, *concern*, **komkrítos**, *concert*, **dekrítos**, *decree*, **diskrino**, *discern*, **diskomkritā**, *disconcert*, **ekskrino**, *separate*, **ekskritós**, *separated, purged*, **ekskritā**, *excrete*, **ekskriméntom**, *excrement*, **krititúdōn**, *certitude*, **ñkrititúdōn**, *incertitude*, **swekrino**, *secern*, **swekritā**, *secret*, **swekritis**, *secretary*; suffixed zero-grade **krinio**, *separate, decide, judge, explain*, as Gk. κρίνειν, in **kritis**, *crisis*, **kritikós**, *critic*, **kritériōn**, *criterion*, **diakritikós**, *diacritic*, **endokrinós**, *endocrine*, **eksokrinós**, *exocrine*, **supokritiā**, *hypocrisy*, **kritā**, *judge*, **haimntokritā**, *hematocrit* (MIE **haimn-**, **haimnto-**, *blood*, are loan words from Gk. αἷμα, -ατος, usually MIE ***saimn**).

a. For Indo-European **méigh**, *urinate, sprinkle*, hence “*mist, fine rain*”, also “*mix*” cf. Gmc. *mihstu-* (cf. Goth. *maihstus*, O.N. *míga*, O.E. *miscian*, *mistel*, O.H.G. *miskan*, Du.dial. *mieselen*, Swed. *mäsk*, Ger. *mischen*), *maisk-* (cf. O.E. *māsc*, *meox* Swed. *mäsk*, Ger. *Maisc*, Eng. *mash*), Lat. *mingere*, *meiere*, Gk. *omeikhein*, Skr. *mehati*, Av. *maēsati*, Kurd. *méz*, Gk. *omeihein*, Toch. *-/mišo*, Arm. *mizel*, Lith. *myžti*, Ltv. *mīzt*, Russ. *mezga*, Pol. *miazga*. Latin *micturire* comes from suffixed **míghtus**, in **míghtusio**, *want to urinate, micturate*.

b. PIE **wem**, *vomit*, gives O.N. *váma*, Lat. *vomere*, Gk. *emeso*, Skr. *vamiti*, Av. *vam*, Pers. *vātāk*, O.Pruss. *wynis*, Lith. *vemti*, Ltv. *vemt*.

c. PIE **sp(j)ew**, *spit*, gave Gmc. *spjewan* (cf. Goth. *spiewan*, ON *spýja*, O.E. *spiwan*, O.H.G. *spīwan*, Eng. *spew*, Ger. *speien*), Lat. *spuere*, Gk. *ptuein*, Skr. *ṣṭivati*, Av. *spāma*, Pers. *tuf*, Arm. *t'us*, Lith. *spjauti*, Ltv. *spļaut*, O.C.S. *pljujō*, Russ. *pljuju*, Pol. *pluć*, Osset. *thu*,

d. **kwas**, *cough*, gave Gmc. *hwostan* (cf. O.N. *hósta*, O.E. *hwōsta*, O.H.G. *huosto*, Ger. *Husten*, Skr. *kasāte*, Toch. */kosi*, Lith. *kosėti*, Ltv. *kāsēt*, Russ. *kašljat'*, Pol. *kaszleć*, Ir. *casachdach*, Welsh *pas*, Alb. *kollje*, Kam. *kāsa*.

138. The name of the Rhine comes from Ger. *Rhine*, in turn from M.H.G. *Rin*, ultimately from an IE dialect, originally lit. “*that which flows*”, from PIE **rej**, *flow, run*, as Gk. *rhein*, with derivatives including suffixed **rinuo**, *run*, as Gmc. *rinwan*, *rinnan*, (cf. Goth., O.S., O.E. O.H.G., *rinnan*, O.N. *rinna*, M.Du. *runnen*, Ger. *rinnen*), Gmc. *ril-* (cf. Dutch *ril*, Low German *rille*, Eng. *rill*); suffixed **réiws**, *stream, river*, as Lat. *rīuus*.

139. IE **albhós**, *white*, gives derivatives Lat. *albus*, Umb. *alfu*, Gk. *alphos*, Russ. *lebed'*, Lyc. *alb-*. Other derivatives are **álbhos**, **álbhis**, “*white thing*”, *elf* (from “*white ghostly apparition*”), as Gmc. *albaz*, *albiz* (cf.

O.N. *alfr* Eng. *ælf*, Gm. *Alps*, Eng. *elf*, also in Welsh *elfydd*, and in **Álbherōn**, *Oberon* from a Germanic source akin to O.H.G. *Alberich*, into O.Fr. *Auberon*), and fem. **álbhiniā**, *elfin*; Latin derivatives include **albinós**, *albino*, **álbhom**, *album*, **álbhomōn**, **albhómonā**, *albumen*.

MIE **Albhániā**, *Albania*, comes from M.Gk. *Ἀλβανία*. Although the name of Albania in its language is different (Alb. *Shqipëria*, “*Land of the eagles*”), it appeared only after the Turkish invasions, and the name **Albhániā** is internationally used today. Probably the terms for Albanian speakers of Greece and Italy (as *Arvanite*, *Arber*, *Arbëreshë*, etc.) are also derived from this older noun.

A proper IE word for “*eagle*” is **órōn** (from older **h₃oron*, cf. Hitt. *ḫarā-*), as Gmc. *arnuz* (cf. Goth. *ara*, O.N. *ari*, O.E. *earn*, O.H.G. *arn*, Eng. *erne*, Ger. *Aar*), **órnis**, *bird*, as in Gk. *ornitho-*, and other derivatives from PIE root **or-**, *large bird*, cf. Gk. *orneon*, Arm. *arciv*, Old Prussian *arelis*, Lith. *erelis*, Ltv. *ērglis*, Russ. *orel*, Pol. *orzel*, O.Ir. *irar*, Welsh *eryr*, Alb. *orë*.

Álbhā, *Scotland*, is a Scots- and Irish-Gaelic name for *Scotland*, as well as **Álbhiōn**, *Albion*, which designates sometimes the entire island of Great Britain and sometimes the country of England. The “*white*” is generally held to refer to the cliffs of white chalk around the English town of Dover, in the south of Great Britain.

Common MIE names are **Skotts**, *Scot*, **Skott(isk)léndhom**, *Scotland*, and Germanic **Skottiskós**, *scottish*.

For “*white, shining*”, compare also PIE **argós**, **argís**, as Goth. *unairkns*, O.E. *eorcnan(stān)*, Lat. *arguō*, Osc. *aragetud*, Gk. *arguros*, *erchan*, Skr. *arjuna*, Av. *arəzah*, Phryg. *arg*, Thrac. *arzas*, Toch. *ārki/arkwi*, Arm. *arcat'*, Gaul. *Argentoratum*, O.Ir. *argat*, Welsh *ariant*, Hitt. *ḫarkiš*. Common derivatives include Latin **argéntom**, *silver*, *argent*, **argentinā**, *argentine*; Greek **argil(I)os**, *white clay*, *argil*, **argúros**, *silver*, **arginouís**, *brilliant*, *bright-shining*; IE **argús**, *brilliant*, *clear*, in **argúio**, *make clear*, *demonstrate*, *argue*, Lat. *arguere*; suffixed **argrós**, *white*, Gk. *argos*.

140. Frankish loan words **frankós**, *frank*, and **Fránkos**, *freeman*, *a Frank*, (cf. O.E. *Franca*, O.H.G. *Franko*, M.L. *Franc*, Eng. *Frank*, Lith. *franču*, etc.), and **Frankiskós**, *Frankish* (cf. O.E. *frencisc*, Eng. *French*, Swe. *Fransk*, Du. *frans*, etc.), gives **Fránkiā**, *France* (as Fr. *France*, and not **Frankā**, which would be like Fr. *Franché*), and **Frankiakós**, or maybe secondary **Frankosiskós** (or **Frankosistós**), *French*, cf. Ger. *Französisch*, Rom. *franțuzește*, Russ. *французский*, Pol. *francuski*, etc. – the common Romance adj. from Lat. *Francensis* (cf. Fr. *français*, It. *franzese*, Spa. *francés*, etc.), **frankénts(is)*? seems too a secondary formation.

Other country names in MIE:

a. *Spain*: Phoenician/Punic *ʾÎ-šəpānîm* “*the isle of hares*” (where initial “*hi*” is a definite article). The Phoenician settlers found hares in abundance, and they named the land in their Canaanite dialect. The Latin-speaking Romans adapted the name as *Hispania*. The Latin name was altered among the Romance languages through O.Fr. *Espagne* and *espagnol* (through M.L. *Hispaniolus*), and entered English from Norman French, hence MIE **Hispániā**, *Hispania*, and **Hispánós**, *Hispaniard*, **Hispánikós**, *Hispanic*, and modern European words **Spániā**, *Spain*, **Spanós**, *Spanish*, cf. Lat. *hispanus*, Gk. *ispanós*.

b. *Greece*: From Gk. *Γραικοί*, Lat. *Graecus* (claimed by Aristotle to refer to the name of the original people of Epirus) is the general international name, hence MIE **Graikós**, *Greek*, **Gráikiā**, *Greece*. However, the proper old name is **Sewlénós**, *Hellene*, *Greek*, (possibly from “*luminary, bright*”), as Gk. Ἑλληνος, **Sewlénikós**, *Hellenic*,

and **Sewlās** or **Sewládā**, *Hellas/Ellas/Ellada, Greece*, a word possibly related to Gk. ἥλ- (*hel-*) “sun, bright, shiny”, (cf. Gk. *helios*, “sun”, from IE **sāwel**), in turn possibly related to the tribe of the *Selloi*, Gk. Σελλοί.

c. *Denmark*: The **Dhānes**, *Danes* (Lat. *Dani*), were the dominant people of the region since ancient times. The origin of their tribal name is unknown, although it could be a Latin borrowing from a Germanic name, and as Gmc. *dan-* is IE **dhen-**, it is possibly related to PIE **dhen**, “low, flat”, in reference to the lowland nature of most of the country (cf. etymology of *Poland* and *Netherland*). **Dhan(ēm)márg(ā)**, *Denmark*, (“the March of the lowlanders”), with Gmc. gen. **-ēm**, is then from compound **Dhan** (in gen.pl) + **márg**, *boundary, border*.

PIE **márg**, *boundary, border*, gives derivatives **márg(s)**, Gmc. *mark-*, “boundary, border territory”, also “landmark, boundary marker”, and “mark in general” (and in particular a mark on a metal currency bar, hence a unit of currency), cf. Goth. *marka*, O.N. *mörk*, O.E. *mearc*, *merc*, O.Fr. *marc*, O.Fris. *merke*, Du. *merk*, Ger. *Mark*, Sca. *mark*, and **márgio**, *note, notice*, Gmc. *markjan* (cf. O.N. *merki*, O.H.G. *merken*, O.E. *mearcian*), in **remárgio**, *remark*; also, derived from Germanic, compare fem. **márgā**, “mark out, mark”, Gmc. *markōn* (cf. Frank. *markōn*, O.It. *marcare*), and “border country, march, marc”, Gmc. *markō* (cf. O.Fr. *marche*, M.Lat. *marca*), and. Other derivatives include **márgōn**, *border, edge, margin*, as Lat. *margo*, in **(ek)márgonā**, *emarginate*; Celtic variant **mrógis**, *territory, land*, **mrógos**, *district*, (cf. O.Ir. *mruig*, *bruig*, Welsh *bro*, Corn. *bro*, Bret. *broin*), in compound from British Celtic **Kommrógos**, *Welsh*, “fellow countryman” (cf. Welsh *Cymro*), as in **Kommrógiā**, *Wales*, Welsh *Cymru*.

d. **Rōmaníā**, *Romania*, comes from **Rómā**, *Rome*, hence the same MIE adjective **Rōmānós** for (ancient and modern) *Roman* and *Romanian* people (cf. Rom. *români*), although modern borrowings MIE **Rōmāniós/Rōmānianós** and **Rōmānistós** (cf. common endings Rom. *-eană*, *-ește*) could be used for *Romanian*. Older variants of the name were written with *-u*, as Eng. *Rumania* (probably a French-influenced spelling, from Fr. *Roumanie*), as Rom. *rumâni*.

141. From PIE **pej**, *be fat, swell*, are derivatives zero-grade **pítuitā**, *moisture exuded from trees, gum, phlegm*, as in **pítuitáriā**, *pituitary*; **pínus**, *pine tree (yielding a resin)*, as Lat. *pīnus*, in **píniā**, *pine*, *piña*, **píniōn**, *piñon*; suffixed **píwōn**, *fat*, as Skr. *pívan*, Gk. *pīōn*; suffixed **píweriós**, *fat, fertile*, as Skr. *pívarī*, Gk. *píeira*, in **Píweriā**, “fertile region”, cf. O.Ir. *Īweriū* (Ir. *Eire*, M.Welsh *Iwerydd*, *Iwerddon*, also in O.E. *Īras*, Eng. *Ire[land]*), Gk. *Pieriā* (a region of Macedonia, cf. Eng. *Pierian Spring*); extended o-grade **póitos**, *plump, fat*, in verb **póitio**, *fatten*, Gmc. *faitjan*, p.part. **poiditós**, *fattened*, giving **póiditos**, *fat*, as Gmc. *faitithaz* (cf. O.N. *feitr*, O.E. *fætt*, Du. *vet*, Ger. *fett*). Compare also Lat. *pīnguis* (a mix of Lat. *fīnguis*, Gk. *pakhus*, and Lat. *opīmus*, Gk. *pimelh*). Gk. *pītys*, Skr. *pītuh*, *pitudaruh*, *payate*, Lith. *pienas*.

“Pine tree” in PIE is **gelunā**, found in O.N. *giolnar*, Gk. *kheilos*, Arm. *jelun/čelun*, Lith. *pušis*, Ir. *giúis*.

142. IE reconstructed **gúingos**, “leader of the people”, *king*, as Gmc. *kuningaz* (cf. O.N. *konungr*, O.H.G. *kuning*, O.E. *cýning*, Du. *koning*, Dan. *konge*, Ger. *könig*), is related to O.E. *cynn*, “family, race”, Mod. Eng. *kin* (see **gen**); O.C.S. *kunegu* “prince” (cf. Rus. *knyaz*, Boh. *knez*), Lith. *kunigas* “clergyman”, and Finnish *kuningas* “king”, are deemed loans from Germanic. MIE neuter **gningodhómos** is a loan translation of Eng. *king-dom*, Du. *konge-dømme* (see **dhē**), as **gningorégiom** is for Gmc. *kuninga-rikjam* (cf. Du. *koninkrijk*, Ger. *Königreich*, Da. *kongerige*, Swe. *kungarike*, Nor. *kongerike*). However, note that the proper O.E. word for “kingdom” was simply *rīce*, as PIE and MIE **régiom**.

143. The international name **Montinécros**, from **necrós mόνtis**, *black mount(ain)* (after the appearance of Mount Lovćen or its dark coniferous forests), was given by Italian conquerors, possibly from Venice. The term was loan-translated in Slavic (substituting their older name, Sla. *Zeta*) as **Krsná Corá** (or **Krsnocóriā**), from **krsnós**, *black* (cf. Sla. *čurnu*, O.Pruss. *kirsnan*, Lith. *kirsnas*, Skr. *kṛsna*, from PIE **kers**), and **corá**, *mount(ain)*.

PIE nominal root **kers**, *heat, fire*, gives **kértā**, *hearth, “burning place”*, as Gmc. *kherthō* (cf. O.E. *heorð*, O.Fris. *herth*, M.Du. *hert*, Ger. *Herð*); zero-grade **krdhōn**, *charcoal, ember, carbon*, as Lat. *carbō* (in light of Gmc. *kherth-*, O.Ind. *kūdayāti*), extended **kremā**, *burn, cremate*, as Lat. *cremāre*; suffixed extended Greek **kerámos**, *potter's clay, earthenware*, as in **keramikós**, *ceramic*; and in colour (apart from **krsnós**, *black*), compare extended verb **krāso**, *color*, as Russ. *krasit'*.

144. MIE **Swéones** (maybe orig. **Swíonís**), *Suiones*, from **Swéōn**, *swede*, is a proper reconstruction for Gmc. *swioniz*, (cf. O.E. *Sweon*, *Sweonas*); in O.N. *svear/sviár*, the *n* disappeared in the plural noun, still preserved in the old adjective Swe. *svensk*, MIE **Sweoniskós**, *swedish*. The name became part of a compound, MIE **Sweotéutā**, “*The Suione People*” (see **teutā**), as O.N. *Svíþjóð*, O.E. *Sweoðeod* (cf. Ice. *Svíþjóð*, Eng. *Sweden*, Ger. *Schweden*, Du. *Zweden*). The only Germanic nation having a similar naming was the Goths, who from the name Gmc. *Gutans* (cf. *Suehans*, “*Swedes*”) created the form *gut-þiuda*. The name *Swethiuth* and its different forms gave rise to the different IE names for Sweden (cf. M.Lat. *Suetia*, Gk. *Σουηθία*, Hi. *Svī.dan*, Pers. *Sued*, Lith. *Švedija*, Russ. *Швеция*, Pol. *Szwecja*, even Maltese *Svezja*, Heb. *Shvedia*, Jap. *Suwēden*, Kor. *Seuweden*, etc.). Another modern (Scandinavian) compound comes from MIE **Sweorégjom**, “*The Realm of the Swedes*”, cf. O.N. *Svíariki*, O.E. *Swēorīce* (cf. Swe. *Sverige*, Da.,Nor. *Sverige*, Fae. *Svøríki*, Ltv. *Zviedrija*, Saami *Sveerje*, *Svierik*). Another Germanic compound that has not survived into modern times is **Sweoléndhom**, “*The Land of the Swedes*”, as O.E. *Swēoland*.

145. Germanic **Finnléndhom**, “*Land of the Finns*”, comes from the Norsemen's name for the Sami or Lapps, **Finn** or **Finnós**, *Finn* (cf. O.N. *finnr*, O.E. *finnas*). The word may be related to Eng. *fen* or *find*.

English “*fen*” is probably from an original IE **pánio-**, “*marsh, dirt, mud*”, as Gmc. *fanja-* (cf. Goth. *fani*, O.E. *fen*, *fenn*, O.Fris. *fenne*, Du. *veen*, Ger. *Fenn*), borrowed in It., Sp. *fango*, O.Fr. *fanc*, Fr. *fange*; compare also Skr. *pankaḥ*, O.Prus. *pannean*, Gaul. *anam*.

146. A PIE base **per-**, *traffic in, sell* (“*hand over, distribute*”, see **per**), is behind **enterpreso**, *negotiate*, as in **enterpréts**, *go-between, negotiator, interpret*, verb **enterpretā**, *interpret*; **prétiom**, *price*, Lat. *pretium*, in **pretiōsós**, *precious*, **adpretiā**, *appreciate*, **depretiā**, *depreciate*; **perno**, *sell*, as in **porná**, *prostitute*, as Gk. *πορνη*, in **pornogrbhós** (or abb. **pornós**), *pornographic, porno*.

Other meanings of IE base **per-** (from **per**, see also verb **pero**), are *try, risk* (from “*lead over*”, “*press forward*”), and *strike*. Compare from the first meaning extended **péros**, *danger*, as Gmc. *fēraz* (cf. O.S.,O.N. *fár*, O.E. *fær*, Ger. *Gefahr* Eng. *fear*); suffixed **perítlom**, *danger, peril*, as Lat. *perículum*; suffixed and prefixed **eksperio**, *try, learn by trying*, as in **eksperτός**, *tried*, **eksperτός**, *experienced, expert*, **eksperiméntom**, *experiment*, **eksperiéntiā**, *experience*; **périā**, *trial, attempt*, as Gk. *πειρα*, in **periátā**, *pirate*, as Gk. *πειρατής*, **emperiákós**, *empiric*. From the second meaning is extended Latin *pre-m-*, *pre-s-*, as in **premo**, *press*, **presós**, *pressed*, giving **présiōn**, *pressure*, **depremo**, *depress*, **deprésiōn**, *depression*, **ekspremo**, *express*, **ekspresós**, *express*, **eksprésos**, *espresso*, **enpremo**, *impress*, **enpremtós/enpresós**, *impressed*, **enpremtā**,

imprint, **obhpremo**, oppress, **obhpresós**, oppressed, **repremo**, repress, **represós**, repressed, **reprementā**, reprimand, **suppremo**, suppress, **suppresós**, suppressed.

147. Latin **eksáliom**, *exilium*, “banishment”, comes from **eksál**, Lat. *exul*, “banished person”, from **eks**, “away”, and PIE **al**, “wander”, as in Gk. *alasthai*.

148. MIE **parénts**, *father or mother, ancestor*, as Lat *parens*, comes from verb **paro**, *bring forth, give birth to, produce*, Lat. *parere*, from PIE base **per-**, *bring forth*, as in **parā**, *make ready*, in **prāiparā**, *prepare*; for IE derivatives referring to young animals, cf. O.E. *fearr*, “bull”, O.H.G. *farro*, Ger. *Farre*, Gk. *poris*, Skr. *prthukaḥ*, Lith. *pariu*, Cz. *spratek*.

149. Indo-European **ówis** (older **h₂owi-*), *sheep*, gives Gmc. *awiz* (cf. Goth. *awēþi*, ON *áér*, O.E. *ēow*, O.H.G. *ouwi*, M.Du. *ooge*, Eng. *ewe*, Ger. *Aue*), Lat. *ovis*, Umbrian *uwem*, Gk. *oiç*, Skr. *avika*, Toch. *āuw*, Arm. *hoviv*, O. Pruss. *awins*, Lith. *avis*, Ltv. *avs*, Russ. *овца*, Polish *owca*, O.Ir. *ói*, Welsh *ewig*, Hitt. *ḫawi*, Luw. *ḫāwi-*, Lyc. *xabwa*. A common Latin derivative is **owinós**, *ovine*.

150. PIE root **pek**, *pluck*, gives **pekũ**, *cattle*; compare Gmc. *fehu* (Goth. *faihu*, O.N. *fé*, O.E. *feoh*, O.H.G. *fihu*, Eng. *fee*, *fellow*, Ger. *Vieh*), Lat. *pecu*, *pecū*, Gk. *πεκω*, Skr. *paśu*, Av. *pasu*, Arm. *asr*, O. Pruss. *pecku*, Lith. *pekus*, Alb. *pilë*. Common derivatives include **pekudom**, *feudal estate, feud*, from Med.Lat. *feudum*, from Gmc. *fehu*; **pekúniā**, *property, wealth*, as Lat. *pecunia*, gives **pekúniāsíós**, *pecuniary*, **ṅpekúniós**, *impecunious*; and suffixed **pekúliom**, *riches in cattle, private property*, gives **pekúliālís**, *peculiar*, and **pekulā**, *peculate*.

151. PIE **egnís**, *fire*, referred to fire as a living force (compare **áqā-após**), different to the inanimate substance **páwr**, and gave known IE derivatives as Lat. *ignis*, Skr. *agni*, Lith. *ugnis*, Ltv. *uguns*, OCS *ognĭ*, Russ. *огонь*, Polish *ogień*, Alb. *enje*; Hitt. *agniš*. However, in Modern Indo-European (due to the disappearance of such old distinctions) both words have usually come to mean the same, with many dialects choosing only one as the main word for a general “fire”.

152. Proto-Indo-European **bhrūs**, *brow*, is found in Ger. *brū-* (O.E. *brū*, Nor. *brún*, Ger. *Braue*, Eng. *brow*), Gk. *οφρύς*, Skr. *bhrus*, Pers. *abru*, Toch. *pärwāṃ/pärwāne*, O.Pruss. *wubri*, Lith. *bruvīs*, O.C.S. *bruvi*, Russ. *бровь*, Polish *brew*, Cel. *briva* (>**bhréwā**, *bridge*), O.Ir. *bru*; Ancient Macedonian *abroutes*.

153. For Indo-European **kerd**, *heart* (old inflection Nom. **kerds**, Acc. **kérdm**, Gen. **krdós**, cf. Anatolian *kart-*s), compare suffixed **kérdōn**, as Gmc. *khertōn* (cf. Goth. *hairto*, O.S. *herta*, O.N. *hjarta*, O.E. *heorte*, O.H.G. *herza*, Du. *hart*, Eng. *heart*, Ger. *Herz*), Lat. *cor* (stem *cord-*, from **krd**), Gk. *kardia*, Skr. *ḥṛdaya*, Av. *zərədā*, Arm. *sird/sirt*, O. Pruss. *seyr*, Lith. *širdis*, Ltv. *sirds*, O.C.S. *srǫdĭce*, *sreda*, Russ. *serdce*, Pol. *serce*, O.Ir. *críde*, Welsh *cráidd*, Bret. *kreiz*, Kamviri *zâra*. Common MIE words are from Latin zero-grade **krdiālís**, *cordial*, **adkrdā**, *accord*, **komkrdā**, *concord*, **diskrdā**, *discord*, **rekrdā**, *record*; further suffixed zero-grade Greek **krdiā**, *heart*, also *stomach, orifice*, gives **krdiakós**, *cardiac*, **endokrdiom**, *endocardium*, **epikrdiom**, *epicardium*, **megalokrdiā**, **perikrdiom**, *pericardium*; from compound **kred-dha-**, “to place trust” (an old religious term, from zero-grade of **dhē**, *do, place*), is **kreddho**, *believe* (a separable verb) as Lat. *credere* (cf. Fr. *croire*, It. *credere*, Spa. *creer*, Pt. *acreditar*, *crêr*, Rom. *crede*), in **kredhénts**, *credence*, **kredhibhilís**, *credible*, **kredhíto**, *credit*, **kred dhō**, “I believe”, *credo*, **kredholós**, *credulous*.

West Germanic “believe” comes from IE **komloubhio**, “to hold dear”, *esteem, trust*, as Gmc. *galaubjan* (cf. O.E. *geleafa*, *ge-lēfan*, *gelyfan*, Du. *geloven*, Ger. *glauben*), from PIE verbal root **leubh**, *care, desire, love*, as L.

lubet (later *libet*), Osc. *loufit*, Skt. *lubhyati*, Lith. *liaupsė*, O.C.S. *ljubŭ*, Pol. *lubić*, Alb. *lum*. Common derivatives include **leubhós**, *dear, beloved*, as Gmc. *leubaz* (cf. Goth. *liufs*, O.N. *ljutr*, O.E. *leof*, O.Fris. *liaf*, O.H.G. *liob*, Eng. *lief*, Ger. *lieb*), also o-grade **lóubhā**, *permission*, as Gmc. *laubō* (cf. O.E. *leafe*, Eng. *leave*); from zero-grade **lúbhā**, *love*, is Gmc. *lubō* (cf. Goth. *liufs*, O.N. *ljúfr*, O.E. *lufu*, O.Fris. *liaf*, O.H.G. *liob*, Eng. *love*, not found elsewhere as a noun, except O.H.G. *luba*, Ger. *Liebe*); also zero-grade stative **lubhē**, *be dear, be pleasing*, as Lat. *libēre* (O.Lat. *libēre*); also, **lúbhīdōn**, *pleasure, desire*, as Lat. *libīdō*.

North Germanic verb “*tro*” comes from IE **deru**, *faith, trust*, as Eng. *trust*.

Slavic verb for *believe*, **werio**, comes from **werós**, *true*, cf. Russ. *верумъ*, Pol., *wierzyć*, Sr.-Cr. *vjerovati*, Slo. *verovati*, etc.

154. IE **kwōn**, *dog*, gives derivatives Gmc. *khundas* (from **kun(t)ós**, originally Genitive, cf. Goth. *hunds*, O.E. *hund*, O.N. *hundr*, O.H.G. *hunt*, Eng. *hound*, Ger. *Hund*), Lat. *canis*, Gk. *kuōn*, Skr. *śvan*, Av. *spā*, Pers. *sag*, Phryg. *kunes*, Thrac. *dīnu-*, Dacian *kinu-*, Toch. *ku/ku*, Arm. *šun*, O.Pruss. *sunis*, Lith. *šuo*, Ltv. *suns*, Russ. *suka*, Pol. *suka*, Gaul. *cuna*, O.Ir. *cū*, Welsh *ci*, Alb. *shakë*; Hitt. *śuwanis*, Lyd. *kan-*. Derivatives **kwonikós**, *cynic*, from Gk. *κυνικός*; variant Lat. **kánis** gives **kanāsiós**, *pertaining to dogs*, **kanārios**, *canary*, **kaninós**, *canine*.

155. Compare the well-attested derivatives of PIE numerals from one to ten:

I. The usual IE word for one is **óinos**, (earlier **h₁oinos*) *one, only*, attested as Gmc. *ainaz* (cf. Goth. *ains*, O.N. *inn*, O.E. *ān*, O.H.G. *ein*, Dan. *een*, O.Fris. *an*, Du. *een*), Lat. *ūnus* (O.Lat. *oīnus*), Osc. *uīnus*, Umb. *uns*, Gk. *oīnŷ*, O.Pruss. *aīns*, Lith. *vienas*, Ltv. *viens*, O.C.S., (ѣд)иѣтъ, иѣо-, O.Russ. [oð]иѣтъ, [oð]иѣна, Polish [jed]en, Gaul. *oīnos*, O.Ir. *óin*, Welsh *un*, Kamviri *ev*, Alb. *një/nji*, Osset. *иу (iu)*. Slavic prefix *ed-* comes from IE **ek**, “*out*”.

PIE root **oi-**, earlier **h₁ói*, (which gives **óinos**) had other rare compounds, as **óiwos**, *one alone, unique*, as Gk. *oi(w)os*, Av. *aēva*, O.Pers. *aiva*, **óikos**, (maybe **óiqos**) *one*, as Hitt. *aika-*, O.Ind. *éka-*, Hindi एक (*ek*), Urdu اڪ (*ik*), Rro. *yek*, Pers. *ۛ (yek)*, Kashmiri *akh*. It had also vowel grades **ei-**, **i-**, as in **ijo-**, Gk. *iō*.

Derivatives include **alnóinos**, “*all one*”, *alone*, from **alnós óinos**, as W.Gmc. *all ainaz* (cf. Eng. *alone*, Ger. *alleine*, Du. *alleen*), **nóin(os)**, “*not one*”, *none*, from **ne óinos**, as Gmc. *nain-az* (cf. O.S., M.L.G. *nen*, O.N. *neinn*, O.E. *nan*, M.Du., Du. *neen*, O.H.G., Ger. *nein*, Eng. *none*), Lat. *nōn* (cf. also Lat. *nec unus* in It. *nessuno*, Spa. *ninguno*, Pt. *ninguém*); from Latin are **óiniōn**, *union*, **oinio**, *unite*, **oinitós**, *united*, **óinitā**, *unity*, **oinitā**, *unite*, **adoinā**, *join*, **komadoinā**, *coadunate*, **oinanamós**, *unanimous*, **oinikórnis**, *unicorn*, **oiniwérsos**, *universe*; suffixed **oinikós**, *one, anyone*, and *sole, single*, as Gmc. *ainigaz* (cf. O.S. *enig*, O.N. *einigr*, O.E. *ænig*, O.Fris. *enich*, Du. *enig*, Ger. *einig*, Eng. *any*), Lat. *ūnicus*, also in **óinkīā**, *one twelfth of a unit*, as Lat. *ūncia*.

For ordinal MIE **prwós** [pɾː-wós], *first*, also dialectal **preismós**, **prowtós**, **pristós** [pɾː-is-‘tos] (see more derivatives from **per**, *forward, through, in front of, before, early*, hence “*foremost, first*”, cf. Hitt. *para*, Lyc. *pri*), compare Gmc. *furistaz* (cf. O.N. *fyrstr*, O.E. *fyrst*, O.H.G. *furist*, *fruo*, Eng. *first*, Ger. *Fürst*, *früh*), Lat. *primus*, Osc. *perum*, Umb. *pert*, Gk. *prōtos*, Skr. *prathama*, Av. *paoiriia*, *pairi*, Osset. *fyccag*, *farast*, Toch. *parwät/parwe*, O.Pruss. *pariy*, Lith. *pirmas*, Ltv. *pirmais*, O.C.S. *pīrvŭ*, Russ. *pervyj*, Polish *pierwszy*, O.Ir. *er*, Welsh *ar*, Alb. *i parë*, Kam. *pürük*.

PIE root **sem-**, *one, together, united* (Nom. **séms/sōms**, Gen. **s(e)mós/somós**, and as prefix **sm̥**), which refers to the unity considered as a whole, and appears usually in word compounds, as in **seme**, *at once, at the*

same time, **sémel**, *one time*, as Lat. *simul*, **ensémel**, *at the same time, ensemble*; **sémele**, *formerly, once*, etc. Compare Gmc. *sam-* (cf. Goth. *sama*, O.N. *sami*, O.E. *sum*, O.H.G. *saman*, Eng. *some*, Ger. [zu]sammen), Lat. *semel*, Gk. *heis*, Skr. *sakṛt*, Av. *hakeret*, O.Pers. *hama*, Toch. *saš/še*, Arm. *mi*, Lith. *sa*, Russ. *сам*, O.Ir. *samail*, Welsh *hafal*, Alb. *gjithë*, Kam. *sâ~*; Hitt. *san*, Lyc. *sñta*.

Derivatives include Greek full grade **semdekmkomlabikós**, *hendecasyllabic* (from MIE borrowing **kómlabā**, *syllable*, Gk. *sullambanein*, *to combine in pronunciation*, from **kom** and Gk. *lambanein*, *to take*), **semodhesismos**, *henotheism* (see **dhēs**), **suposem**, *hyphen* (see **supo**); **smkmtóm**, see **kmtóm**, *hundred*; suffixed **sémel**, *at the same time*, Lat. *simul*, as in **semeltaniós**, *simultaneous*, **adsemelā**, *assemble*; **sem(g)olós**, *alone, single*, Lat. *singulus*; compound **sémper** (see **per**), *always, ever* (“once and for all”), Lat. *semper*; o-grade **som**, *together*, Skr. *sam*, and zero-grade extended **símnn**, *together with, at the same time*, as Gk. *hama*; o-grade suffixed **somós**, *same*, as Gmc. *samaz* (cf. O.N. *samr*, Eng. *same*), Gk. *homos*, in **somo-**, *homo-*, **somio-**, *homeo-*, **sómilos**, *crowd*, **somilā**, *discourse, homily*, Gk. *ὁμλία*; **somlós**, *like, even, level*, in **nsomlós**, *anomalous*, **somlogrbhikós**, *homolographic*; lengthened **sómís**, *fitting, agreeable*, (< “making one”, “reconciling”), as Gmc. *somiz* (cf. O.N. *sæmr*, Eng. *seem, seemingly*), also in **sómo-**, *self*, Russ. *sam(o)*; zero-grade **sm-**, as Gk. *ha-*, *a-*, “together” (the ‘a copulativum’, ‘a athroistikon’) as e.g. in *a-delphos* “brother”, from **sm-celbhos** literally “from the same womb” (cf. Delphi), cognate to English *same* (cf. Symbel), or Skr. *saṃ-*, present e.g. in the term for the language itself, viz. **s(o)ms-qṛtā**, Skr. *saṃ-s-kṛtā* “put together”; **smplós**, *simple*, Lat. *simplus*, Gk. *haploos, haplous*, also **smpléks**, “one fold”, *simple*, as Lat. *simplex*, in **smplékítā**, *simplicity*; suffixed **símnos**, *one, a certain one*, also **-smnos**, *like*, as Gmc. *sumaz* (cf. O.E. *sum*, *-sum*, Eng. *some*, *-some*); **smmlós**, *of the same kind, like, similar*, as Lat. *similis*, **adsmmlā**, *assimilate*; usually reconstructed ***sínteros**, *one of two, other*, as Gk. *heteros* (older *hateros*), although **sínteros** (cognate with Lat. *sine*) should be used.

Compare also **sémi**, *half*, generally as first member of a compound, as Gmc. *sēmi-* (cf. O.E. *sām-*, in compounds *samblind, samlæred*, “half-taught, badly instructed”, *samstorfen*), Gk. *hēmi*, and Lat. *semi-* and **sémis**, *half*.

II. The forms for “two” alternate **dwo/do**, with **duw-/du-**, cf. Gmc. *two-* (cf. Goth. *twai*, O.N. *tveir*, O.E. *twā*, O.H.G. *zwene*, Eng. *two*, Ger. *zwei*), Lat. *duo*, Osc. *dus*, Umb. *tuf*, Gk. *δύο*, Skr. *dva*, Av. *duua*, Pers. *duva*, Pers. *do*, Toch. *wu/wi*, Arm. *erku*, O.Pruss. *dwāi*, Lith. *du/dvi*, Ltv. *divi*, O.C.S. *dūva*, Russ. *два*, Pol. *dwa*, Gaul. *vo*, O.Ir. *dá*, Welsh *dau*, Kamviri *dü*, Alb. *dy*; Hitt. *dā-*, Lyc. *tuwa*. See also **ámhbhos**, *both*.

Common PIE “second” was **alterós** (from PIE **al**, *beyond*) and **anterós**, “the other of the two, the second, other”, cf. Gmc. *antharaz* (cf. O.S. *athar*, O.N. *annarr*, Ger. *ander*, Goth. *anþar*), Lat. *alter*, Lith. *antras*, Skt. *antarāh*, both senses still found in some modern languages, cf. Da. *anden*, Swe. *andra*, Nor. *andre*, Ice. *annar*.

To avoid ambiguity, some languages have renewed the vocabulary, as in suffixed participial Lat. **seqondós**, *following, coming next, second* (from PIE **seq**, *follow*), borrowed in English *second*, while others have made compounds imitating the general ordinal formation in their dialects (cf. Ger. *zweite*, Du. *tweede*, Gk. *δευτερος*, Skr. *dviṭīya*, Fr. *deuxième*, Ir. *dóú*, Bret. *daouvet*, etc.), hence MIE **dwoterós**, **dwitós**, **dwiós**, etc.

Slavic languages have undergone a curious change, retaining the same words for “other” and “second” (and therefore the ambiguity), but using a word for “friend” (hence “other”), from IE **deru**, *be firm, solid* (hence also “be trustworthy”), compare O.Sla. *δpoyzъ*, giving Russ. *дpыз*, O.Pol. *drug*, Sr.-Cr., Slo. *drûg*, Cz., Slk. *druh*,

O.Pruss. *draugiwaldūnen*, Lith. *draūgas*, *sudrugti*, Lath. *drāugs*, and even Germanic (cf. verbs Goth. *driugan*, O.N. *draugr*, O.E. *dréogan*, Eng. dial. *dree*, “endure”, and as noun Goth. *gadraúhts*, O.H.G. *trucht*, *truhtin*).

III. For PIE root **tri-** **trei-** (cf. Hitt. *tri-*, Lyc. *trei*), giving IE **tréjes**, *three*, compare Gmc. *thrijiz* (cf. Goth. *þreis*, O.N. *þrír*, O.E. *þrēo*, O.H.G. *drī*, Eng. *three*, Ger. *drei*), Lat. *trēs*, Umb. *trif*, Osc. *trís*, O.Gk. *τρεῖς*, Gk.Cret. *τρῆες*, Gk.Lesb. *τρῆς*, Skr. *tráyas*, *tri*, Av. *thri*, Phryg. *thri-*, Illyr. *tri-*, Toch. *tre/trai*, Arm. *erek'*, O.Pers. *çi*, Pers. *se*, O.Pruss. *tri*, Lith. *trỹs*, Ltv. *trīs*, Sla. *trъje* (cf. O.C.S. *trъje*, O.Russ. *mpue*, O.Cz. *třie*, Polish *trzy*), Gaul. *treis*, O.Ir. *treí*, Welsh *tri*, Alb. *tre*. Modern derivatives include zero-grade **trístis** (from **tri+st**, see **stā**), “third person standing by”, *witness*, as Lat. *testis*, in **trístā**, *witness*, **trístāments**, *testament*, **tristíkolos**, *testicle*, **adtristā**, *attest*, **komtristā**, *contest*, **detristā**, *detest*, **obhtristā**, *obtest*, **protristā**, *protest*, **tristidhakā**, *testify*; suffixed o-grade form **trójā**, *group of three*, gives Russian **tróikā**.

For ordinal **trit(i)ós**, **trtijós**, compare Gmc. *thridjaz* (cf. Goth. *þridja*, O.N. *þriðe*, O.E. *þridda*, O.Fris. *thredda*, O.S. *thriddio*, O.H.G. *dritto*, M.L.G. *drudde*, Du. *derde*, Ger. *dritte*), Lat. *tertius*, Gk. *tritos*, Skt. *trtiyas*, Avestan *thriya*, Lith. *trecias*, O.C.S. *tretiji*, O.Ir. *triss*, with common derivatives including **trítionm**, *tritium*.

IV. Alternating forms of four are **qetwor**, **qtwor**, **qetur**, **qetr**, **qetwr**. Unlike *one*, *two*, *three*, the inflected forms of “four”, i.e. m. **qetwóres**, f. **qetwesóres**, n. **qetwór**, are not common to all IE dialects; compare Gmc. *fe(d)wor* (cf. Goth. *fidwor*, O.N. *fjórir*, O.S. *fiwar*, O.Fris. *fiuwer*, Frank. *fitter-*, O.E. *fēower*, O.H.G. *feor*, Eng. *four*, Ger. *vier* Dan. *fire*, Sw. *fyra*), Lat. *quattuor*, Osc. *petora*, Umb. *petor*, Gk.Hom. *τέσσαρες*, *πίουρες*, Gk.Ion. *τέσσερες*, Gk.Dor. *τέτορες*, O.Ind. *catvāras*, *catúras*, Av. *čathwar*, *čaturam*, Pers. *čahār*, Kurd. *čwar*, Thrac. *ketri-*, Toch. *štwar/štwer*, Arm. *č'ork'*, O.Pruss. *keturjāi*, Lith. *keturì*, O.Ltv. *cetri*, O.C.S. *četyri*, Russ. *четыре*, Pol. *cztery*, Gaul. *petor*, O.Ir. *cethir*, Welsh *pedwar*, Bret. *pevar*, Alb. *katër*, Kam. *što*; Lyc. *teteri*.

For ordinal adjective **qeturós**, **qetwrtós** (also **qeturτός**), compare Gmc. *fedworthaz* (cf. O.E. *fēortha*, *fēowertha*, O.H.G. *fiordo*, M.Du. *veerde*, Ger. *vierte*, Eng. *fourth*), Lat. *quārtus*, Lith. *ketvirtas*, Russ. *четвёртый*, Cz. *čtvrtý*, Ir. *ceathrú*, Welsh *pedwaredd*.

V. For Indo-European **pénqe**, *five*, compare Gmc. *finfe* (cf. Goth. *fimf*, O.S. *fif*, O.N. *fimm*, O.E. *fif*, O.H.G. *funf*), Lat. *quinque*, Osc. *pompe*, Umb. *pumpe*, Gk. *πέντε*, Skr. *pañca*, Av. *pañča*, O.Pers. *panča*, Phryg. *pinke*, Toch. *pāñ/piś*, Arm. *hing*, O.Pruss. *pēnkjāi*, Lith. *penki*, Ltv. *pieci*, O.C.S. *peŕi*, Russ. *пять*, Polish *pięć*, Gaul. *petpe*, O.Ir. *cóic*, Welsh *pump*, Alb. *pesë*, Kam. *puč*; Luw. *paⁿta*.

For ordinal **penqtós**, compare Gmc. *finfthaz* (cf. Eng. *fifth*, Du. *vijfde*, Ger. *fünfte*, Sca. *femte*, etc.), Lat. *quintus*, Gk. *πέμπτος*, Lith. *penktas*, Russ. *пяты*, Cz. *pátý*, Ir. *cúigiú*, Welsh *pumed*, Bret. *pempvet*, etc.

VI. For PIE “six”, **sweks** and **seks** (also **weks** in Arm. *vec'*, originally then probably PIE ***sweks**), compare Gmc. *sekhs* (cf. Goth. *saihs*, O.S. *seks*, O.N., O.Fris. *sex*, O.E. *siex*, O.H.G. *sēhs*, M.Du. *sesse*), Lat. *sex*, Osc. *sehs*, Umb. *sehs*, Gk. *ἕξ*, Skr. *ṣaṣ*, Av. *khšwuaš*, Pers. *šeš*, Osset. *æxsæz*, Illyr. *ses-*, Toch. *šāk/škas*, O.Pruss. *usjai*, Lith. *šeši*, Ltv. *seši*, O.C.S. *šestī*, Russ. *шесть*, Polish *sześć*, Gaul. *suex*, O.Ir. *sé*, Welsh *chwech*, Alb. *gjashtë*, Kam. *šu*.

For **s(w)ekstós**, compare Gmc. *seksthaz* (cf. O.E. *siexta*, Fris., Ger. *sechste*, Du. *zesde*, Da. *sjette*) Latin *sextus*, Gk. *ἕκτος*, Lith. *šeštas*, Russ. *шестой*, Cz. *šestý*, Sr.-Cr., Slo. *šesti*, Ir. *séú*, Welsh *chweched*, Bret. *c'hwech'het*, etc.

VII. For PIE **séptm**, **septm̃**, *seven*, compare Gmc. *sebn* (cf. O.S. *sibun*, O.N. *sjau*, O.E. *seofon*, O.Fris. *sowen*, *siugun*, O.H.G. *sibun*, Du. *zeven*), Lat. *septem*, Oscan *seften*, Gk. *ἑπτὰ*, Skr. *saptá*, Av. *hapta*, Pers. *haft*, Osset.

avd, Toch. *ṣpāt* (*ṣäpta-*)/*ṣukt*, Arm. *evt'n*, O. Pruss. *septīnjai*, Lith. *septynì*, Ltv. *septīņi*, O.C.S. *sedmǐ*, O.Russ. *семь*, Polish *siedem*, Gaul. *sextan*, O.Ir. *secht*. Welsh *saith*. Alb. *shtatë* (from **septmtǐ-**), Kamviri *sut*; Hitt. *ṣipta-*.

For ordinal **septm(m)ós**, compare Gmc. *sebunthaz* (cf. Eng. *seventh*, Ger. *siebente*, Du. *zevende*, Da. *syvende*, Swe. *sjunde*), Lat. *septimus*, Gk. ἑβδομος, Lith. *sekmas*, Russ. *седьмой*, Ir. *seachtú*, Welsh *seithfed*, Bret. *seizhvet*.

VIII. For PIE **óktō(u)**, *eight*, older **h₃ekteh₃*, compare Gmc. *akhto(u)* (cf. Goth. *ahtau*, O.N. *átta*, O.E. *eahta*, O.H.G. *ahto*), Lat. *octō*, Osc. *uhto*, Gk. *οκτώ*, Skr. *aṣṭa*, Av. *ašta*, O.Pers. *ašta*, Toch. *okät/okt*, Arm. *ut'*, O.Pruss. *astōnjai*, Lith. *aštuoni*, Ltv. *astoņi*, OCS *osmǐ*, Russ. *восемь*, Polish *osiem*, Gaul. *oxtū*, O.Ir. *ocht*, Welsh *wyth*, Alb. *tëte*, Kam. *uṣṭ*; Lyc. *aitāta-*.

For common ordinal **oktowós**, or newer imitative formations **oktotós**, **oktomós**, compare Gmc. *akthothaz* (cf. Eng. *eighth*, Ger. *achte*, Du., Fris. *achtste*, Swe. *åttonde*), Lat. *octavus* (but cf. Fr. *huitième*), Gk. *ógdoos*, Russ. (в)осьмой, Cz. *osmý*, Ir. *ochtú*, Welsh *wythfed*, Bret. *eizhvet*.

IX. PIE **néwn** (older **h₂néwn*), *nine*, gave Gmc. *niwun* (cf. Goth., O.H.G. *niun*, O.Fris. *niugun*, O.N. *níu*, O.E. *nigon*), Lat. *novem*, Osc. *nuven*, Umb. *nuvīm*, Gk. ἑννέα, Skr. *nava*, Av. *nauua*, O.Pers. *nava*, Pers. *noh*, Toch. *ñu*, Arm. *inn*, O.Pruss. *newīnjai*, Lith. *devynì*, Ltv. *devīņi*, O.C.S. *devęti*, Russ. *девять*, Polish *dziewięć*, Gaul. *navan*, O.Ir. *nói*, Welsh *naw*, Alb. *nëntë/nândë*, Kam. *nu*; Lyc. *ñuñtāta-*. Slavic common form *devęť*, from PIE **néwntis**, is also found in O.N. *niund*, Gk. (f.) ἑννεάς, O.Ind. *navatīṣ*, Av. *navaiti-*. For ordinals **nown(n)ós**, **neuntós**, compare Gmc. *niunthaz* (cf. Eng. *ninth*, Ger. *neunte*, Du. *negende*, Da. *niende*, Swe. *nionde*), Lat. *nonus*, *nouenus*, (but Fr. *neuvième*), Gk. *ἐνατος*, Russ. *девятью*, Cz. *devátý*, Ir. *naoú*, Welsh *nawfed*, Bret. *navvet*.

X. For PIE **dékm(t)** [*de-km̥*], also **dekń**, *ten*, compare Gmc. *tekhun* (cf. Goth. *taihun*, O.S. *tehan*, O.N. *tíu*, O.Fris. *tian*, O.E. *tīen*, O.Du. *ten*, O.H.G. *zēhen*), Lat. *decem*, Osc. *deken*, Umb. *desem*, Gk. *δέκα*, Skr. *daśa*, Av. *dasa*, Pers. *datha*, Dacian *dece-*, Toch. *śāk/śak*, Arm. *tasn*, O.Pruss. *desīmtan*, Lith. *dešimt*, Ltv. *desmit*, O.C.S. *desęti*, Russ. *десять*, Polish *dziesięć*, Gaul. *decam*, O.Ir. *deich*, Welsh *deg*, Alb. *dhjetë/dhetë*, Kam. *duc*.

For ordinal **dekm(m)ós**, **dekmtós**, compare Gmc. *tekhunthaz* (cf. O.E. *teogoþa*, Ger. *zehnte*, Du., Da. *tiende*, Swe. *tionde*, Eng. *tithe*, *tenth*), Lat. *decimus*, Gk. *dékatos*, Lith. *dešimtas*, Russ. *десятью*, Cz. *desátý*, Ir. *deichiú*, Welsh *degfed*, Bret. *dekvēt*.

156. This is the general situation in PIE (cf. e.g. for “*twelve*”, Ved.Skr. *dvádaśa*, Lat. *duodecim*, Gk. *δώδεκα*, Ir. *dó dheag*, etc.), although some dialectal differences are found:

a. In Slavic and dialectal Baltic, a peculiar form **-nódekm** (**-pódekm**), lit. “*on ten*”, is used, e.g. **qetwrnódekm** (**qetwrpódekm**) “*four on ten*”, as Russ. *четырнадцать*, i.e. *четыре+на+дцать*, (Ltv. *četrpadsmīt*, i.e. *četri+pad+desmit*), cf. Pol. *czternaście*, Cz. *čtrnáct*, Sr.-Cr. *četrnaest*, etc.

b. Germanic and dialectal Baltic use compounds with MIE **-liq(a)**, *left over* (see **leiq**), in Germanic only **óinliq(a)**, “*one left (beyond ten)*”, as Gmc. *ain-lif* (cf. Goth. *ain-lif*, O.E. *endleofan*, O.H.G. *elf*, Eng. *eleven*), Lith. *vienio-lika*, **dwóliq(a)**, “*two left (beyond ten)*”, as Gmc. *twa-lif* (cf. Goth. *twalif*, O.S. *twelif*, O.N. *tolf*, O.E. *twelf*, O.Fris. *twelef*, M.Du. *twalef*, O.H.G. *zwelif*), Lith. *dvy-lika*; also, compare Lithuanian *try-lika*, “*thirteen*”, *keturio-lika*, “*fourteen*”, etc.

For PIE **leiq**, *leave*, compare Gmc. *laikhwñjan* (cf. Goth. *leiþan*, O.N. *ljá*, O.E. *lænan* O.H.G. *līhan*, Eng. *lend*, Ger. *leihen*), Lat. *linquō*, Gk. *leipō*, Skr. *riṇakti*, Av. *raexnah*, Pers. *rēxtan*, Arm. *lk'anem*, O.Pruss. *polijcki*, Lith. *likti*, Ltv. *likt*, Russ. *olek*, O.Ir. *léicid*. Common derivatives include **ekléiqtis**, *eclipse*, *ellipsis*, Gk. ἔλλειψις; o-

grade **lóiqnis**, *loan*, as Gmc. *laikhwniz* (cf. O.N. *lān*, Eng. *loan*), **loiqnio**, *lend*, as Gmc. *laikhwnjan*, ; nasalized **linqo**, *leave*, as Lat. *linquere*, in **delinqénts**, *delinquent*, **relinqo**, *relinquish*, **relí(n)qā**, *relic*, etc.

c. It is believed that in some Germanic dialects an inflected form of **-dekm-** was possibly used (cf. O.E. *-tēne*, *-tīne*, *-týne*, Eng. *-teen*), maybe IE ***-dekmis**.

157. The suffix **-k(o)mtǎ**, *ten times*, comes probably ultimately from zero-grade PIE ***dkmtH**, from **dékm(t)**, *ten*, and is found as Lat. *-gintā*, Gk. *-konta*; it is also found in Germanic full-grade **dekmtós**, *tenth*, Gmc. *teguntha-* (cf. O.E. *teogotha*, *tēotha*, Eng. *tenth*, *tithe*).

Germanic suffix *-tig*, “group of ten”, representing “ten” in cardinal numbers (as Eng. *sixty*, *seventy*, etc.), possibly an independent Gmc. root (cf. O.E., Du. *-tig*, O.Fris. *-tich*, O.N. *-tigr*, O.H.G. *-zig*, *-zug*), existed as a distinct word in Goth. *tigjus*, O.N. *tigir*, “tens, decades”. Germanic retains traces of an old base-12 number system, as the words *eleven*, “leave one”, and *twelve*, “leave two”, show, v.s. Old English also had *hund endleofantig* for 110 and *hund twelftig* for 120. One hundred was *hund teantig*. O.N. used *hundrað* for 120 and *þusend* for 1,200. *Tvauhundrað* was 240 and *þriuhundrað* 360.

Balto-Slavic dialects use the forms that MIE reserves for the tens (due to their different formation), i.e. “(unit)+ten”, e.g. *three-ten*, as Russ. *mpy̆d̆y̆am̆* (i.e. *mpu* + *d̆y̆am̆*), Ltv. *trīsdesmit* (i.e. *trīs*+*desmit*); cf. also Pol. *trzydzieści*, Sr.-Cr. *trideset*, etc.

158. For IE **(d)wikrntī**, *twenty*, originally then ***dwi-dkomt-**, compare Lat. *vīgintī*, Gk. *eíkooi*, Skr. *viñśati*, Av. *visaiti*, Pers.) بےست *bēst*), Toch. *wiki/ikām*, Arm. *k'san*, Gaul. *vocontio*, O.Ir. *fiche*, Welsh *ugain*, Alb. *njëzet/njizet*, Kamviri *vici*. For newer formations in Balto-Slavic, as MIE **dwo+dekm**, cf. Lith. *divdesmit*, Russ. *двадцать*, Pol. *dwadzieścia*, Cz. *dvacet*, Sr.-Cr., Bul. *dvadeset*, Slo.,Slk. *dvajset*, Rom. *douăzeci*.

Indo-European tens are generally found in the oldest – or more archaic – attested dialects as compounds of zero-grade numbers with **-dkomt-**, as **trikómt(ǎ)** (Lat. *trīgintā*, Gk. *triákonta*, Ir. *tríocha*, Skr. *triñśat*), **qetwrkómt(ǎ)** (cf. Lat. *quadrāgintā*, Gk. *tessarákonta*, Skr. *catvāriñśat*), **penqekómt(ǎ)** (cf. Lat. *quinqūāgintā*, Gk. *pentêkonta*, Ir. *caoga*, Skr. *pañcāśat*), **s(w)ekskómt(ǎ)** (cf. Lat. *sexāgintā*, Gk. *exêkonta*, Ir. *seasca*, Skr. *ṣaṣṭiḥ*), **septmkómt(ǎ)** (cf. Lat. *septuāgintā*, Gk. *heptákonta*, Ir. *seachtó*, Skr. *saptatiḥ*), **newnkómt(ǎ)** (cf. Lat. *nonāgintā*, Gk. *ennenêkonta*, Ir. *nócha*, Skr. *navatiḥ*).

For PIE **kmtóm**, *hundred*, (probably from ***dkmtóm**, a zero-grade suffixed form of **dékm**, *ten*), compare Gmc. *khunda* (cf. Goth. *hund*, O.H.G. *hunt*), Lat. *centum*, Gk. *εκατόν*, Skr. *śata*, Av. *satem*, Pers. *sad*, Toch. *kānt/kante*, O.Lith. *šim̆tas*, Ltv. *simts*, O.C.S. *sŭto*, Russ. *emo*, Pol. *sto*, Gaul. *cantam*, O.Ir. *cét*, Welsh *cant*. Also, West Germanic dialectal MIE **krnt(m)-radhom** (for **rādhom**, *number*, see **ar**), *khund(a)-ratham*, as O.N. *hundrað*, O.E. *hundred*, Ger. *hundert*, Eng. *hundred*.

A general Proto-Indo-European inflected noun for “thousand” was **(sm)ghéslos**, **-om**, **-ā**, (*one*) *thousand*, as Skr. *sahasram*, Av. *hazarəm*, Pers. *hāzar*, Toch. *wälts/yaltse*, Russ. *число*, Cz. *číslo*. Common MIE derivatives include **ghéslioi**, *thousand*, as O.Gk. *χίλιοι*, in **gheslo-**, *kilo-*, and Latin derivatives from *mille*, O.Lat. *mī(hī)lī*, in turn from an older PIE suffixed **sm-ghesl-ī**.

The usual (uninflected) Germanic and Balto-Slavic common form **túsntī**, “massive number” hence “thousand”, gave Gmc. *thusundi* (cf. Goth. *þusundi*, O.N. *þúsund*, O.E. *þūsunt*, O.Fris. *thusend*, O.H.G. *þūsunt*, Du. *duizend*),

Toch. *tumane/tmām*, Lith. *tūkstantis*, Ltv. *tūkstots*, OCS *tysǫŝti*, Russ. *тысяча*, Polish *tysiąc*. It is possibly related to PIE **tew**, *swell*, and some consider it an older **tūs-kmtī->*túsmtī/túsomtī*, “swollen hundred”.

159. For IE verb **pel**, *fold*, compare o-grade nouns **póltōn**, *fold*, as Gmc. *falthan* (cf. Goth. *falþan*, O.N. *falda*, O.E. *faldan*, *fealdan*, M.L.G. *volden*, Ger. *falten*), and combining forms **-póltos**, as Gmc. *-falthaz* (cf. Goth. *falþs*, O.N. *-faldr*, O.E. *-feald*, *-fald*, Ger. *-falt*), and **-plos**, as Lat. *-plus*, Gk. *-πλος*, *-πλόος*, also as Gk. *πολύς*, still used in modern Greek. Extended IE base **pleks**, *plait*, gives o-grade **plóksom**, *flax*, as Gmc. *flakhsam* (cf. O.E. *fleax*, O.Fris. *flax*, Ger. *Flachs*), full-grade **-pleks**, *-fold*, in compounds such as **dupleks**, **tripleks**, **mltipleks**, etc., and as verb **plekā**, *fold*, *plicate*, Lat. *plicāre*, in **adplekā**, *apply*, **komplekā**, *complicate*, **kómpleks**, *complice*, **eksplekā**, *deploy*, **deeksplekā**, *deploy*, *display*, **enplekā**, *involve*, *implicate*, *employ*, **enplekitós**, *implicit*, **replekā**, *replicate*, *reply*; suffixed **plekto**, *weave*, *plait*, *entwine*, as Lat. *plectere*, p.part. **plekstós** (from **plekttos*), as in **plékstos**, *plexus*, **amplekstos**, *amplexus*, **komplekstio**, *entwine*, **komplekstós**, *complex*, **perplekstós**, *confused*, *perplexed*; Greek **plektós**, *twisted*.

160. For PIE **mónoghos** (root *menegh-*), *much*, *many*, compare Gmc. *managaz* (cf. Goth. *manags*, O.S. *manag*, O.E. *monig*, *manig*, O.Fris. *manich*, Swed. *mången*, Du. *menig*, Ger. *manch*), O.C.S. *munogu*, Russ. *многo*, Cz. *mnoho*, O.Ir. *menicc*, Welsh *mynych*. The compound **monoghopóltos**, *manifold*, is common to Germanic dialects, cf. Goth. *manag-falþs*, O.E. *monigfald* (Anglian), *manigfeald* (W.Saxon), O.Fris. *manichfald*, M.Du. *menichvout*, Swed. *mångfalt*, etc.

161. For PIE first person **eg**, **egó**, (and Indo-Iranian **egóm**), compare Gmc. *ek* (cf. Goth. *ik*, O.Fris. *ik*, O.E. *ic*, O.N. *ek*, O.H.G. *ih*, Norw. *eg*, Dan. *jeg*, Eng. *I*, Ger. *ich*), Lat. *ego*, Umb. *eho*, Gk. *ἐγώ*, Av. *azəm*, O.Lith. *eš*, O.Pruss., Ltv. *es*, O.C.S. *azь*, O.Russ. *azь*, O.Pol. *jaz*, Kam. *ōc*; Hitt. *uk*, Carian *uk*. Dialectal Skr. *aham*, Ven. *eχo*, could show a variant form **eghó(m)*, while Slavic *azь* and Anatolian *ug* forms show maybe another old o-grade variant **ógo*, although this is disputed. Derivatives from inflected **me(ghi)** include Gmc. *me(ke)* (cf. O.N., Goth. *mik*, O.E. *me*, *mec*, O.H.G. *mih*), Lat. *me*, Umb. *mehe*, Ven. *mego*, Gk. *eme*, Skt. *mam*, Av. *mam*, Russ. *mne*, O.Ir. *mé*, Welsh *mi*, Alb. *mua*, etc.

162. For PIE **we(i)**, *we*, compare Gmc. *wiz* (cf. Goth. *wit*, *weis*, O.S. *wi*, O.N. *vit*, *vér*, O.E. *wē*, O.Fris. *wi*, O.H.G. *wir*, Dan. *vi*, Du. *wij*), Skr. *vayam*, Av. *vaēm*, O.Pers. *vayam*, Toch. *was/wes*, Lith. *vedu*, Hitt. *wēs*. For inflected IE **ns-**, **nos**, compare Gmc. *uns-* (cf. Goth. *unsar*, *ugkis*, ON *oss*, *okkr*, O.E., *us*, *uncer*, O.S., O.Fris. *us*, O.H.G. *unsih*, *unser*, Swed. *oss*), Lat. *nōs*, Gk. *no*, Skr. *nas*, Av. *nō*, O.Pers. *amaxām*, Toch. *nás*, O.Pruss. *nou̯son*, Lith. *nuodu*, Russ. *nas*, Polish *nas*, O.Ir., Welsh *ni*, Alb. *ne*; Hitt. *anzās*.

163. For Indo-European **tu**, *you* (sg.), compare Gmc. *thu* (cf. Goth. *þu*, O.N. *þú*, O.E. *þu*, O.H.G. *thu*, Eng. *thou*, Ger. *du*), Lat. *tū*, Osc. *tuvai*, Umb. *tu*, Gk. *su*, Skr. *tvam*, Av. *tū*, O.Pers. *tuva*, Toch. *tu/tuwe*, Arm. *tu*, O.Pruss. *toū*, Lith. *tu*, Ltv. *tu*, O.C.S., Russ. *ty*, Polish *ty*, O.Ir. *tú*, Welsh *ti*, Alb. *ti*, Kam. *tū*; Hitt. *tuk*.

164. PIE **ju(s)**, *you* (pl.), gives Gmc. *iūwiz* (cf. Goth. *jus*, O.N. *yor*, O.S. *iu*, O.E. *[g]ē-ow*, O.Fris. *iū-we*, M.Du. *u*, O.H.G. *ir*, *iū-wih*), Gk. *humeis*, Skr. *yūyam*, Av. *yūžəm*, Toch. *yas/yes*, Arm. *dzez*, O.Pruss. *ioūs*, Lith. *jūs*, Ltv. *jūs*. For **wos**, **us-**, compare Lat. *vōs*, Umb. *uestra*, Skr. *vas*, Av. *vō*, O.Pruss. *wans*, Russ. *vy*, *vas*, Polish *wy*, *was*.

165. Indo-European reflexive **s(w)e** gave Goth. *sik*, O.N. *sik*, O.H.G. *sih*, Ger. *sich*, Lat. *sē*, *sibi*, Oscan *sífeí*, Umbrian *seso*, Gk. *heos*, Skr. *sva*, Av. *hva*, Phryg. *ve*, Arm. *ink's*, O.Pruss. *sien*, *sin*, Lith. *savo*, Ltv. *sevi*, O.C.S. *se*, Russ. *sebe*, *-sja*, Alb. *vetë*; Carian *šfes*, Lyd. *šfa-*. Derivatives include suffixed **sélbhos**, *self*, Gmc. *selbaz* (cf. Goth.

silba, O.N. *sjalfr*, O.E. *seolf*, *sylf*, O.Fris. *self*, Du. *zelf*, O.H.G. *selb*), **s(w)ebh(ó)s**, “one’s own”, *blood relation, relative*, as Gmc. *sibjas* (cf. Goth. *sibja*, O.S. *sibba*, O.E. *sibb*, O.Fris., M.Du. *sibbe*, O.H.G. *sippa*, Eng. *sib*, Ger. *Sippe*); suffixed **swóinos**, “one’s own (man)”, *attendant, servant*, also *shepherd*, as Gmc. *swainaz* (cf. O.N. *sveinn*, O.E. *swan*, O.S. *swen*, O.H.G. *swein*, Eng. *swain*); suffixed **s(u)w-**, as in **suwikīdā**, *sucide*, and **swómis**, “one’s own master”, *owner, prince*, as Skr. *svāmī*; extended **sed**, **sē**, *without, apart* (from “on one’s own”); suffixed o-grade **sólos**, *by oneself alone*, Lat. *sólus*, as in **sólitāsíós**, *solitary*, **desólā**, *desolate*; suffixed **swēdhsko**, *accustom, get accustomed*, as Lat. *suēscere*, as in **komswēdhsko**, *accustom*, p.part. **komswēstós** (<***komswēdh(sk)to-**), in **komswēstūdōn**, *consuetude, custom*, **deswēstūdōn**, *desuetude*, **manswēstūdōn**, *mansuetude*; suffixed extended **swetrós**, *comrade, companion*, as O.Gk. *hetaros*; suffixed form **sweinós**, *self*, as O.Ir. *féin*, as in *Sinn Féin*; suffixed **swétos**, *from oneself*.

Some linguists connect the pronoun to an older PIE root **swe-** meaning *family*, in turn related with **su**, *be born*, which would have frozen in ancient times through composition in words like **sw-esōr**, lit. “*woman of the own family*” (from **sw-**, “*family, own*” and **ésor-**, *woman*), as opposed to the generic **ésōr** or **cénā**, *woman*.

166. For PIE **deuk**, *lead*, also “*pull, draw*”, compare Gmc. *teuhan* (cf. O.E. *tēon*, O.H.G. *ziohan*, Eng. *tug*, Ger. *ziehen, Zug*), M.Welsh *dygaf*, Alb. *nduk*; zero-grade suffixed **dúkā**, *draw, drag*, Gmc. *tugōn* (cf. O.E. *togian*, Eng. *tow*), and prefixed **ekdukā**, *lead out, bring up, educate*, in Lat. *ēducāre*; suffixed o-grade **doukē**, *bind, tie*; **dóukmos**, *descendant, family, race, brood*, hence “*team*”, as Gmc. *tauhmaz*, O.E. *tēam*, and denominative verb **doukmio**, *beget, teem*, as Gmc. *taukhmjan*, O.E. *tēman*, *tīeman*; basic form gives Latin derivatives **déuks**, *duke*, **apdeuko**, *abduct*, **addeuko**, *adduce*, **aqādéuktos**, *aqueduct*, **kikromdéuktiōn**, *circumduction*, **komdeuko**, *conduce, conduct*, **dedeuko**, *deduce, deduct*, **ekdeuko**, *educate*, **endeuko**, *induce*, **entrodeuko**, *introduce*, **prodeuko**, *produce*, **redeuko**, *reduce*, **sedeuko**, *seduce*, **supdeuko**, *subdue*, **transdeuko**, *traduce*.

167. For PIE **so**, *this*, as O.E. *se* (later replaced by *th-*, in *the*), Gk. *ho, he*, Skt. *sa*, Avestan *ha*, O.Ir. *so*, had also a Germanic feminine **sjā**, “*she*”, Gmc. *sjō*, as O.E. *sēo, sīe*. A common loan word is variant form **sei-** in compound with **ki**, *here*, giving **séiki**, *thus, so, in that manner*, as Lat. *sic* (cf. for Romance “*yes*”, Fr. *si*, It. *sì*, Spa., Cat. *sí*, Pt. *sim*). From inflected form **to** are Gmc. *thē* (cf. O.E. *the*, M.Du. *de*, Ger. *der, die*), L. *ta[lis]*, Gk. *to*, Skr. *ta-*, Bal.-Sla. *to*, also alternative Greek borrowing **tmto-**, *tauto-*; from neuter **tod** is Gmc. *that*; from accusative **tām** are adverbial Latin **tāmdem**, *at last, so much, tandem*, and **tāmtos**, *so much*, and from its reduced form **tā-** is suffixed **tális**, *such*.

168. From PIE **i** are derivatives **jénos** (see **éno**), *that, yon*, as Gmc. *jenaz* (cf. Goth. *jains*, O.N. *enn*, O.Fris. *jen*, O.H.G. *ener*, M.Du. *ghens*, O.E. *geon*, Ger. *jener*), and as extended **jend-**, **jéndonos**, *yond, yonder, beyond*, as Gmc. *jend(anaz)*, O.E. *geond(an)*; extended form **jái** gives O.E. *gēa*, Ger., Dan., Norw., Sw. *ja*, Eng. *yeah*; relative stem **jo** plus particle gives **jóbho**, “*doubt*”, *if*, as Gmc. *jaba* (cf. O.E. *gif*, O.N. *ef, if*, O.Fris. *gef*, O.H.G. *ibu, iba*, Ger. *ob*, Du. *of*); basic form **i**, Lat. *is*, neuter **id**, *it*, and **ídem**, *same*, as in **identikós**, *identical*, **idémtitā**, *identity*, **identidhakā**, *identify*; suffixed **íterom**, *again*, **íterā**, *iterate*, **reíterā**, *reiterate*, **ítem**, *thus, also*.

For MIE reconstructed **lig**, *body, form, like, same*, compare Germanic derivatives **komlígos**, “*like*”, *having the same form*, lit. “*with a corresponding body*”, as Gmc. *galikaz* (cf. Goth. *galeiks*, O.S. *gilik*, O.N. *glikr*, O.E. *gelic*, Du. *gelijk*, Ger. *gleich*), analogous, etymologically, to MIE **kombhormís**, Lat. *conform*; verb **ligio**, *please*, as Gmc. *likjan* (cf. Goth. *leikan*, O.N. *lika*, O.E. *lician*, O.Fris. *likia*, O.H.G. *lihhen*).

For MIE reconstructed **bhórmā**, *form*, compare Lat. *forma*, “*form, mold, shape, case*”, and Greek μορφή, “*form, shape, beauty, outward appearance*”, equivalent to IE **mórbhā**, hence both possibly from a common PIE root **merbh-/bherm**, “*form*”.

169. For **ko**, **ki**, *here*, compare as Gmc. *khi-* (cf. Goth. *hita*, ON *hér*, O.E. *hit*, *he*, *her*, O.H.G. *hiar*, Eng. *it*, *he*, *here*), Lat. *cis*, Lith. *šis*; Hitt. *kāš*, Luw. *zaš*. Also, a common particle **ke** is found, as in O.Lat. *hon-ce* (Lat. *hunc*), Gk. *keinos* (from **ke-eno**), also Hitt. *ki-nun*, “*now*”.

170. PIE **éno**, *there*, gave Gmc. *jenos* (in compound with **i**), Skr. *ena-*, *anena*, O.C.S. *onu*, Lith. *ans*.

171. Common loan word Latin *murus*, “*wall*”, comes from O.Lat. *moiros*, *moerus*, i.e. MIE **móiros**, with common derivatives **moirālis**, *of a wall*, and n.pl. **moirālia**, as Fr. *muraille*, Spa. *muralla*, Eng. *mural*. This word is used normally in modern Indo-European languages to refer to an “*outer wall of a town, fortress, etc.*”, as Ger. *Mauer*, Du. *muur*, Sca. *mur*, Fr. *mur*, It., Spa., Pt. *muro*, Ca. *mur*, Lith. *muras*, Pol. *mur*, Ir. *mur*, Bret. *mur*, Alb. *mur*, etc., while most IE languages use another word for the “*partition wall within a building*”, as MIE **wállom**, *wall, rampart, row or line of stakes*, a collective from **wállos**, *stake*, as Lat. *uallum*, *uallus* (cf. O.E. *weall*, O.S., O.Fris., M.L.G., M.Du. *wal*, Swe. *vall*, Da. *val*, Ger. *Wall*), MIE **pariétis**, as Lat. *paries*, *parietis* (cf. It. *parete*, Spa. *pared*, Pt. *parede*, Rom. *perete*), MIE **stáinā** (cf. O.C.S. *stena*, Russ. *стена*, Sr.-Cr., Slo. *stena*, Cz. *stěna*, Pol. *ściana*, also compare loans Ltv. *siena*, Lith. *siena*, Finn. *seinä*, Est. *sein*). IE **móiros** comes from PIE **mej**, *strengthen, pole*, as in Gmc. *mairja-* (cf. O.Eng. *mære*, *gemære* “*limit, boundary*”, O.Ice. *landa-mæri*), O.Ind. *mití-*, Pers. *mēχ* “*peg, plug, nail*” (<**maiχa*), O.Ir. [-*tuid*]men, and extended Lith. *mita*, Sla. **moisto** or **meisto** (from PIE ***me/o-itto**), as in O.Bulg. *město*, Ser.-Cr. *mjesto*, Cz. *místo*, etc.

For Indo-European root **stāi-**, *stone*, compare Slavic **stáinā**, *wall*, and o-grade **stóinos**, *stone*, as Gmc. *stainaz* (cf. Goth. *stains*, O.N. *steinn*, O.E. *stan*, O.H.G. *stein*, Da. *steen*); suffixed **stájr**, *solid fat, suet*, as Gk. *στέαρ*, in **stájríkós**, *stearic*, etc; cf. also Gk. *stia*, *stion*, “*pebble*”, Skr. *styayate* “*curdles, becomes hard*”, Av. *stay-* “*heap*”.

172. For PIE **peig**, also **peik**, *cut, mark (by incision)*, compare derivatives **péik(o)lā**, *cutting tool, file, saw*, as Gmc. *fikh(a)la* (cf. O.E. *feol*, *fil*, O.H.G. *fila*, M.Du. *vile*, Eng. *file*, Ger. *Feile*), Lith. *pela*, O.C.S. *pila*; nasalized zero-grade **pingo**, *embroider, tattoo, paint, picture* (presumably from “*decorate with cut marks*” to “*decorate*” to “*decorate with color*”), as Lat. *pingere*, in p.part. **pigtós**, *painted*, **pigtósā**, *painting, picture*, **pigmńtom**, *pigment*, **depingo**, *depict*; suffixed zero-grade form **pikrós**, *sharp, bitter*, as Gk. *pikros*; o-grade **poikilós**, *spotted, pied, various*, as Gk. *poikilos*. Compare, with the sense of “*mark, decorate*”, Skr. *pingaḥ*, *pesalah*, *pimsati*, O.C.S. *pisati*, *pegu*, “*variegated*”, O.H.G. *fehjan* “*adorn*”, Lith. *piesiu* “*write*”.

173. For PIE **ed**, *eat*, originally *bite*, compare Gmc. (pro)etan (cf. Goth. *itan*, ON *eta*, O.E. *etan*, *fretan*, O.H.G. *ezzen*, *frezzan*, M.Du. *eten*), Lat. *edere*, as in **edibhilís**, *edible*, **komedo**, *comedo*, Lat. *comedere*, p.part. **komestós**, (<***komedto-**) as in **komestibhilís**; compound **prám(e)diom**, “*first meal*”, *lunch* (from **prām**, *first*), as Lat. *prandium*; suffixed **edunā**, *pain* (from “*gnawing care*”), as Gk. *odunē*. Compare Lat. *edō*, Osc. *edum*, Gk. *edō*, Skr. *ad*, Av. *ad*, Thrac. *esko-*, Toch. *yesti*, Arm. *utel*, O.Pruss. *ist*, Lith. *ėsti*, Ltv. *ēst*, Russ. *jest'*, Polish *jeść*, O.Ir. *esse*; Hitt. *at*, Luw. *ad-*, *az-*, Palaic *ata-*.

Proto-Indo-European **donts** (old gen. **dentós**), *tooth*, originally present participle **h₁dent*, “*biting*”, gives Gmc. *tanth-tunth* (cf. Goth. *tunþus*, O.E. *tōð*, pl. *teð*, cf. O.N. *tönn*, O.S. *tand*, O.Fris. *toth*, O.H.G. *zand*, Dan., Swed., Du. *tand*, Ger. *Zahn*), Lat. *dentis*, Gk. *odous/donti*, Skr. *dantam*, Pers. *dandān*, Lith. *dantis*, Russ. *desna*, O.Ir.

dét, Welsh *dant*, Kam. *dut*. Modern derivatives include Germanic **dńtskos**, *canine tooth, tusk* (cf. O.E. *tux, tusc*, O.Fris. *tusk*), Latin **dentális**, *dental*, **dentístā**, *dentist*, **endentā**, *indent*, **tridénts**, *trident*, and Greek **-donts**, **donto-**, as Gk. *odōn, odous*, in **dontologíā**, *odontology*, etc.

174. Proto-Indo-European **gal**, *call, shout*, gave expressive **gallo**, as Gmc. *kall-* (cf. O.N. *kalla*, O.E. *ceallian*, O.H.G. *halan*, Eng. *call*), also found in Latin noun **gállos**, *cock* (< “the calling bird”), as Skr. *usakala*, “dawn-calling”, M.Ir. *cailech*, (but also associated with *Gallus*, Gallic, as if to mean “the bird of Gaul”), in **gallinakiós**, *gallinaceous*; **gálsos**, *voice*, as O.C.S. *glasŭ*, as in *glasnost*; also, reduplicated **gálgalos**, *word*, as O.C.S. *glagolu*. Also found in Gk. *kaleo, kelados*, Lith. *kalba*, “language”.

175. For Proto-Indo-European verbal root **pō(i)**, *drink*, compare common derivatives Lat. *pōtāre, pōtus, bibō*, Umb. *puni*, Gk. *πίνω, πόσις*, Gk.Lesb. *πώνω* (Fut. *πίομαι*, Aor. *ἔπιον*, Impf. *πῖθι*, Perf. *πέπωκα*), O.Ind. *píbati, pítás, pítis*, also *páti, pāyáyati, páyatē*, Thrac. *pinon*, Arm. *əmpelik'*, O.Pruss. *poutwei, poieiti*, Lith. *puotà*, Sla. *pī-* (cf. O.C.S. *pitijŭ, piju*, O.Russ. *numu*, Pol. *pić, piju*, Cz. *píti, piji*, Sr.-Cr. *nuŕmu, nuŕĕm*, Slo. *píti, pĭjem*, etc.), O.Ir. *ibim*, Welsh *yfed*, Alb. *pi* (aor. *pĭva*); Hitt. *pas*. For MIE common words, compare **pōtós**, *drunk*, as Lat. *pōtus*, in **pōtā**, *drink*, Lat. *pōtāre*; suffixed zero-grade **pōtis**, *drink, drinking*, in **kompótiom**, “with drinking”, *feast, banquet, symposium*, as Gk. *σμπόσιον*, and further suffixed Latin **pōtiōn**, *a drink, potion*, as Lat. *pōtiō*, or; zero-grade **pĭros**, *feast*, as O.C.S. *pirŭ* (cf. also general zero-grade **pī**, Sla. *pĭj-*, “drink”); suffixed nasal **pĭno**, *drink*, as Gk. *pĭnein*; suffixed **pōtlom**, *drinking vessel, cup, bowl*, as Skr. *pātram*; suffixed reduplicated zero-grade **pipo-**, whence **pĭbo**, *drink*, as O.Ind. *píbati*, Sla. *pivo*, also in Lat. *bibere*, where it is assimilated to **bibo*.

A common term for “beer”, thus, could be Modern Indo-European neuter **pĭbom**, as both common European words are derived from PIE reduplicated verb **pĭbo**, compare Lat. *bibere* (cf. O.E. *beor*, O.N. *bjórr*, Du.,Fris.,Ger. *bier*, Ice. *bjór*, Fr. *bière*, It.,Cat. *birra*, Rom. *bere*, Gk. *μπίρα*, Pers. *abejo*, Bul. *бѳра*, Ir. *beoir*, Welsh *bĭr*, Bret. *bier*, Alb. *birrĕ*, also Hebrew *bĭrah*, Turkish *bĭra*, Arabic *bĭra*, Jap. *bĭru*, Chinese *pĭjŭ/bĭhluh*, Maori *pĭa*, Thai *biya*, Malay *bir*, Indonesian *bir*, Swahili, Vietnamese *bia*), and Slavic *pivo* (cf. Russ.,Ukr. *nuĕo*, Pol. *piwo*, Cz.,Sr.-Cr. *pivo*, Bel. *niea*, Mac. *nuĕo*, also Mongolian *nuĕo*, Azeri *pivo*, etc.). For other terms, compare MIE **áluts**, *ale*, as Gmc. *aluth* (cf. O.E. *ealu*, O.S. *alo*, O.N.,Sca. *əl*, Ice. *öl*, Ltv.,Lith. *alus*, O.C.S. *olu*, Slo. *ol*, Rom. *olovină*, also Est. *õlu*, Finn. *olut*), perhaps from a source akin to Lat. *alumen*, “alum”, or to PIE root **alu**, a root with connotations of “sorcery, magic, possession, intoxication”. Another term comes from Cel.-Lat. *cerevisia* -> *cervesia* (cf. Spa. *cerveza*, Pt. *cerveja*, Occ.,Cat. *cervesa*, Gal. *cervexa*, Filipino, Tagalog *servesa*, Ilongo *serbisa*, Cebuano *sĭrbesa*, Tetum *serveja*, etc.), in turn from agricultural Goddess Lat. *Ceres*, from PIE **ker**, *grow*, and possibly Lat. *vis*, “strength”, from IE **wĭros**, *man*.

For PIE **ker**, *grow*, compare **kérĕs**, as Lat. *Cerĕs*, *goddess of agriculture, especially the growth of grain*, in **kereális**, *cereal*; extended form **krĕ-**, in **krĕio**, *bring forth, create, produce* (< “to cause to grow), *create*, as Lat. *crĕāre*, also in **prōkrĕiā**, *procreate*, **krĕiātiōn**, *creation*; suffixed **krĕsko**, *grow, increase*, as Lat. *crĕscere*, in **krĕskĕnts**, *crescent*, **komkrĕsko**, *grow together, harden*, p.part. **komkrĕtós**, in **komkrĕtā**, *concrete*, **adkrĕsko**, *accrue*, **dekrĕsko**, *decrease*, **enkrĕsko**, *increase*, **rekrĕsko**, *increase*, also *recruit*, **ekskrĕsko**, *grow out*, in **ekskrĕskĕntiā**, *excrescence*, p.part. **ekskrĕtós**, *grown out*, in **ekskrĕtā**, *separate, purge*; suffixed o-grade **kórws**, “growing”, *adolescent, boy, son*, and **korwá**, *girl*, as Gk. *kouros, koros*, and *korĕ*; compound **smkĕrós**, “of one growth”, *sincere* (from zero-grade **sm-**, *same, one*), as Lat. *sincĕrus*.

176. For PIE root **lew**, *wash*, cf. Lat. *lauāre*, Gk. *louein*, Gaul. *lautro*, Arm. *loganam/lokanam*, O.Ir. *lóathar*, Welsh *luddw*, Hitt. *lahhuzzi*. Compare derivatives **lóukā**, as Gmc. *laugō* (cf. O.N. *laug*, O.E. *lēðran*, O.H.G. *louga*, Eng. *lather*, Ger. *Lauge*); from Latin variant **lawo**, zero-grade **-lwo** in compounds, are **dislúwiom**, *deluge*, **adlúwiōn**, *alluvion*, **komlúwiom**, *colluvium*, **eklúwiom**, *eluvium*, etc.; from athematic **lawā** are **lawātóriom**, *lavatory*, **lawābhō**, **lawātrínā**, *bath, privy*, as Lat. *lātrīna*, etc.

177. The verb ‘to be’ in Old English was a compound made up of different sources. *Bēon* and *wesan* were only used in certain tenses (mixed with original PIE **es**). *Bēon* was used in the present tense to express permanent truths (the ‘gnomic present’), while *wesan* was used for the present participle and the preterite.

Wesan comes from Germanic **wīsan* (cf. Goth. *wesan*, O.N. *vesa*, O.E. *wesan*, O.H.G. *wesan*, Dutch *wezen*, Ger. *war*, Swe. *vara*) from Indo-European **wes**, *dwelt, live*, as in Celtic *westi-* (cf. Old Irish *feiss*). Common English forms include *was* (cf. O.E. *wæs*) and *were* (cf. O.E. Sg. *wære*, Pl. *wæron*).

178. For PIE **men**, *think*, compare zero-grade suffixed (**kom**)**mńtis**, *mind*, as Gmc. (*ga*)*munthiz* (cf. Goth. *muns*, O.N. *minni*, O.E. *gemynd*, Ger. *minne*), Lat. *mēns* (*ment-*), in **mntālis**, *mental*, **demńtis**, *dement*, **mńtiōn**, *remembrance, mention*; also, **mntós**, “*willing*”, as Gk. *-matos*, as in **automńtikós**, *automatic*; suffixed **mnio**, *be mad*, as Gk. *mainesthai*, and **mńios**, *spirit*, as Av. *mainiius*; also fem. **mńiā**, *madness, mania*, as Gk. *maniā*, in **mńiakós**, *maniac*; full-grade **mėntiā**, *love*, as Gmc. *minthjō* (cf. O.H.G. *minna*, M.Du. *minne*); reduplicated **mimno**, *remember*, as Lat. *meminisse*, in **mimnėntōd**, *memento* (imperative), **kommimnesko**, *contrive by thought*, as Lat. *comminiscī*, **komentāsiom**, *comment*, **remimnesko**, *recall, recollect*, **remimneskėnts**, *reminiscent*; **mántis**, *seer*, as Gk. *mantis*; **mėntros**, *counsel, prayer, hymn*, as Skr. *mantrah*; suffixed **mėnōs**, *spirit*, as Gk. *menos*; o-grade causative **monē**, *remind, warn, advise*, as Lat. *monēre*, in **mónitiōn**, *monition*, **monitōr**, *monitor*, **mónstrom**, *portent, monster*, **admonē**, *admonish*, **demonstrā**, *demonstrate*, **prāimonitiōn**, **supmonē**, *summon*; maybe also from this root is suffixed **Móntuā**, *Muse*, which gives usual Greek loans **montuáikos**, *mosaic*, as Gk. *Μωσαϊκός*, **montuėiom**, *museum*, as Gk. *μουσεϊον*, **montuiká**, *music*, as Gk. *μουσική*; extended **mnā**, reduplicated **mimnāsko**, *remember*, as Gk. *mimnēskein*, giving **mnāstós**, *remembered*, **ṛmnāstós**, “*not remembered*”, from which **ṛmnāstíā**, *oblivion, amnesty*, as Gk. *ἀμνηστία*, and **ṛmnásiā**, *amnesia*, **mn(á)mn**, *memory*, as Gk. *mnēma*, **mnámōn**, *mindful*, **mnāmonikós**, *mnemonic*, **mnámā**, *memory*, as Gk. *mnēmē*; also, from PIE expression **mens dhē**, “*set mind*”, is compound noun **mnsdhē**, *wise*, as Av. *maz-dā-*.

A similar IE root is **mėndh**, *learn*, which in zero-grade **mndhā** gives Gk. *manthanein* (Aorist stem *math-*), as in **mndhāmtikós**, *mathematical*, **ghrėstomńdheiā**, *chrestomathy*, etc.

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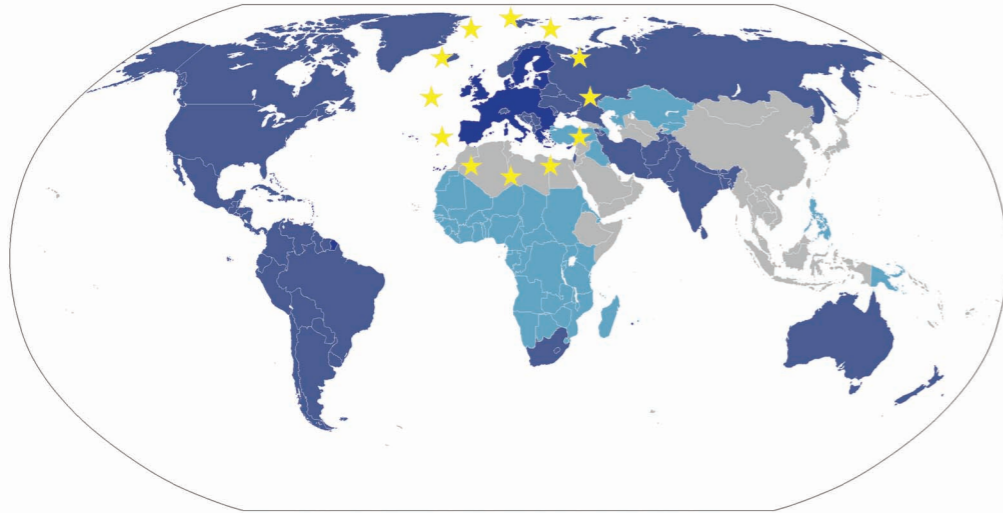
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