A COMPARATIVE GRAMMAR OF
SANSKRIT, GREEK AND HITTITE
A Comparative Grammar of Sanskrit, Greek and Hittite

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With a Foreword by

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DEDICATED WITH DEVOTION
THIS TRILINGUAL GRAMMAR
TO THE TRINITY OF MY ACADEMIC LIFE

Pandit Sri Raghu Nath Misra (my father),
Professor Dr. Franklin Edgerton (my teacher)
AND
Professor Dr. Sukumar Sen (my teacher)
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A comparative grammar of Sanskrit, Greek and Hittite is presented here to meet the needs of scholars and students of comparative and historical linguistics. This book presents a considerably up-to-date revision of proto-Indo-European phonology and morphology, though discussed with special reference to Skt, Gk & Ht. This book will prove useful also to students who intend to make a historical study of any of these three languages, since the subject matter has also been arranged accordingly. This grammar has the advantage of presenting maximum amount of facts of the above languages within a short space. The brevity of exposition chiefly rests on the presentation of choicest examples and on an extensive use of abbreviations, but not at the cost of intelligibility. Word-meaning has also generally been avoided for brevity, but the same has been compensated in the index. Discussions over controversies have been avoided and the most acceptable or probable ones have been preferred.

Hittite studies have incurred some controversies and Ht remains an out-caste because of the same. Though it is accepted that Ht is not a Semitic, but an IE language, yet the exact nature of its relation to other IE languages is controversial. The Indo-Hittite theory claims that Ht is an aunt of the other IE historical languages like Skt & Gk. An impartial study reveals that this is too much a theory-mongering. The so called archaisms in Ht are but very poor evidences in support of the Indo-Hittite theory. The chief of them is the poverty of case-forms in Ht, which instead of presenting archaism, preferably shows syncratism, as in Gk. No one can swear that the Ht documents (§4) are undoubtedly antiquated to the Sanskrit records (§2). Therefore merely on the basis of the date of records would it not be dogmatic to consider Ht to be an aunt of Skt? Skt, Gk & Ht, each shine bright with individual archaisms.

The Laryngeal theory is another disputed hypothesis. The Indo-Hittitists consider this to be complementary to their Indo-Hittite theory, and other Laryngealists consider this to be complementary
to their IE reconstructions. But this theory is nothing but an unnecessary burden on IE philology. The positive support of Laryngeals in the proto-speech is presented only by Ht; and this is a sound which may easily be explained as glidic, as actually attested in several old and modern languages. Many hesitate to consider laryngeals as glidic in Ht, because of its excessive frequency in this language. But it is not quite improbable for a language which was in close contact with Semitic, which is over-burdened with laryngeals (for details vide §§82 & 83).

If the laryngeals are considered as non-etymological sounds in Ht, this language comes quite close to Skt & Gk and a comparative study becomes free from unnecessary complications.

Thus an attempt has been made in this book to compare Ht with Skt & Gk, without taking the Indo-Hittite theory and the Laryngeal theory into account. In this respect there is some originality in the presentation. The Laryngealistic explanations have been substituted by other explanations at appropriate places. Many Ht etymologies are also new ones worked out here, although mostly the accepted etymologies have been incorporated, systematically avoiding references to authors of each etymology, (including even some Ht etymologies of the present author published elsewhere). The best etymologies have generally been preferred and new ones are presented only when no earlier etymology could be traced or in case an earlier etymology was considered to be less preferable.

The IE reconstructions have been made not only on the basis of the cognates presented, but also on the basis of other cognates not quoted here for lack of space. The accent mark in Skt has been omitted (unless some significance of accent is shown), as only Vedic had the accent mark and classical Skt did not have it. It has been preferred here to transcribe Gk also in Roman script, but however for convenience of Western students, Gk has also been presented in Gk script in phonology and occasionally in morphology, side by side with the Roman transcription. Ht forms have been normalized and the principle underlying normalization has been stated in §4. It may further be added that the final dental plosive has been systematically transcribed t. The syllabic transcription has been shown only on few occasions.
I am indebted to all my predecessors, for my knowledge of the subject, whether I have differed from or agreed with them. I pay my homage to all of them, such as, Brugmann, Whitney, Macdonell, Edgerton, Sturtevant, Wright, Buck, Pedersen, Petersen, Friedrich etc. I am highly grateful to Professor Dr. Suniti Kumar Chatterji, National Professor of India, in Humanities & Emeritus Professor of Comparative Philology, University of Calcutta, who has been kind enough, to bless this book with his valuable foreword. I express my gratitude also to Professor Dr. Sukumar Sen, who was kind enough to give a patient hearing to the most original portions of the manuscript. I am thankful to my teachers, colleagues, friends and students for their ever-inspiring encouragements. I am grateful to the librarians and staff of Calcutta University Library, National Library and Asiatic Society Library for their active cooperation. I must express my gratitude to the authorities and staff of the World Press for taking keen interest in the publication of this book.

Competent criticism will no doubt evaluate the merit of this work. For the time-being, I shall consider my strain fruitful, if this serves merely as a handy hand-book of reference, to the scholars and students of the world.

Calcutta,  
February 3, 1968

Śripañcami

Satya Swarup Misra
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FOREWORD

This book of a little over 160 pages by one of the most brilliant students in the University of Calcutta in Comparative Philology, Professor Dr. Satya Swarup Misra is remarkable in many ways, and I am very happy to be able to recommend it to the consideration of students of Indo-European linguistics both in India and abroad. This book may be said to be in a way the first systematic work, although on a small scale, on Indo-European Linguistics on the background of a comparative study of Sanskrit, Greek and Hittite. What Dr. Wackernagel had said about my friend and former colleague in the Calcutta University Postgraduate Department in Comparative Philology, late Dr. Bata Krishna Ghosh, in expressing his appreciation of his very valuable little work "A Linguistic Introduction to Sanskrit", is what I think applicable equally with regard to this book—"It brings something entirely new from India". There has been a serious study of Indo-European Linguistics among our Sanskrit and other scholars of India for the last two generations at least. But the contribution of Indian scholars to the historical grammar of the Indo-European languages with their primitive Indo-European background has not been at all noteworthy. In this line, apart from a few other scholars one can mention some important work which has been done by my former pupil and colleague in the University, Dr. Sukumar Sen. Otherwise there has been a lamentable lack of Indian contribution of value in this matter.

Dr. Misra has been teaching Indo-European Linguistics with Sanskrit and Greek (as well as Hittite) as its basis for some time in the Post-Graduate Classes of the University of Calcutta. He found the want of a good text book, and like a scholar who has both knowledge of actualities as well as the necessary courage attempted to present a little book himself. I have seen this book, and I think that it would be very useful for our students in India, and may be also outside India. This book has been very well arranged and the typography and the general outlay form a very eloquent testimony
to the well-ordered mind that is behind this book. Dr. Misra has ventured to put in one or two cases his own point of view, and one such matter is with regard to the question of the Laryngeals in Hittite and what has been called primitive Indo-Hittite. Like some scholars of Europe and America he does not wholly subscribe to it. There are other matters which make this little book quite helpful. I wish he could make it bigger than what it is. I am very glad, however to find that he is giving at the end an exhaustive index of Hittite words with their primitive Indo-European, Sanskrit and Greek equivalents, given in separate registers. This will certainly add to the value of this work.

I congratulate Dr. Misra on this very fine performance, and in commending his book to the scholarly public I look forward to his greater and greater success in a field of studies which should be India’s own as much as that of the Indo-European speaking countries of the world—in England, in Germany, in France and in America.

January 26, 1968

Republic Day of India

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A COMPARATIVE GRAMMAR
OF
SANSKRIT, GREEK AND HITTITE
CHAPTER I

INTRODUCTION

§1. The Indo-European language family

Sanskrit, Greek and Hittite are the three important languages of the Indo-European language family. The IE language family embraces quite a large part of the world, consisting of ten major and a few minor languages, and is broadly classified as *Satem* and *Centum* on the basis of the treatment of Indo-European palatal series. Satem represents the palatals as sibilants, whereas Centum represents them as velars (§57). The Satem group is constituted of Indo-Iranian, Balto-Slavic, Albanian and Armenian and the Centum comprises Greek, Hittite, Italic, Celtic, Germanic and Tokharian.

**Indo-Iranian**—It comprises Indo-Aryan (§2) and Iranian. There are two ancient languages included in Iranian, viz., Avestan and Old Persian. Avestan is the language of Avesta (earliest portions of which probably belong to the 10th century BC) and Old Persian (6th century BC) is the language of the cuneiform inscriptions of the Achaemenian kings. These two Iranian languages have such a close affinity with Indo-Aryan that these are grouped under one head called Indo-Iranian. Indo-Iranian is characterized by the merger of IE e, o, a into a (e.g. IE *dedorka* > Skt *dadarsa* but Gk *dedorka* (*dedorhka*)) and it has retained most of the archaic features of IE.

**Balto-Slavic**—It consists of Baltic and Slavic, which are also classed under one head, because of their close affinity. Baltic consists of Lithuanian (with oldest records from 16th century AD), Lettic (16th century AD), Old Prussian (7th century AD). Slavonic consists of Old Bulgarian (or Old Church Slavic, with oldest records from 9th century AD), Russian (including Great Russian, White Russian and Little Russian), Illyrian (including Servian, Croatian and Slovenian), Czech (or Bohemian), Sorabian (or Wendish), Polish and Polabian.
Albanian—It is the language of Ancient Illyria (with oldest records from 17th century AD).

Armenian—It is the language of an IE tribe, who were late-comers in Armenia. (It has oldest records from 5th century AD).

Greek—(§3)

Hittite—(§4)

Italic—It consists of $q$-Italic (viz., Latin etc. with oldest inscriptions of 6th century BC) and $p$-Italic (including Oscan, Umbrian, Samnitic etc.). Vulgar Latin is the source of the Romance languages, which include French, Italian, Portugese, Spanish, Roumanian, Catalanian, Provençal, Rhaeto-Romaic.

Celtic—Celtic also comprises $q$-Celtic (viz., Old Irish etc. from 8th century AD), and $p$-Celtic (Gaulish and Britannic etc.) and shows some affinity to Italic, which suggests an Italo-Celtic unitary stage.

Germanic—It consists of East Germanic or Gothic (with oldest records from 4th century AD—the oldest records of Germanic), North Germanic (with Old Norse, Old Icelandic etc.) and West Germanic (with Old English, Old Frisian, Old Saxon, Old Low Franconian and Old High German). This branch is distinguished by the consonantal shift illustrated by Grimm’s Law.

Tokharian—It is a newly discovered IE language (with oldest records from 6th century AD) and has two dialects, termed $A$ and $B$.

§2. Sanskrit

Indo-Aryan has three stages of development, viz., Old, Middle and New. Old Indo-Aryan consists of the Vedic Sanskrit in its earlier phase and the Classical Sanskrit in its later phase. The term Sanskrit in its wider sense includes both Vedic and Classical Sanskrit and in its narrower sense it signifies Classical Sanskrit. In the present work Sanskrit is synonymous with Old Indo-Aryan. (Vedic and Classical Sanskrit are specified if a distinction is shown). The Vedic Sanskrit, consists of the language of RV, the oldest document, (earliest portions of which may belong to 1500 BC if not earlier), besides the other Samhitās (Atharva Veda, Śāma Veda, Yajur Veda), Brāhmaṇas, Āranyakas and Upanisads. These present a huge quantity of records for the study of the gradual development of the
language. The literature in Classical Sanskrit is quite voluminous and is increasing day by day. Middle Indo-Aryan (500 BC—1000 AD) has also three sub-stages (termed, first, second and third) and has a number of dialects in each sub-stage, viz., in the first MIA—Asokan Inscriptions and Pali; in the second MIA—Niya (transitional, from first to the second sub-stage), Mahārāṣṭri, Māgadhi, Ardhamāgadhi, Sauraseni etc. and in the third MIA Apabhramśa and Avaḥatttha (the last phase). The New Indo-Aryan languages include Hindi, Bengali, Oriya, Assamese, Marāṭhi, Gujarāṭī, Punjabi, Sindhi, Pahāri etc. They date from 1000 AD onwards.

Sanskrit laid the foundation of comparative philology (as well as of Descriptive Linguistics, the first descriptive grammar of a language, being the Sanskrit Grammar of Pāṇini) as is expressed by Sir William Jones in his address to the (Royal) Asiatic Society of Bengal in 1786:

"The Sanscrit language, whatever be its antiquity, is of 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 an accident. So strong indeed that no philologer could examine them at all 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 Gothick and the Celtick, though blended with a different idiom had the same origin with the Sanscrit and the Old Persian might be added to the same family."

**Special features of Sanskrit:**

**A. Phonological features in common with IIr:**

1. IE $a, e, o >$ IIr $a >$ Skt $a$ ($§§10−15$).
2. IE $e >$ IIr $i >$ Skt $i$ ($§16$).
3. Positional variation of Secondary vowels is best preserved ($§18$).
4. IE $m, n >$ IIr $a >$ Skt $a$ ($§§35, 36, 39 & 40$).
(5) IE \( r \rightarrow \) IIr \( r \rightarrow \) Skt \( r \) (§§27 & 31) (but for IE \( r \), \( l \) see below B(10)).

(6) Voiced aspirates are retained.

(7) IE velars and labio-velars were palatalized in (IIr and) Skt, by a following IE palatal vowel (§57a).

(8) If two aspirates occurred in consecutive syllables one of them was deaspirated (also true for Greek).

(9) IE \( s \) after \( i/u \) etc. (§81) \( \rightarrow \) IIr \( \tilde{s} \) \( \rightarrow \) Skt \( s \).

B. Phonological features in which Skt has deviated from IIr:

(10) IE \( r \), \( l \) \( \rightarrow \) IIr \( r \rightarrow \) Skt \( r \) & \( l \) (§§29 & 33).

(11) IE \( \tilde{s}k \rightarrow \) IIr \( \tilde{s}s \rightarrow \) Skt \( ech \) e.g. IE \( g\tilde{m}s\tilde{k}e \rightarrow \) IIr \( \tilde{g}a\tilde{s}a\tilde{t}i \)

\( \rightarrow \) Skt \( gac\tilde{h}a\tilde{t}i \), Av \( j\tilde{a}s\tilde{a}\tilde{i} \) Cp Gk \( \tilde{b}\tilde{a}\tilde{k}\tilde{e}i \) (\( \tilde{b}\tilde{a}\tilde{\alpha}k\tilde{e}i \)).

(12) IE \( \tilde{g}, \tilde{gh} \rightarrow \) IIr \( \tilde{z}, \tilde{zh} \rightarrow \) Skt \( j, h \) (§§59 & 60).

(13) IE \( z \rightarrow \) IIr \( \tilde{z} \rightarrow \) lost in Skt.

C. Morphological features:

(14) IE morphological features are best preserved in Skt. All the three numbers (of nouns and verbs), all the eight cases (of nouns) and three tenses and five moods (of verbs) are retained in RV.

(15) Skt has generalized the Athematic endings for the Thematic conjugation (§147).

(16) It has developed several periphrastic tenses (§167).

(17) It has developed an au-perfect (§160).

§3. Greek

Greek shows dialectal variations even in its earliest recorded literature i.e. Homeric epics (Iliad and Odyssey of c. 8th century BC), where the language is Old Ionic with an admixture of Aeolic. (Some recently discovered inscriptions place Greek to an earlier date, c. 14th century BC). The dialects of Old Greek are: Attic-Ionic (the standard dialect, source of koinē or Middle Greek and of Modern Greek), Arcadian-Cyprian, Aeolic (including Lesbian, Thessalian, Boeotian), North-Western Greek (including Lacrian, Phocian, Elean) and Doric (including Laconian, Argolic, Corinthian and Cretan etc.).
Special features of Greek:

A. Phonological

1. IE vowels are best preserved (IE ἄ, ἐ, ὡ retained intact) (§§10—15).

2. IE ὢ, ὖ > ἀ (like Skt) (§§35, 36, 39 & 40).

3. IE ὜, ὶ > ar/ra and al/la (respectively).

4. Voiced aspirates > voiceless aspirates.

5. Triple treatment of IE labio-velars (§57(b)).

6. Triple treatment of IE s (which became h initially, lost intervocally and s postconsonantally or finally).

7. If two aspirates occurred in consecutive syllables one of them was deaspirated (as in Skt).

8. Assimilation of many IE conjuncts.

9. Loss of all final consonants except r, n, s.

10. IE final m > n.

B. Morphological:

11. Retention of only five cases out of IE eight.

12. Retention of IE Dual number (like Skt).

13. Preservation of IE Thematic endings.

14. In retention of IE modal distinctions it is only next to Skt.


§4. Hittite

Hittite is a discovery of the twentieth century and has been proved to be an IE language. This is the language of a number of tablets (discovered from Boghazkoi, a Turkish village near Ankara) consisting of accounts of the treaties of the Hittite kings with neighbouring states and of other royal documents. Most of these documents date from the 15th century BC to the 12th century BC although some may be earlier. These are written in the cuneiform character containing many Akkadian and Sumerian words and also passages. A treatise on horsemanship contains Indo-Aryan loan
words (e.g. aika wartana, panza wartana etc.) and a treaty between the Hittite king Supiluliumas and Mitanni king Matiwaza contains names of established Vedic gods (such as Indra, Varuṇa etc.) According to Sturtevant the language has two stages of development and change of $e > i$ belongs to the second stage. But the confusion of Ht $e$ & $i$ may be orthographic as well.

Hittite Orthography often presents ambiguity, because more than one syllabic signs are often used to represent a single consonant. Sometimes a vowel is to be omitted in reading for phonetic interpretation. Final -$t$, -$d$ & -$z$ (=ts) are generally written as $ta$, $da$ & $za$ respectively. Length of vowels cannot be determined, hence all vowels are assumed to be pronounced short, whether they are written single or double. Intervocal -$y-$ seems to have been often omitted in writing (as correctly assumed by Sturtevant). Thus $a|aa$ sometimes represent $aya$ and $ae$ represents $aye$. The symbols for voiced and voiceless stops (i.e. $g$, $d$, $b$ & $k$, $t$, $p$) are freely used for either. But an IE voiceless plosive is represented in Ht by a geminated plosive (e.g. $t$ as $tt$ or $dd$) wherever such writing was possible. This was not possible initially nor finally nor in a conjunct group. But this was possible only intervocally. This gemination of intervocal plosives may merely be an orthographic representation of unvoiced plosives, as Sturtevant assumes, or may also be a phonetic development in Ht, which is comparable to a similar development in MIA (cp MIA $ekka <$ Skt $eka$). However Sturtevant’s assumption is accepted here and the Ht stops are represented in their normalized forms accordingly in the present work; e.g. intervocally a $tt/dd$ is represented as $t$ and a $t/d$ is represented as $d$. An initial or final $t$ or $d$ is normalized as either $t$ or $d$ on etymological grounds, when cognates are citable. Otherwise the form is provisionally presented with $t$ (and not $d$) subject to correction in future. The syllabic transcription is avoided for economy of space. It is presented only when its representation is significant. Double-writing of $r$, $l$, $s$, $z$ (=ts) & $h$ have apparently no significance. (Double-writing of $h$ is significant according to some Laryngealists (§83(1)).) Generally $mm$ and $nn$ represent single $m$ and $n$ respectively, but sometimes also double $mm$ and $nn$ respectively. A written $tt$ also sometimes represents double $tt$ (beside $t$).
Hittite studies have revealed that Ht is one of the several dialects of a proto-speech, termed as Anatolian. This speech is characterized by the development of a Laryngeal sound. The languages coming under this speech are classified into Ht and ti-Anatolian. The ti-Anatolian languages preserve IE ti, which on the other hand regularly becomes zi (=tsi) in Ht. The ti-Anatolian languages are: Luwian, Lycian, Lydian, Palaic and Hieroglyphic Ht (as contrasted with Cuneiform Ht, briefly called as Ht.)

The Indo-Hittite theory is not accepted in the present work. According to this hypothesis proto-IE and proto-Anatolian were the two descendants of proto-Indo-Hittite. This theory is not accepted widely, because the evidence for proto-Anatolian is, at present, chiefly Ht. And even for Indo-Hittite reconstructions Ht is considered to be maintaining the original features and all other historical IE languages are considered to be innovators. Since Ht has suffered a lot of phonological and morphological decay, the Indo-Hittite theory is rather too hasty an assumption and future research may reveal its validity.

Special features of Hittite:

A. Phonological

1. IE long vowels have merged with short ones in Ht. Only long diphthongs have a special treatment.

2. The vowel a is quite predominant. It represents IE a, ə, also e (before r+ a consonant & also sometimes elsewhere, see §17) and ɛ (only when this is the initial sound of an original IE long diphthong).

3. Syllabic liquids and nasals have a double treatment (e.g. œ > ar & ur; perhaps Ṓ > ar & œr > ur), and the long ones have merged with the short ones here as well.

4. Confusion of e & i has created a lot of difficulties in phonetic interpretation.

5. Aspirates are deaspirated and thus have fallen together with non-aspirates.

6. Ht has inherited a h (Laryngeal) sound from proto-Anatolian, which in turn borrowed it from Semitic (§82).
(7) IE $t > ts$ (written $\varepsilon$) in Ht, if followed by $i/\varepsilon$ (cp Gk $t > s$
before $i$).

(8) Final $m > n$ (as in Gk).

B. Morphological

(9) The Dual number has been practically lost (§91), and the plural is also partly lost in declension.

(10) In the case-system Vocative has merged with Nominative, & Dative (sg) with Locative (sg); and further the Dative, Ablative, Genitive and Locative (pl) have fallen together.

(11) IE feminine gender (which may also be of late origin in
IE) probably merged in form with masculine, as IE $o$
(masc) & $\tilde{a}$ (fem) both became $a$ in Ht.

(12) Gen sg in $-s$ replaced the ending $-s(y)o$ (for IE $-o$ stems)
and was extended even to the pl.

(13) Use of Gen sg ending $-(e)l$ in pronouns is unique in Ht.

(14) Ht has retained only two moods: the Indicative and the
Imperative.

(15) The IE perfect has been replaced by a periphrastic
perfect, in Ht.

(16) The Aorist has merged with the Imperfect.

(17) Ht has also developed many periphrastic tenses like Skt.
CHAPTER II

PHONOLOGY (VOWELS)

§5. IE Sound System
The IE parent speech had the following sounds:
A. Vowels
(i) primary vowels
   (a) short a, e, o
   (b) long ā, ē, ō
   (c) weak grade vowel ə (schwa)
(ii) secondary vowels
   (a) syllabic—short
       i, u, ũ, ũ, m, n
   (b) syllabic—long
       ɪ, ʊ, ŋ, ŋ, ŋ
   (c) non-syllabic
       y, w, r, l, m, n
   (d) syllabic-cum-non-syllabic
       iy, uw, rr, ll, mm, nn
(iii) diphthongs
   (a) short, ending in -i
       ai, ei, oi
   (b) long, ending in -i
       āi, ēi, ōi
   (c) short, ending in -u
       au, eu, ou
   (d) long, ending in -u
       āu, ēu, ōu.

B. Consonants
(i) gutturals
   (a) palatals ̆k, ̆kh, ̃g, ̃gh, (ñ)
   (b) velars q, qh, ̅g, ̅gh, (η)
   (c) labio-velars qʰ, qʰ, ̄g, ̄g, ̄g, (η)
(ii) dentals  $t$, $th$, $d$, $dh$, (n)  
(iii) labials  $p$, $ph$, $b$, $bh$, (m)  
(iv) semi-vowels, liquids & nasals  
$y$, $w$, $r$, $l$, $m$, $n$, ($\bar{n}$, $\eta$)  
(v) spirants  $s$, $z$, $\theta$, $\delta$.  

§6. Sanskrit Sounds  
A. Vowels  
(i) simple vowels  $a$, $\bar{a}$, $i$, $\bar{i}$, $u$, $\bar{u}$, $r$, $\bar{r}$, $l$  
(ii) diphthongs  
  (a) monophthongized  $e$, $o$ (=always long $\bar{e}$, $\bar{o}$ respectively)  
  (b) retained diphthongs  $ai$, $au$.  
B. Consonants  
(i) velars  $k$, $kh$, $g$, $gh$, $\bar{n}$  
(ii) palatals  $c$, $ch$, $j$, $jh$, $\bar{n}$  
(iii) cerebrals  $t$, $th$, $\acute{d}$, $\acute{dh}$, $\eta$  
(iv) dentals  $t$, $th$, $d$, $dh$, $n$  
(v) labials  $p$, $ph$, $b$, $bh$, $m$  
(vi) semi-vowels  $y$, $\upsilon$  
(vii) liquids  $r$, $l$  
(viii) spirants  $\dot{s}$, $\ddot{s}$, $s$  
(ix) aspirations  $h$, $\acute{h}$  
(x) nasalization  $\eta$.  

§7. Greek Sounds (in the oldest period)  
A. Vowels  
(i) simple vowels  $a$, $\bar{a}$, $e$, $\bar{e}$, $o$, $\bar{o}$, $i$, $\bar{i}$, $u$, $\bar{u}$  
(ii) diphthongs  
  (a) short  $ai$, $ei$, $oi$, $ui$; $au$, $eu$, $ou$  
  (b) long  $\ddot{ai}$, $\ddot{ei}$, $\ddot{oi}$, $\ddot{au}$, $\ddot{eu}$, $\ddot{ou}$.  
B. Consonants  
(i) velars  $k$, $kh$, $g$, $\eta$  
(ii) dentals  $t$, $th$, $d$, $n$  
(iii) labials  $p$, $ph$, $b$, $m$  
(iv) liquids  $r$, $l$  
(v) semi-vowels (lost later)  $*y$, $w$.
(vi) spirants s, z (=zd sometimes)
(vii) aspiration h (lost later).

§8. Hittite Sounds
A. Vowels
   (i) simple vowels a, e, i, u
   (ii) diphthongs ai, au.
B. Consonants
   (i) velars k, g, *η (written n)
   (ii) dentals t, d, n
   (iii) labials p, b, m
   (iv) liquids r, l
   (v) semi-vowels j, w
   (vi) spirant s
   (vii) laryngeal h.

§9. IE Primary Vowels
The primary vowels are distinguished from the secondary vowels in two ways:
(a) The primary vowels have ablaut variation (§49), but the secondary vowels have positional variation (§18).
(b) The secondary vowels alternate with certain consonants (i.e. they become non-syllabic §18) but the primary vowels always remain syllabic, unless lost.

The primary vowels are: short a, e, o; long ā, ē, ō; and the reduced vowel ə (schwa). ə is found in the weak grade of roots, where ā, ē, ō are strong grade vowels (§49); and this is represented in Skt (as well as in Iranian) as i and in Gk, Ht (and other IE languages) as a. The short vowels a, e, o have become a in Skt and the long vowels ā, ē, ō have become ā in Skt. Gk has retained all these vowels. But in most of the Gk dialects (except Doric etc.) IE ā has become ē. Hence Doric evidence is necessary for ascertaining ā in the proto speech. Ht does not show any vowel length. IE a/o > Ht a, IE ē > Ht ē (but IE ēi > Ht ai §47), IE e > Ht e (also sometimes a §§12a & 17). Ht orthography confuses e & i, but ə is generally restored here in the normalized forms, wherever this restoration is etymologically non-controversial.
§10. IE ā > a in all
IE apo > Skt (Av, OP) apha, Gk apó (ἀπό), Ht apa
IE √arγh > Skt arhati, Gk ἀρχῆ (ἀρχη), Ht harkantsi
IE anti > Skt anti, Gk anti (ἀντί), Ht hanti
IE aγros > Skt ajras, Gk agrós (ἀγρός), Lat ager, Goth akrs
IE aγō > Skt ajāmi, Gk ágō (ἀγω), Lat agō.

§11. IE ā > Skt ā, Gk ā (Doric etc.)/έ (Attic etc.), Ht a
IE (s)thi(s)thāmi > Skt tiṣṭhāmi Gk (Dor.) histāmi/(Attic) histēmi
(ιστάμει/ιστήμει), Ht titami
IE (s)thāpoyonti > Skt sthāpayanti Ht stapaayantsi (written istapaantsi)
IE bhāghus > Skt bāhus Gk (Dor.) pākhus/(Att) pēkhus (παχύς/πήχυς)
IE yugā (Nt pl) > Skt (Vd) yugā Gk zugā (ξυγά) (Gk a < ā §104)
Ht *yuga (cp Ht Nt pl parna)
IE √(s)tāy- > Skt (s)tāyuṣ Ht tayetsi Gk tētāō (τηταόω).

§12. IE e > Skt a Gk e Ht e (also written i) (Ht a < IE e §12a & §17)
IE esti > Skt asti, Gk esti (ἐστί), Ht estsi
IE pedom > Skt padam, Gk pedon (πέδων), Ht pedan
IE nebhos > Skt nabhās, Gk néphos (νέφος), Ht nebes
IE wekti > Skt vaṣṭi, Gk hekōn (ἐκών), Ht wektsi
IE wēt > Skt vaṭ-sara, Gk étos (ἐτός), Ht (Dat.) weti
IE sestι > Skt sasti, Ht sestsi.

§12a. IE e > Ht a, before r+a consonant
IE ersti > Ht arsti, cp Skt arṣati & Gk aperseō (ἀπεράω).

§12b. IE e > Ht a sometimes analogically (§17).

§13. IE ē > Snt ē Gk ē Ht e (also written i)
IE ēstai > Skt ēste, Gk ēstai (ἔσται), Ht estsi (< *ēstī)
IE ἔψ(νευ)τι > Skt ēpnoti, Ht eptsī
IE dhidhēmi > Skt dadhāmi, Gk tithēmi (τιθημι), Ht dehi (< IE dhē + Ht hi §147)
IE e > Ht a before r+ a consonant but IE. ē does not become so
IE ērthene > Ht erteni, cp Skt ērṇati (RV VIII 16.6) < IE ēr-yo-nti.

§14. IE o > Skt a Gk o Ht a
IE apo > Skt & Ht apa, Gk apó (από)
IE pro > Skt & Ht pra, Gk pró (πρό)
IE ostheī > Skt asthi (< IE osthī), Gk ostéon (οστέον) (< IE ostheym),
 Ht hastai (< IE ostheī)
IE yugom > Skt yugam Gk zugón (ζυγόν) Ht yugan
IE pedom > Skt padam Gk pedón (πέδον), Ht pedan.

§15. IE ō > Skt ə Gk ō Ht a
IE nōmen > Skt nāman, Gk ōnoma (ὀνόμα) (< IE nomn), Ht laman
(< *naman by dissimilation), Lat nomen
IE uōdōr/udōr > Skt udār-a- (cp sam-udra weak grade), Gk hūdōr
(uδώρ), Ht wadar
IE didōmi > Skt dadāmi, Gk didōmi (διδωμι), Ht dahi (< IE dō + Ht hi §147)
IE wōgō > Skt (Vd) vrkā (beside vrkau), Gk lúkō (λύκω), cp Ht
 hasa (Dual of IE -o or Ht -a stem).

§16. IE ə > Skt i Gk & Ht a
IE ə was a weak grade vowel corresponding to IE ā, ē, ō in
 strong grade. e.g. IE sthā > sthə, dhē > dhe, dō > ḍa, ēp > əp
 & ēs > əs etc.
IE sthōtos > Skt sthitas, Gk statós (στάτος), Lt status
IE dhotos > Skt hitas, Gk thetós (θετός) (for *thatós on analogy of
tithēmi)
IE dōtōs > Skt aditi (< IE ḍotiti), Gk dotós (δοτός) (for *datos on
analogy of didōmi)
IE ḍep(s)os-nti > Skt ḍpsanti, Ht apantsi
IE əsonti > Ht asantsi (beside esantsi < IE ēsonti, and Skt āsante
< IE ēsontai)
§17. Reconstruction of Schwa Secondum

The assumption of Schwa Secondum (or a reduced vowel corresponding to a, e, o) is controversial and many scholars have rejected this hypothesis. Edgerton (Vide Language X p. 235-65 & XIX p. 83-124) has pointed out that a few cases of Lat a alternating with IE e has led scholars for this assumption. W. Petersen has explained all such cases of Latin to be analogical formations (Vide Language XIV p. 39) and has further proved the absurdity of the assumption of Schwa Secondum. Sturtevant (Vide Language XIX p. 293-312) has toiled his best to present a clear picture of Schwa Secondum, but things can equally be explained otherwise, as has already been done by Petersen.

Sturtevant considers the assumption of Schwa Secondum to be more essential for Indo-Hittite than for IE. In other words he considers the reconstruction of Schwa Secondum to be essential in the protospeech, specially to explain the cases in Ht phonology, where Ht e alternates with Ht a. But this a may conveniently be derived from IE o, in case the assumption of a weak grade vowel is not compulsory. e.g. Ht wadar (the first a is from Schwa Secondum, according to Sturtevant) may come from IE wodōr (strong grade), whereas Gk ħudōr (udōp) is from IE udōr (weak grade). But in Ht verbal conjugation some roots have the radical vowel e replaced by a in the plural, where cognate languages show zero grade. e.g. Ht sg is esti < IE esti (cp Skt asti), but pl is asantsi < IE sōnti (cp Skt sānti). Assumption of Schwa Secondum seems likely for the first a of asantsi. But the reconstruction of Schwa Secondum may be avoided here as well, if this be explained in the following manner.

The IE a, e, o remained sometimes in the weak grade, when the loss would be inconvenient for the speech habit. Thus *esti had pl *sonti, but *etti (< *ed-ti) had pl *edonti (Skt adanti); similarly *gum > *gum before *-to (Skt gatas, Gk batōs) but *peq before *-to (Skt pakta, Gk peptos, Lat coctus). Therefore it may be assumed that IE sōnti also had an alternative from *esonti (like *edonti), which became asantsi in Ht on analogy with asantsi (< IE as-onti < IE .Allow esti (< IE ēs-ti).
§18. IE Secondary Vowels

These are distinguished from Primary vowels in having no ablaut change, but in having a positional variation. They are six in number and each has four variants under various circumstances; thus they are:

(a) short—syllabic \( i, u, r, l, m, n \)

(b) long—syllabic \( \bar{i}, \bar{u}, \bar{r}, \bar{l}, \bar{m}, \bar{n} \)

(c) non-syllabic or consonantal \( y, w, r, l, m, n \)

(d) syllabic-cum-non-syllabic \( iy, uw, rr, ll, mm, nn \)

The long syllabic secondary vowels (apart from being positional variants of the corresponding short ones) also sometimes owe their origin to the contraction of a short one +\( o \) (e.g. \( i+o > i \)), which can be determined (a) either by comparison, where some languages retain the uncontracted form (e.g. Gk \( tr\dot{ai} < IE tr\dot{i}a \), beside Skt \( tr\ddot{i} < IE tr\ddot{ti} \)) (b) or, when \( o \) is known to be a formative element (e.g. IE \( tr\dot{i} + \text{Nt pl } \sigma > *tr\dot{i}\sigma > tr\dot{i}\ ) etc.) (c) or, when the long secondary vowel is found in a root, which is originally a dissyllabic root ending in \( \ddot{a}/\sigma \).

That there were positional variations is more certain than the circumstances under which they occurred.

Edgerton ( : IE Semivowels—Language XIX p. 83—124) assumes the circumstances for these positional variations as follows (his exposition is concisely presented here with supplementation and here \( i \) represents a secondary vowel). IE \( i \) remained \( i \) after a light syllable (or initially) and before a consonant, it became \( y \) after a light syllable (or initially) and before a vowel; it became \( iy \) after heavy syllable ( ... further it is suggested here as a supplement to Edgerton's theory ...) and before a vowel; it became \( \ddot{i} \) after a heavy syllable and before a consonant (unless the \( i \) is from \( i+o \)). Edgerton has cited a number of examples (chiefly from RV) for illustrating the alternations of \( i : y : iy \). Some examples for illustrating the alternations of \( i : \ddot{i} \) or \( iy : i \) may be cited here.

A. Alternations of \( i : iy \) etc.

\( i : iy \) Skt Nom \( dh\dot{a}s \) Gen \( dhiyas \)

\( \ddot{u} : uw \) Skt Nom \( bhr\dot{u}s \) Gk \( oph\dot{r}\acute{u}s \) (\( oph\dot{r}\acute{u}s \)) Gen \( bhr\dot{u}\acute{a}s \) Gk \( oph\dot{r}\acute{u}os \) (\( oph\dot{r}\acute{u}os \)) < Gk \( *oph\dot{r}u\acute{u}os \).
B. Alternations of i : ī etc. in Skt

\[
i : \text{ī} \quad \text{Skt} \quad \text{kiš} : \text{kiś} ; \text{kim} : \text{kim} \\
u : \text{ū} \quad \text{Skt} \quad \text{su} : \text{sū} (\text{nara}) ; \text{uru} : \text{urū} (\text{nāsā}) \\
\text{rr} : \text{ṛ} \quad \text{Skt} \quad \text{purā} (< */pṛrā) : \text{pūrvas} (< */pṛwos) \\
l : \text{l̄} \quad \text{Skt} \quad \text{prithuś} (< */plthuś) : \text{pūrṇas} (< */plnos) \\
m : \text{ṁ} \quad \text{Skt} \quad \text{gatas} (< */gumtos) : \text{gāt} (< */gumī) \\
n : \text{n̄} \quad \text{Skt} \quad \text{hatas} (< *gumntos) : \text{ghātas} (< */gumntos).
\]

C. Alternations of i : ī etc. in various IE languages

\[
i : \text{i} \quad \text{IE} \quad g^{w}i\text{vos} (\text{Gk} \ \text{biōs}) : \text{IE} \quad g^{w}i\text{vos} (\text{Skt} \ \text{jiivas} \ \text{Lat} \ \text{vīvus}) \\
\text{IE} \quad \text{wiros} (\text{Skt} \ \text{vīrāśāt}, \ \text{Lat} \ \text{vir}) : \text{IE} \quad \text{wiros} (\text{Skt} \ \text{vīras} \ \text{Lith} \ \text{vyras}) \\
\text{IE} \quad \text{wisos} (\text{Skt} \ \text{viṣas}) : \text{IE} \quad \text{wīsos} (\text{Gk} \ \text{ios}, \ \text{Lat} \ \text{vīsō}, \ \text{Av} \ \text{viśā}).
\]

\[
u : \text{ū} \quad \text{IE} \quad \text{su} (\text{Skt} \ \text{su}, \ \text{Av} \ \text{hu}) : \text{IE} \quad \text{sū} (\text{Skt} \ \text{sūnara}) \\
\text{IE} \quad \text{nu} (\text{Skt} \ \text{Gk} \ \text{OE} \ \text{nu}) : \text{IE} \quad \text{nū} (\text{Skt} \ \text{Av} \ \text{OE} & \ \text{Gk} \ \text{nū})
\]

\[
r : \text{ṛ} \quad \text{IE} \quad \text{pṛr} (\text{Skt} \ \text{puras}, \ \text{Gk} \ \text{páros}) : \text{IE} \quad \text{pṛ} (\text{Skt} \ \text{pūrvas}, \ \text{Gk} \ \text{próts}) \\
\text{IE} \quad \text{str} (\text{Skt} \ \text{vistṛtas}) : \text{IE} \quad \text{stṛ} (\text{Skt} \ \text{vistīrṇas} \ \text{Gk} \ \text{strōtós})
\]

\[
l : \text{l̄} \quad \text{IE} \quad \text{plnos} (\text{Av} \ \text{πrōno}, \ \text{Goth} \ \text{fuls} \ \text{Lith} \ \text{pīlnas} \ \text{O} \ \text{Bulg} \ \text{plūnu}) : \\
\text{IE} \quad \text{plnos} (\text{Skt} \ \text{pūrṇas})
\]

\[
m : \text{ṁ} \quad \text{IE} \quad g^{w}m (\text{Skt} \ \text{gatiś}, \ \text{Gk} \ \text{básis}) : \text{IE} \quad g^{w}m (\text{Skt} \ \text{gāt}, \ \text{Gk} \ \text{bē}) \\
n : \text{n̄} \quad \text{IE} \quad g^{w}hū (\text{Skt} \ \text{hatas}) : \text{IE} \quad g^{w}hū (\text{Skt} \ \text{ghātas}, \ \text{Gk} \ \text{thnētōs})
\]

It may be noted here that the above examples merely confirm the alternation of i : ī etc., but shed no light over the assumed position of alternation. The assumed position of alternation of i : ī etc. must have become obscure in the late IE period itself, because of confusion of the original i (variant of ī) and the ī which originated due to contraction of i with ā.

§19. IE i > Skt Gk Ht i

\[
\text{IE} \quad \text{iī} > \text{Skt} \ \text{ita}, \ \text{Gk} \ \text{ite} (\text{'iē}), \ \text{Ht} \ \text{iten} \\
\text{IE} \quad g^{w}id > \text{Skt} \ \text{cid}, \ \text{Gk} \ \text{tī} (\text{tī}), \ \text{Ht} \ \text{kwit} \\
\text{IE} \quad \text{esī} > \text{Skt} \ \text{asti}, \ \text{Gk} \ \text{estī} (\text{'estī}), \ \text{Ht} \ \text{estsi} \\
\text{IE} \quad \text{esmi} > \text{Skt} \ \text{asmi}, \ \text{Gk} \ \text{eimi} (\text{'eimī}), \ \text{Ht} \ \text{esmi}
\]
§20. IE i > Skt & Gk i, Ht i
   IE *iunos > Skt jivas, Lat vitus, but Gk bios (βίος) (§18)
   IE w/os > Gk iós (ίός), Lat vitrus, Av viśō, but Skt viṣa- (§18)
   IE tri/trī (Nt pl of i stem) > Skt (Vd) trī, Lat trī, Gk tria (τρία),
      Ht *trī (cp meki)
   IE potnī/potnīa > Skt pātnī, Gk pótnia (πότνια) cp Ht bargwis <
      *bargwī- (originally fem < bargu- (masc))

§21. IE y > Skt y; Gk h or z initially but lost intervocally; Ht y
      (but often written iy and cannot be distinguished from Ht
      iy < IE iy (§22)
   IE yugom > Skt yugam, Gk zugón (ζυγόν), Ht yugan
   IE √(s)tāy- > Skt (s)tāyūs, Gk tētāō (τητάω) (< IE iē-tāyō), Ht
      tayetsi
   IE yos > Skt yas, Gk hōs (ὁς)
   IE neyonti > Skt nayanti, Ht neyantsi

§22. IE iy > Skt iy (In RV often y is to be read as iy metri causa),
      Gk i (because y was intervocally lost), Ht iy (but cannot be
      distinguished from an orthographic iy which represents y)
   IE potriyos > Skt pītriyas, Gk pátios (πατίος), Lat patrius, Ht has-
      tiyas (=hastyas or hastiyas) (< IE osth(i)yos)

§23. IE u > Skt u, Gk u (υ), Ht u
   IE nu > Skt nu, Gk nū (ν), Ht nu
   IE yugom > Skt yugam, Gk zugón (ζυγόν), Ht yugan
   IE ēnū/ēnū > Skt jānu, Gk gōnu (γόνυ), Ht genu-
   IE bhūñhus > Skt bahuṣ, Gk pakhūs (παχύς), Ht bangus

§24. IE ū > Skt ā, Gk ā (α), Ht u
   IE dhūmos > Skt dhūmas, Gk thūmós (θυμός)
   IE √sū (alternative of √syū/sīw) > Skt sūtram, Lat sūtus, Ht
      sumants
   IE bhrūs > Skt bhruṣ, Gk ophrūs (ὀφρύς)

m : cc—2
IE ĝenū|genua > Skt (Vd) jānā, Gk goûna (γοûνα) (< *gonua), Ht (Nt pl) asū < *asū but Ht genuwa (for *genu < *genū) is due to analogical extension of a (< IE a) from consonantal stems.

§25. IE w > Skt v, Gk lost (also h in a few cases, initially). (This was retained in early inscriptions), Ht w (also written uw cp y : iy §21)

IE wektī > Skt vaṣṭī, Gk hekōn (ἐκών) Ht wektis

IE wet > Skt vatsara, Gk étos (ἐτος), Ht wēti (Dat).

§26. IE uw > Skt uv, Gk u (cp Gk i < IE iy §22), Ht uw (but cannot be distinguished from an orthographic uw < IE w)

IE bhruwos > Skt bhruvas, Gk ὀφρυὸς (ophrus), cp Ht genuwa (§24).

§27. IE r > Skt r, Gk ar (also ra sometimes medially), Ht ar

IE r & l (along with the positional variants r & l) fell together in IIr and became r (& r); this became r (& r) in Skt; but l (& l) also developed in Skt; therefore Skt r may correspond to IE r or l; Skt l (rare; found only in √klp) also may correspond to IE r or l; similarly Skt r may correspond to IE r or l; and Skt l also may correspond to IE r or l.

IE esr > Skt asrk, Gk ēar (ἐαρ), Ht esar (eshar also)

IE rneuti > Skt rnoti, Av arṇavoi, Ht arnutisi

IE potrsu > Skt pitṛṣu, Gk πατράσι (πατρασί)

IE bhṛgh > Skt brhat, Ht bargus

§28. IE Ṛ > Skt īr/ūr Gk rō (also or < *ōr) Ht ar

IE īs > Skt īryā Av arṣyant Ht arsaniyer

IE stītos/stīnos > Skt stīnas Av starūth, Gk strōtós (στρωτός)

Lat stratus
§29. IE r > Skt r/l (§27), Gk & Ht r (Initial r was generally preceded by a prothetic vowel in Gk and Ht).

IE ἰψο > Skt ṭra, Gk πρό (πρό)
IE δόρυ > Skt dāru, Gk δόρυ (δόρυ), Ht daru
IE ῥυδήρος > Skt ῥυδήρας (with anaptyctic -i-), Gk ἐρυθρύς (ἐρυθρύς) (with prothetic e-).

IE ρέ > Skt ῥάς ‘brightness, fire’. Ht rarantsi/ararantsi ‘they wash’ (rarantsi is a singular instance of initial r attested to be without a prothetic vowel, otherwise initial r is always with a prothetic vowel in Ht)

§30. IE rr > Skt īr/ūr, Gk ar, Ht ur

IE ῥὐρός > Skt ārūṣ, Gk βαρύς (βαρύς)
IE ῥυρίς > Skt āriṣ, Av gairiṣ, Lith įrīa
IE ρρυ- > Ht kurur (§57(c) & §61)
IE ρρό > Ht urkis ‘a trace’, cp Skt rṣyate (<IE ῥό)arcati (<IE ῥό) ‘shines’.

§31. IE l > Skt r (§27), Gk al/la (also lu), Ht al

IE ῥν- > Skt pṛthuṣ, Gk πλατύς (πλατύς), Ht palhi
IE ρλός > Skt vrkās, Gk λύκος (λύκος).

§32. IE l > Skt īr/ūr, Gk *lō/ol (< *ōl), Ht al

IE ῥγός > Skt ῥγάς, Gk δόλικός (δολικός) (anaptyctic -i-),
Ht dalugas (anaptyctic -u-)
IE ρλός > Skt pūrṇas, polloi (πολλοί) < *polnoi.

§33. IE l > Skt r/l (§27), Gk & Ht l

IE λίποντι > Skt limpanti, Gk λίπος (λίπος), Ht lipantsi
IE ρέ > Skt rocatē ‘shines’/lokate ‘sees’, Gk leukός (λευκός) ‘bright’, Ht luktsi
§34. IE \( ll \) > Skt \( ir/ur \) (§27), Gk \( al \), Ht \( ul \) (ʔ)

IE \( plus \) > Skt \( purus \), Gk \( polús \) (\( πολύς \)) (for *palus due to influence of \( ol < l \)). No example can be cited from Ht with certainty. Ht \( ishiul \) ‘treaty’ (beside \( ishai \) ‘binds’), may contain \( ul < ll \).

§35. IE \( m \) > Skt \( a \), Gk \( a \), Ht. \( am \) (finally \( an \))

IE \( septm \) > Skt \( sapta \), Gk \( heptá \) (\( επτά \)), Ht \( septam-iya \) ‘seventh’ (Dat) (< IE \( septmyōī \))

IE \( sm \) > Skt \( sa \), Gk \( ha \), Ht \( sa \) (for *san), Ht \( sa \) for *san was probably formed on analogy with \( kata : katan \) etc. (§170) and *san was subsequently lost.

§36. IE \( m\) > Skt \( ā \) (also \( ām \)), Gk \( ā \) (Doric)/\( ē \) (Attic) (also \( mā/mē \) respectively), Ht (no example; but must have fallen together with \( m \); hence) \( am/(finally) \ an \)

IE \( egwōnt \) > Skt \( agāt \), Gk \( ēbē \) (\( εβή \))

IE \( dīntos \) > Skt \( dāntas \), Gk \( dmātōs \) (\( δματός \)).

§37. IE \( m \) > Skt \( m \), Gk & Ht \( m/(finally) \ n \)

IE \( moi \) > Skt \( me \), Gk \( moί \) (\( μοί \)), Ht \( me \) (written \( mi \))

IE \( esmi \) > Skt \( asmi \), Gk \( eimí \) (\( ειμί \)), Ht \( esmi \)

IE \( yugom \) > Skt \( yugam \), Gk \( zugón \) (\( ζυγόν \)), Ht \( yugan \)

IE \( pedom \) > Skt \( padam \), Gk \( pédon \) (\( πέδων \)), Ht \( pedan \).

§38. IE \( mm \) > Skt \( am \), Gk \( am \) (finally \( an \)), Ht \( um \) (finally \( un \))

IE \( es-mm \) > Skt \( āsam \), Ht \( esun \) cp Gk \( έa \) (\( γέa \)) (< IE \( esm \))

IE \( smmos \) > Skt \( samas \), Gk \( hamós \) (\( αμός \))

IE \( pod-mm \) > Skt \( pādam \), cp Gk \( póda \) (\( πόδα \)) < IE \( podm \), cp Ht \( kun \) (for *kan) an analogical extension of \( un \) (< \( mm \)) after consonantal stems.
§39. IE \( \hat{n} \) > Skt \( \ddot{a}/\dddot{a} \), Ht \( an \)

IE \( bh\hat{n}\hat{g}hus \) > Skt \( bahu\ddot{s} \), Gk \( pakh\acute{u}s \) (\( \pi\alpha\chi\acute{u}s \)), Ht bangus

IE \( gw\hat{h}ntos \) > Skt \( hatas \), Ht gwasket (< *gwansket < IE \( gw\hat{h}nsket \))

IE \( ns-sme \) > Skt \( asma- \) (in \( asm\acute{a}n \)), Gk \( \acute{a}mme \) (\( \alpha\mu\mu\varepsilon \)), Ht \( ants- \) (in \( antsas < *ns-ns \)) (for Ht \( *ans > ants/as \) §87(2)).

§40. IE \( \ddot{n} \) > Skt \( \ddot{a}/\dddot{a} \), Gk \( \ddot{a} \) (Dor)/\( \acute{e} \) (Attic), also \( n\ddot{a} \) (Dor)/\( n\acute{e} \) (Attic); Ht \( an \)

IE \( gw\hat{h}ntos \) > Skt \( gh\hat{a}tas \), Gk \( thn\acute{a}t\acute{o}s \) (\( \theta\nu\acute{a}-\acute{t}os \)) (Dor)/\( thn\acute{s}kontos \)
(\( \theta\nu\acute{a}\sigma\kappa\nu\acute{r}os \)) (Attic); Ht gwasket (§39) may also be placed here.

IE \( \ddot{g}\acute{n}t\acute{os} \) > Skt \( j\acute{a}tas \), Lat \( n\acute{a}tus < *gn\acute{a}tus \).

§41. IE \( n \) > Skt, Gk, Ht \( n \) (IE \( n \) > IE \( \eta \) before velars/labio-velars and \( \ddot{n} \) before palatals, §43)

IE \( \ddot{g}\acute{e}nu \) > Skt \( j\acute{a}nu \), Gk \( g\acute{o}nu \) (\( \gamma\acute{o}v\nu \)), Ht genu

IE \( neb\acute{h}os \) > Skt \( nab\acute{h}as \), Gk \( n\acute{e}ph\acute{o}s \) (\( \nu\acute{e}\phi\acute{o}s \)), Ht nebes

IE \( new\acute{o}s \) > Skt \( nav\acute{a}s \), Gk \( n\acute{e}o\acute{s} \) (\( \nu\acute{e}s \)), Ht newet (Inst)

IE \( nu \) > Skt & Ht \( nu \), Gk \( n\acute{u} \) (\( \nu \)).

§42. IE \( nn \) > Skt \( an \), Gk \( an \), Ht \( un \)

IE \( nn-ud\acute{h}ros \) > Skt \( an\acute{u}dr\acute{a}s \), Gk \( \acute{a}n-ud\acute{h}ros \) (\( \acute{a}n-\acute{u}\ddot{d}\acute{h}p\acute{o}s \))

The IE participial suffix \( nt < ent \) has alternative form \( nnt \) which gives Gk \( -\acute{a}nt \) (beside \( -\acute{o}nt \)). And IE Acc pl suffix \( -\acute{n}s \) alternates with \( -\acute{nns} \) which gives Ht Acc pl \( -\acute{u}s < *\acute{u}ns \).

§43. IE \( \ddot{n} \) & \( \eta \)

IE \( n > \ddot{n} \) before palatals & \( \eta \) before velars/labio-velars. These two became class nasals in each individual language. IE \( \ddot{n} \) invariably became \( \ddot{m} \) in Skt before \( \acute{s} < \text{IE} \hat{k} \) & \( h < \text{IE} \ddot{gh} \).
In Gk the velar nasal \( \eta \) was written with gamma (\( \gamma \)) and in Ht with \( n \).
IE penqʷe > Skt paça, Gk pênte (πέντε)
IE √konq > Skt saīkate, Ht kanki, NE hang
IE ēneŋka (<√nek/iŋk) > Skt ānamsa, Gk ēneŋkon (ήνεγκον).

§43a. IE n > m in Skt before s
IE ġhans > Skt haṃsas, Gk khēn (χῆν), Lat ānser, Lith žąsi-s.

§44. IE diphthongs
Out of the six secondary vowels (§18) the first two (i & u) differed much in nature from the rest and are aptly called, by Brugmann, vowels, distinguished from the rest which are designated as sonants (or syllabic consonants). This distinction is based not only on the fact that they are much more frequent than the last four, nor because they are preserved intact in all historical languages, but because almost all the languages show a special development of these vowels, in combination with a preceding primary vowel, when this combination was either final or followed by a consonant. Such combinations are termed as diphthongs.

IE had twelve diphthongs with combinations of a short or long primary vowel with a following i/u. Combination of a short primary vowel with i/u resulted in a short diphthong and combination of a long primary vowel with i/u resulted in a long diphthong. IE short diphthongs were more frequent than the long ones and their development is well-attested in each branch. The second element (i/u) of the long diphthongs was often lost in the IE proto-speech itself, which might have been an optional or dialectal feature. The other secondary vowels were also subject to loss in a similar position, when preceded by long primary vowels, e.g.

IE ēi (IE reis) : IE ē (IE rēm, Skt rām, Lat rēm)
IE ōu (IE gʷous, Skt gauṣ) : IE ô (IE gʷōm, Skt gōm)
IE ēr/el (IE potër, Gk patêr) : IE ē (IE potê, Skt pita)
IE ēm/en (IE re̞gēn, Gk poimēn) : IE ē (IE re̞gē, Skt rājā)

§45. IE ai, ei, oi > Skt e (<IIR ai, as IE a, e, o > IIR a); Gk ai, ei, oi; Ht ē (written i also).
PHONOLOGY (VOWELS)

(a) IE ai > Skt & Ht e, Gk ai
    IE ṇheretai > Skt bharate, Gk ἤχερται (φέρεται)
    IE aithos > Skt edhas, Gk aithos (αἰθός)
    IE qwai (§136) > Ht kwe, Lat quae.

(b) IE ei > Skt & Ht e, Gk ei
    IE ἡχειμόντσ > Skt hemantas, Gk κχειμών (χειμών), Ht gemants
    IE deik > Skt deśa-, Gk deiknūmi (δείκνυμι), Ht dekusami (written deik-) < *deksami
    IE eimi > Skt emi, Gk eimi (εἰμί), Ht (Impv) ehu
    IE weis > Ht wes, Goth weis, cp Skt vayam < IE wei+-om.

(c) IE oi > Skt & Ht e, Gk oi
    IE wlo(woi > Skt vrke, Gk λύκοι (λυκοῖ), Ht arune < IE ornoi
    IE moi > Skt me, Gk moi (μοι), Ht me.

§46. IE au, eu, ou > Skt o (< IIr au §45), Gk au, eu, ou, Ht u (perhaps < proto-Ht *o/au).

(a) IE au > Skt o, Gk au, Ht u
    IE aug > Skt ojas, Av aojō, Gk αύξω (αὔξω), Lat augeo
    IE sausos > Skt sošas, Gk haíōs (αὐνος), Lith sausas
    IE au > Ht u, cp Lat au, cp Skt ava < IE awo.

(b) IE eu > Skt o, Gk eu, Ht u
    IE leug > Skt rocate, Gk leukós (λευκός), Ht luktsi
    IE neuti > Skt ῥοτῆι, Gk ὀρνύμη (ὁρνύμη), (Gk nū for *neu is analogical; §146(4)), Ht arnusı.

(c) IE ou > Skt o, Gk ou, Ht u (examples are very rare for *ou)
    IE gous (Gen sg) > Skt gọś (but Gk boōs < IE gʰowos), cp Gk (Hom) eilślouthe (eiλ̣̩λουθε) (beside eleúsomai), cp Ht udne (u > *ou, vide Sturtevant HG² §62(b)).
§47. IE āi, ēi, ōi > (IE ā, ē, ō also §44) > Skt ai/ā, Gk āi, ēi, ōi (rare) but normally, Gk ai/ā, ei/ē, oi/ō (with first element shortened or second element dropped), Ht ai/a (> proto-Ht *āi/ā).

(a) IE āi > Skt ai/ā, Gk āi/ai/ā, Ht ai/a

IE ekwāi (Dat sg of ā-stem) > Skt aśvāyai (for expected *aśvai with -ay- extension of the stem), Gk theās (θεᾶ), cp Ht annai (if anna- ‘mother’ is originally a feminine stem ending in -ā, cp Skt nanā ‘mother’).

(b) IE ēi > Skt ai/ā, Gk ēi/ei/ē, Ht ai/a

IE ēite > Skt aita, Gk ēite (ἲτι)

IE osthēi > Ht hastai (cp Gk ostēon (ὁστέον) < IE osthēy-o-m strong grade and thematic extension).

(c) IE ōi > Skt ai/ā, Gk ōi/oi/ō, Ht ai/a

IE wlkωoi > Skt vrkāya (with particle -a), cp Gk hīppōi (ἱππω),

   cp Ht aruna < IE ornōi

IE ōis > Ht ais, cp Skt ās & Lat ōs < IE ōs.

§48. IE āu, ēu, ōu > Skt au/a, Gk au, eu, ou or ā, ē, ō respectively, Ht au (Ht harnaus ‘birth chair’ may come from IE āu/ēu/ōu).

(a) IE āu > Skt au, Gk au/ā, Ht au

IE nāus > Skt naus, Gk naus (νάυς) (< nāus)

IE vāus > Ht austsi, cp Gk (Dor) āōs (ἀως).

(b) IE ēu > Skt au, Gk eu/ē, Ht au

IE dyēus > Skt dyaus, Gk zeús (ζεύς), cp Ht harnaus

IE dyēum > IE dyēm > Skt dyām, Gk zēna (ζηνα) (< *zēn).

(c) IE ōu > Skt au, Gk ou/ō, Ht au

IE gwōus > Skt gauṣ, Gk boús (βούς), cp Ht harnaus

IE gwōum > IE gwōm > Skt gām, Gk bōn (βῶν)

IE wlgwōuwlqwō > Skt vrkāu/vrkā, Gk lūkō (λυκω), cp Ht hasa (Dual of a-stem).
§49. Ablaut

The term Ablaut (or vowel gradation) is applied to a specific type of alternation of the IE primary vowels, which was quite a regular feature in the IE proto-speech and has left its traces in the historical languages. The alternation was both in quantity and in quality. The quantitative ablaut was discovered by the Sanskrit Grammarian Paṇini (or his predecessors like Yāska etc.) at least two and a half millennium ago. The quantitative alternation implies that a short vowel could be lengthened or reduced under different circumstances. The qualitative ablaut, which was recognised and systematically worked out towards the close of the last century, implies alternation of the quality of a vowel, The qualitative ablaut is very clear and regular in case of the alternation of $e : o$, but it is rare and doubtful with other types of alternations, which are theoretically possible. The alternation of $a : o$ is recognized but rare. The alternation of $a : e$ is not recognised but some Latin cognates show $a$ where others show $e$. (But this Latin $a$ is explained as an analogical formation; some also derive it from schwa seconuum. See §17) Alternation of $o : ā$ is also not recognized though some words (e.g. IE $ekwos : ekwa$) are related in this way as masculine and feminine. Alterations of $ā : ē : ȯ$ (as found in the subjunctive forms in Gk and Latin) is also not recognized as ablaut. Sanskrit, which represents the IE phonology very systematically, is almost silent about the qualitative ablaut (since IE $a, e, o > Skt a$). The Laryngeal theory assumes that there was only one primary vowel and this vowel changed into two others, when followed by two different laryngeals. This theory merely throws us back to Bopp (who assumed only one primary vowel on the basis of IIr), but hardly helps us to understand as to how and why these laryngeals alternated (any more than as to how and why $e$ & $o$ alternated). Thus the qualitative ablaut is a is a very complicated phenomenon, but it is the only way to understand the relation of several primary vowels, when radically identical morphemes present different primary vowels in the same or in different historical languages.

The three quantitative grades are called as the strong (or guṇa) grade, the lengthened (or vṛddhi) grade and the weak grade. The weak grade has two sub-grades: (i) the nil or zero grade, (ii) the
reduced grade, with a reduced vowel (ə), if the radical vowel is originally long, or an unaccented primary vowel if the radical vowel is short (§17).

The six ablaut-series with vowel alternations:

<table>
<thead>
<tr>
<th>series</th>
<th>strong grade</th>
<th>lengthened grade</th>
<th>weak grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>a : ə</td>
<td>ā : ə</td>
<td>(a) : nil</td>
</tr>
<tr>
<td>e</td>
<td>e : ə</td>
<td>ē : ə</td>
<td>(e) : nil</td>
</tr>
<tr>
<td>o</td>
<td>o</td>
<td>ə</td>
<td>(ə) : nil</td>
</tr>
<tr>
<td>ā</td>
<td>ā : ə</td>
<td></td>
<td>ə : nil</td>
</tr>
<tr>
<td>ē</td>
<td>ē : ə</td>
<td></td>
<td>ə : nil</td>
</tr>
<tr>
<td>ə</td>
<td>ə</td>
<td></td>
<td>ə : nil</td>
</tr>
</tbody>
</table>

Of these six series a and o series are with rare examples and chiefly Gk examples can be cited for these two series. In cases of other series Sanskrit examples can be cited chiefly as examples of the quantitative alternation and not for the qualitative alternation because of the merger of IE a, e, o into a. Hittite on the other hand can be illustrated to some extent for the qualitative change, (since at least e (< e/ē) & a (< a/ā, a/ō, ə) are distinct here, if not a & o) and not for the quantitative change, (since the long vowels have merged with the short ones in Ht).

§50. IE a series √a[h] 'move'

<table>
<thead>
<tr>
<th>strong grade</th>
<th>lengthened grade</th>
<th>weak grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skt ajāmi</td>
<td>ājīś</td>
<td>pari-j-man</td>
</tr>
<tr>
<td>Gk ágō : ὁγμον</td>
<td>Lat ambāgēs : Gk agōgé</td>
<td>-aktōs</td>
</tr>
<tr>
<td>(ā'γω) : (ā'γμον)</td>
<td>(ā'γωγη')</td>
<td>(-ak'tōs)</td>
</tr>
</tbody>
</table>

§51. IE e series

This series includes the maximum number of IE morphemes. The examples therefore may be multiplied by indicating various alternations, when this primary vowel was preceded or followed by a secondary vowel. The secondary vowel was never lost, but was always retained subject to positional variation (§18).
strong grade  |  lengthened grade  |  weak grade
---|---|---
IE ̂pet : ̂pot  | ̂pet : ̂pot  | ̂pet : ̂pt
Skt ̂patati  | ̂pātayati  | ̂patita : ̂apāptat
Gk ̂pētomai : ̂potēomai  | ̂pōlāomai  | ̂epitōmēn
(̂pētōmāi : ̂pōtēmāi)  | (̂pōtōmāi)  | (̂eptōmēn)
Ht ̂petayetsi  | (̂petayetsi ?)  | ̂pēla(ya)ntsī
IE ̂gēnu : ̂gōnu  | ̂gēnu : ̂gōnu  | (̂gēnu) : ̂gīnu
Ht genu : Gk gōnu  | Ht (gēnu)  | Skt jīnu-
(γōnu)  | ̂jānu  | (in jīnu-bādh)
IE osthei : osthoi  | osthei : osthēi  | osthi
Gk ostēon (oστεōν)  | Ht hastai  | Skt asthi
< IE osthey-om
IE esti  |  | esonti : sōnti
Skt asti  |  | santi
Gk esti (eōtī)  |  | (Dor) henti (evrī)
Ht estsi  |  | asantsī (for a < e §17)

§52. IE o series
IE gʷous (Gen/sg)  | gʷōus (Nom/sg)  | gʷu/gʷw
Skt gōs  | gauṣ  | dvi-guṣ
Gk boōs (boōs)  | boōs (boōs)  | hekatōmbē
(< IE gʷowos)  | (< IE gʷōus)  | (eκατόμβη)

§53. IE a series
strong grade

IE sthā : (sthō)  |  |  | weak grade
IE sthisthāmi  |  |  | (reduced) : (nil)
Skt tiśthāmi  |  |  | sthā : sth
Gk histēmi (Dor)  |  |  | sthētōs : sthesthrr
(ιoτāμι)  |  |  | sthītas : tsthur
Ht titami  |  |  | statōs
(< IE (s)thi(s)thāmi)  |  |  | (oστατός)

british accent
strong grade

IE bhā : bhō
Skt bhāmi
Gk (Dor) phāmi : phōné
(φαμι) : (φωνή)

weak grade
(reduced) : (nil)

bhə : bh
bh-a-s 'star'

phantēn
(φαμέν)

§54. IE ē series

IE dhē : dhō
IE dhidēmi : dhōmo-
Skt dadēmi : dhāman
Gk tithēmi : thōmōs
(τιθημι) : (θωμός)

Ht dehi
(< IE dhē + Ht hi)

IE ḍē : ṭē
Skt āphōti (< IE ḍē-νευ-τι)
Ht ēptsi (< IE ḍē-ti)

IE ēs : (ōs)
Skt āste

Gk ēstai (ἦσται)
Ht ēstsi

IE ḅō : ḍō
Skt dādāmi
(< IE didōmi)
Gk didōmi
(δίδωμι)

Ht dahi
(< IE ḍō + Ht hi)

dō : d

dāti : datte
(< IE dēti) : (< IE didlai)
dōtōs (δωτός)
for *datos
(< IE dōtōs)
dantsi
(< IE d-onti)
CHAPTER III

PHONOLOGY (CONSONANTS)

§56. IE consonantal system

The IE consonants (as given in §5B) are:

(a) the gutturals
   (i) the palatals  ḳ, ḵh, ḍ, ḍh, (ḡn)
   (ii) the (pure) velars  ṣ, ṣh, g, gh, (ṅ)
   (iii) the labio-velars  qw, qwh, gw, gwḥ, (ṅ)
(b) the dentals  ṭ, ṭh, d, dh, (ṅ)
(c) the labials  ṗ, ṗh, b, bh, (ṃ)
(d) the semi-vowels, liquids and nasals (alternating with the secondary vowels §18)  y, w, r, l, m, n (& ṅn, ṇ)
(e) the spirants  s, z, θ, δ.

The nasals may also be grouped with each class of the stops (as shown above in (a), (b) & (c)), in accordance with the place of articulation. The nasals, liquids and semi-vowels have already been treated with the vowels (§18 etc.). The voiceless aspirates are less frequent than other stops and have a neat representation only in Skt. Hence they shall be discussed together in §73. Only three stops, therefore, out of the five-stop system shall be discussed in the following sections (§§57-72).

It may be noted here that Skt retained the IE five-stop-system quite distinctively, but Gk devoiced the voiced aspirates and Ḥt deaspirated the aspirates.

§57. The IE guttural series

IE proto-speech had three types of guttural stops, which are represented by only two types in each branch. The Satem languages developed sibilants out of the palatal series and velars out of IE velars and labio-velars, whereas the Centum languages developed velars out of IE palataals and velars, and labials or labio-velars out of the labio-velars. Thus:
The treatment of gutturals in Skt: The IE \( \hat{k}, \hat{g}, \hat{gh} \) > IIr \( s, z, zh \) > Skt \( s, j, h \) (< *jh), (Av \( s, z \) & OP \( \theta, \delta \), as the voiced aspirate was deaspirated in Ir). IE \( q/q\hat{w}, g/g\hat{w}, gh/g\hat{w}h \) > Skt \( k, g, gh \) (Av & OP \( k, g \)) normally; and > Skt \( c, j, h \) (< older *jh) (Av & OP \( c, j \)), if they were originally followed by an IE palatal vowel (i/e). Thus a Skt \( j \) may be from IE \( \hat{g}, g \) or \( g\hat{w} \) and \( h \) may be from IE \( \hat{gh}, gh \) or \( g\hat{w}h \). Therefore Skt evidence is insufficient for ascertaining IE \( \hat{g}, \hat{gh} \). In the following discussions therefore cognates from various IE languages may be cited chiefly for ascertaining IE \( \hat{g}/\hat{gh} \) and also for illustrating the Satōm and Centum classification.

The treatment of gutturals in Gk: IE \( k/q, \hat{g}/g, \hat{gh}/gh \) > Gk \( k, g, kh \) respectively. But IE \( q\hat{w}, g\hat{w}, g\hat{w}h \) have a triple treatment in Gk. They have normally become \( p, b, ph \), but before palatal vowels \( t, d, th \) and before or after \( u \), they have become \( k, g, kh \) respectively. Hence cognates from other IE languages are often needed to ascertain the IE stop.

The treatment of gutturals in Ht: IE \( k/q > Ht \ k \) and IE \( \hat{g}/g \) and \( \hat{gh}/gh \) > Ht \( g \). IE \( q\hat{w} > Ht kw \) and IE \( g\hat{w}/g\hat{w}h \) > Ht \( gw \) Ht \( kw \) and \( gw \) were retained only before vowels and probably they became \( k \) and \( g \) before consonants. According to Sturtevant they became \( ku \) and \( gu \) respectively before consonants (or finally); e.g. IE \( g\hat{w}henti \) > Ht \( gwentsi \) (Skt \( hanti \)) and IE \( g\hat{w}hnonti \) > Ht \( gunantsi \) (Skt \( ghnanti \)). But Ht \( gunantsi \) may be a case of anaptyxis or orthographic anaptyxis, since an initial conjunct could not be represented in Ht orthography. If Ht \( turan \) ‘team’, represents originally ‘four’ (< IE *q\( w \)tur- > *ktur- > *itur- > tur- cp Skt turya-), then this will represent a case where IE \( q\hat{w} \) > proto Ht *k before a consonant. Latin, also, has \( k < IE q\hat{w} \) before a consonant; e.g. \( coctus < IE peq\hat{w}-tos \). A few other cases, where Sturtevant assumes the IE labial element to have become Ht \( u \), may preferably be explained otherwise; e.g. Ht \( neku < IE neq\hat{w}u \) (& not < *neq\hat{w}, as Sturtevant assumes).
Ht kurur < IE ḍṛūr (§30) (and not < *qʷrār as Sturtevant assumes), since Gk cognate shows IE pure-velar (§61).

§58. IE ʰk > Skt ś, Gk & Ht k

IE ʰkmton > Skt sātam, Av satam, OP ʰatam (gu), Lith szimtas, OBulg ʰsuto; Gk hekatôn (ἐκατόν), Lat centum, OIrish cēt, Goth hund, Tokh känt

IE ʰkerēs|krres > Skt śiras-, Av sarah-, Arm sar ‘summit’, Gk kārā (καρᾶ), Lat cerebrum (IE ʰkeres-rom)

IE ʰko-|kī- > Lith seis ‘this’, OBulg sè, Alb së, Arm -s ‘this’ (suffixed to pronouns); Lat citer, Gk -ki (<IE ʰkid) (as in oũ-ki), ketno- (<IE ʰkeeno-), OIrish ce ‘on this side’, Goth himma ‘to this’, Ht kas (-ki of Ht kwis-ki may be directly derived from *ki instead of *qʷi with dissimilation)

IE ʰkeitai > Skt ṣete, Gk keitai (κείται), Ht keta ‘he lies’ (<IE ʰkeito) (§152)


§59. IE ʰg > Skt j, Gk & Ht g

IE ʰgenu > Skt jānu, Av fra-snu (<*znu < IE-ʰgnu) ‘knee bent forward’, Gk gōnu (γόνυ), Ht genu, Lat genu, Goth kniu, Arm cunr

IE ʰgeus > Skt jōṣas, Av zaoṣō, Gk geūō (γεύω), Lat gustus, OIrish to-gu ‘choice’, Goth kiusa

IE ʰarg > Skt arjunas ‘white’, Gk argós (ἀργός) ‘shining’, Ht hargis (or harkis) ‘white’.

§60. IE ʰgh > Skt h (< *jʰ), Gk khh, Ht g

IE ʰheimonts > Skt hemantas, Av zima- ‘winter’, Arm jiun ‘snow’, (j < ʰgh), Alb dimem ‘winter’ (d < ʰgh), Lith žema, OBulg zima;
Gk kheimôn (Χείμων) ‘winter’, Ht gemants, Lat hiems (h < IE ǵh), OIrish gam, OCymric gaem, OCornish goyf
IE bhṅghus > Skt bahūs (cp Skt baṁhiyas < IE bheṅghīyes), Gk pakhús (παχύς), Ht bangus
IE √wegh > Skt vahati, Av vazaiti, Alb vieð ‘I steal’ (< *lead away), Lith vezū, OBulg vezə ‘I carry’; Gk ókhos (ὄχος), Lat vehō, OIrish fën (with g < IE ǵh dropped), Goth ga-wigan ‘to move’.

§61. IE g > Skt k/c (§57(a)), Gk & Ht k
IE √leuq > Skt rocate ‘shines’, lokate ‘sees’ (< IE leugetai & leuqotai respectively), Gk leukós (λευκός) ‘white’, Ht luktsi (leuq-ti), Lat lūx (< *leuqs)
IE grew-/grewos/grū- > Skt kravis, krūras Av xravis, xṛūrō; Gk krēs (κρέας) (< *krewas) Ht kurur (< IE grū-r (§30) or < IE grū with anaptyxis of u).
IE √ergq/rg ‘manifest’ > Skt arkas ‘ray’ (< IE ergos), arecati ‘shines’ (< IE ergeti), Ht urkis (< IE ǫrgis) ‘a trace’.

§62. IE g > Skt glj (§7(a)), Gk & Ht g
IE yugom > Skt yugam, Gk zugón (ξυγόν), Ht yugan, Lat iugum Goth juk
IE yeugos > Skt yogas, Gk zeūgos (ξεύγος) ‘team’, Ht yugas ‘yearling’, da-yugas ‘two-years-old’
IE √aug > Skt ojas ‘strength’, Av aojō ‘power’, Lith augu ‘I grow’, Gk aũkso (αυκῶ) (< *aug-sō), Lat augeō, OIrish ǫġ ‘whole’ Goth aukan ‘to increase’.

§63. IE gh > Skt gh/h (§57(a)), Gk kh, Ht g
IE d̥l̥ghos > Skt dirghas, Av dārryō, OP darga, Gk dolikhós (δολιχός), Ht dalugas (Av, Gk & Ht with anaptyxis of ō, i, u respectively)
IE √ghes/ghos > Skt √ghas ‘eat’, Av √gah- ‘eat’, Ht gast ‘hunger’, gestwant ‘hungry’, Tokh(A) kast, Tokh(B) kest.
§64. IE $q^w \rightarrow$ Skt $k|c$ (§57(a)), Gk $k|t|p$ (§57(b)), Ht $kw$ (§57(c))

IE $q^wo$-, $q^wε$-, $q^wā$, $q^wi$- $\rightarrow$ Skt $kas$, $kad$, $kā$, $ca$, $cid$, Av $kō$, $kā$, $ca$, Gk $pō$-, $pā$ (Dor), $te$, $tis$ ($πō$- $πā$-, $τε$, $τis$), Ht $kwis$, $kwat$, $kwit$, Lat $quod$, OIrish $cia$, Cymr $pwy$, Goth $hwas$, $hvä$ (< IE $q^wā$), Alb $ke$, Lith $k̄as$, OBulg $k̄uto$ ‘who’

IE $q^wε$ $\rightarrow$ Skt $pañca$, Gk $pέnte$ ($πεντε$), Lat $quīneque$, OIrish $cōic$, OCymr $pim$.

§65. IE $g^w \rightarrow$ Skt $g|j$ (§57(a)), Gk $g|d|b$ (§57(b)), Ht $gw$ (§57(c))

IE $\sqrt{g^wεr|g^wrr} \rightarrow$ Skt $gurus$ (<IE $g^wrrus$) ‘heavy’, giriṣ (<IE $g^wris$) ‘mountain’, Gk $barús$ ($βαρός$) (< IE $g^wrrus$), Goth $kaurus$, Ht $hegur$ (< IE $g^wrr$- $\rightarrow$ pre-Anatolian *gwr > *gur > (Proto-Anatolian *egur (with prothetic e) > hegur (with Laryngeal §82))

IE $g^wou$ $\rightarrow$ Skt $gauṣ$, Av $gauṣ$, Arm $kōv$, OBulg $gov$-, Lat $bōs$ (loan from $p$-Italic), Umb $bue$, OIrish $bō$, OHG $chuō$

IE $tyeg^w$ $\rightarrow$ Skt $tyajati$ (< IE $tyeg^wet$), Gk $sēbomai$ ($σεβομαί$) (< IE $tyeg^womai$)

IE $g^wołbhos$ $\rightarrow$ Skt $garbhas$, Gk $άδελφος$ ($άδελφος$) (<IE $sng^welbhos$).

§66. IE $g^w^h \rightarrow$ Skt $g|h|h$ (§57(a)), Gk $kh$, $th$, $ph$ (§57(b)), Ht $gw$ (§57(c))

IE $g^whenti$ $\rightarrow$ Skt $hanti$, Gk $theinō$ ($θείνω$) (< IE $g^wheń-yō$), Ht $gwentsi$

IE $g^whnonti$ $\rightarrow$ Skt $ghnanti$, Ht $gunantsi$ (with anaptyctic $u$ §57(c)), cp Gk $φόνος$ ($φόνος$) (< IE $g^w hônos$)

IE $g^withermos|$ $g^whormos$ $\rightarrow$ Skt $gharmas$, Av $garṃō$, Gk $thermόs$ ($θερμός$), Lat $formus$, OHG $warm$, Arm $jerm$, OPruss $gorme$

IE $\sqrt{dhwēng^w^h} \rightarrow$ Skt $dhvāṅkas$ ‘crow’ (< black) (< IE $dhwēn^w^h$-so-), Gk $dnōphos$ ($δνόφος$) ‘black’, Ht $dangweis$ ‘black’ (Ht $d$ < IE $dhw$ §87(3)).

$m : cg−3$
§67. IE $t >$ Skt, Gk & Ht $t$; but it became Gk $s$ sometimes before $i$
(and in some conjuncts §86) and Ht $ts$ before IE $i$ (except in some conjuncts)
IE $tom >$ Skt $tam$, Gk $tόn$ ($τόν$), Ht $tan$
IE $peteti >$ Skt $patati$, Gk $πέτομαι$ ($πέτομαι$) ($<$ IE $petomai$), Ht $petatsi$
IE $wet >$ Skt $vat-sara$, Gk $étos$ ($ετός$), Ht $wet-$
IE $γαμτισ >$ Skt $gatiś$, Gk $bάσις$ ($βάσις$).

§68. IE $d >$ Skt, Gk & Ht $d$
IE $pedom >$ Skt $padam$, Gk $pédon$ ($πέδων$), Ht $pedan$
IE $\sqrt{dō} >$ Skt $dadāmi$, Gk $dίδομι$ ($δίδωμι$), Ht $dai$ ($dō+$-ending -$i$)
IE $dōghos >$ Skt $dṛghas$, Gk $dολίχος$ ($δολιχός$), Ht $dalugas$
IE $edmi >$ Skt $admi$, Gk $édomai$ ($ἐδομαί$), Ht $edmi$
IE $dōru >$ Skt $dōru$, Gk $dόρυ$ ($dόρυ$), Ht $daru$.

§69. IE $dh >$ Skt $dh/$ (also sometimes) $h$, Gk $θh$, Ht $d$
IE $\sqrt{dhē} >$ Skt $dadhāmi$, hitas, Gk $tithēmi$ ($τίθημι$), Ht $dehi$ ($<$ IE $dhē+$-Ht $hi$)
IE $\sqrt{dhebh-neu-ti} >$ Skt $dabhnoti$ ‘cheats’ $dhipsati$ ‘desires to cheat’, Ht $debnutsi$ ‘belittles’
IE $dhūmos >$ Skt $dhūmas$, Gk $θύμος$ ($θυμός$).

§70. IE $p >$ Skt, Gk & Ht $p$
IE $\sqrt{pet} >$ Skt $\sqrt{pet}$-, Gk $\sqrt{pet}$-, Ht $\sqrt{pet}$- (§67)
IE $pedom >$ Skt $padam$, Gk $pédon$ ($πέδων$), Ht $pedan$
IE $apo >$ Skt, Av, OP & Ht $apa$, Gk $apó$ ($από$)
IE $pra >$ Skt & Ht $pra$, Gk $pró$ ($πρό$)
IE $liponti >$ Skt $limpanti$, Gk $lípos$ ($λίπος$), Ht $lipantsi$.

§71. IE $b$ (a rare sound) $>$ Skt, Gk & Ht $b$
IE $barbaros >$ Skt $barbaras$, Gk $bάρβαρος$ ($βάρβαρος$)
IE $pibō >$ Skt $pibāmi$, Lat $bībō$, OIrish $ebaim$
IE bele- > Skt bālam, Lat debilis
IE √eubīub > Skt ābhati (with -ja- extension of the root), Ht uptsi
(< IE eub-ti|ub-ti|up-ti), Goth iup- < IE eub.

§72. IE bh > Skt bh, Gk ϕh, Ht b
IE nebhos > Skt nabhas, Gk néphos (νεφος), Ht nebes
IE bhṅghus > Skt bahuṣ, Gk pakhus (πακχύς), Ht bangus
IE bherō > Skt bharāmi, Gk pherō (φηρω)
IE dhebh-neu-ti > Skt dabhnoti ‘cheats’ dhipsati ‘desires to cheat’,
Ht debnutsi ‘belittles’.

§73. The IE Voiceless Aspirates

The IE Voiceless aspirates are most clearly represented only in
Skt. Since the voiced aspirates have been devoiced in Gk, the con-
trast of voiced and voiceless aspirates, is lost in it. Ht has deaspirated
the aspirates and has lost the contrast of voiceless aspirates and
voiceless non-aspirates like Celtic, Germanic and Balto-Slavic.

A number of cognates appear with one form out of an IE aspirate
and the other out of a non-aspirate. These alternative forms of
aspirates and non-aspirates are also found with the voiced stops,
represented by only a few cognates, where one of the forms may be
an analogical creation in the IE period (§84(f)). But the alternative
forms of voiceless aspirates and non-aspirates are more frequent.
Generally reconstructions are made in such cases, with alternative
forms which is merely a convenient formula, but no explanation.
In most of such cases Skt shows an aspirate and Gk a non-aspirate.
In some cases the law of dissimilation of aspirates in consecutive
syllables, which has independently effected, Gk and Skt, is responsible
for these alternative forms in these two languages, because after the
law ceased to operate each language has made its own innovation
and generalization; e.g. the second person plural Primary suffix Skt
-tha and Gk -te may be derived from IE -the, which became -te in
Gk, as in pherete (< *pherethe < IE bherethe) by dissimilation and was
generalized in forms like Gk estē (where also sth > st; see below).
In Skt, on the other hand, the aspiration has been retained, on the
basis of forms like stha (< IE sthe) and has been generalized in forms
like bharatha. Some conjuncts also might have had some special
treatments, which are no longer clear enough for definite conclusion,
as the picture has become obscure at an early stage; e.g. IE sth
seems to have become st in Gk (Skt sth almost always corresponds
to Gk st). Gk sth is rare and it might have been an analogical
remodelling. IE šk & škh have fallen together in Skt and have
become cch. Thus several factors might have been responsible for
these alternative forms of aspirates and non-aspirates in the historical
languages. The laryngeal theory (§83) also attempts an explanation
for this alternation in a very attractive manner, but it is highly
doubtful that the Laryngeals were IE sounds.

Although further study is awaited for a perfect solution of the
problem, the following may be accepted for the time-being; (i) when
Skt & Gk show voiceless aspirates, IE was having voiceless aspirates
in those cases (ii) the Second person pl Primary suffix is -the (& not
-te, as discussed above) (iii) IE sth has generally become st in Gk
(and Gk sth is an analogical remodelling, as assumed above).

(a) IE ḷh > Skt ch (IE šḵh > Skt cch), Gk kh, Ht *κ
IE ṣ̄kʰiːd > Skt ṣ̄(c)hiːd, Gk skhízō (σχίζω) (< IE škhidvō).

(b) IE q̄h > Skt kh, Gk kh, Ht k
IE kòŋq̄hɔs > Skt sánkhas Gk kòŋq̄hos (κόγχος)
IE s̄q̆holotì > Skt skhalati, Ht skalatsi.

(c) IE q̃w̄h > Skt *kh (cp Av k), Gk ph (/*th/*kh §57(b), Ht *kw
IE s̃w̄her > Av skaron, Gk sphaîra (σφαῖρα).

(d) IE th > Skt th, Gk ðh (IE sth > Gk st), Ht t
IE √groth > Skt bran̄thi, Gk grónthos (γρόνθος)
IE pl̄thus > Skt pr̄thus, Gk pláθanon (πλάθανον) (< *plathu-anon)
(besides plátus < IE pl̄tū with -tu suffix like Ht palhi < IE pl̄
+ Ht -hi suffix)
IE bhereth > Skt bhara, Gk phèrēte (φέρετε) (IE th > Gk t by
dissimilation of aspirates)
IE (s)thi(s)t̾hāmi > Skt tisṭhāmi, Gk (Dor) histāmī (ιστήμι) (IE
sth > Gk st), Ht titami (note Ht ti- < IE thi, whereas IE ti
> Ht tsi).
(e) IE ph > Skt & Gk ph, Ht p
IE pholyam > Skt phalyam, phalati, Gk phollon (φόλλον), Lat folium
IE sphaïati > Skt sphaïati, Ht speyati
IE sphiγeti > Skt sphiγrjati, Gk spharageomai (αφαραγεομαί)
IE sphyem > Skt sphyam, Gk sphên (αφήν).

§74. IE Semivowels, liquids and nasals

IE semivowels ŋ (§21) & ū (§25), liquids r (§29) & l (§33) and nasals m (§37), n (§41), ŋ (§43) & ñ (§43), have already been discussed in chapter II, as these alternate with the secondary vowels (§18), under certain circumstances.

§75. IE Spirants

IE had four spirants: s, z, θ, δ. IE x is merely a sandi-form of s (§79). And IE θ, δ (which are not universally accepted) are also most probably variants of IE s & z respectively under unknown circumstances (§80). Thus only s seems to be the most original spirant.

§76. IE s > Skt s (also sometimes s (§81) & ś (§76a)), Gk h (initially before vowels)/lost (intervocally)/s (finally or in conjunct with liquids and voiceless stops)/assimilated (in other conjuncts §86)

IE so/sos > Skt sa/sas, Gk ὧ (ο), Ht sas
IE nebhos > Skt nabhas, Gk néphos (νεφος), Ht nebes
IE nebhesos > Skt nabhasas, Gk népheos (νεφεος), Ht nebesas
IE su > Skt su, Gk hu- (υ-), Ht asu (with prothetic a-)
IE esti > Skt asti, Gk esti (εστι), Ht estsi.

§76a. IE s > Skt ś (sometimes) when ś or s was in the neighbouring syllable

IE swekuros > Skt śvaiśuras, Gk hékuros (εκυπόσ)
IE sausos > Skt sośas, Gk hauos (αυος), Lith sausas
IE kasos > Skt šasas, OHG haso, OE hara (r < *z < *s)
(But IE s remained s, when s was in the neighbouring syllable, e.g. IE sesti > Skt sasti, cp Ht sestsi).
§77. IE mobile s
IE initial s was often dropped optionally, and forms occur with or without initial s

IE \(\sqrt{\text{stāy}}\) (Skt stāyus) : IE \(\sqrt{\text{tāy}}\) (Skt tāyus, Gk tētao, Ht ṭayatsi)
IE \(\sqrt{\text{sthā}}\) (Skt tiṣṭhāmi, Gk (Dor) histāmi etc.) : IE \(\sqrt{\text{thā}}\) (Ht titami < IE thithāmi)
IE \(\sqrt{\text{spēk}}\) (Skt spāṣṭas, Lat specio) : IE pek (Skt paśyāmi).

§78. IE \(s+s\) > IE s (optionally)

IE essi > IE esi > Skt asi, Gk \(̃\varepsilon\) but (Homeric) essí (εσσι) (< IE essi)
IE \(\circ\text{nsme}\) < IE nsme > Skt asma-, Gk (Lesb) ἄμμε (ἀμμε).

§79. IE z
IE \(s\) > IE z in combination with a following voiced stop e.g.
IE sd (< \(\sqrt{\text{sed}}\)) > IE zd

IE z was lost in Skt (IE z > IIr z & z \(\checkmark\) §81; both were lost in Skt, after changing the quality of preceding a > e (medially) & o (finally) and lengthening i & u > i & a respectively.
IIr z also left its effect over the following dentals by cerebralizing them)

IE z was retained in Gk only before the voiced non-aspirates (written σ before b, g and written ξ (=z/zd) in combination with a following d), but became s, before the original voiced aspirates, because these in turn have been devoiced in Gk.
IE z > Ht s (at least orthographically).

Thus:

IE \(\acute{\varepsilon}s\text{-dhwem}\) > IE \(\acute{\varepsilon}zdhwem\) > Skt āddhwam, Gk ἐσθε (ηοθε) (< IE \(\acute{\varepsilon}z\text{-dhuue}\) Ht estuma (=ezduma ?) (< IE \(\acute{\varepsilon}z\text{-dhum}\) (§152)
IE ni-sd-os > IE nizdos > Skt nīdas (< IIr nizdas), Lat nīdus, Arm nist
IE si-zd-ō > Gk hizdō (ιωω) Lat sīdo
IE (e)s-dhi > IE (e)z-dhi > Skt edhi (< IIr (a)z-dhi), Av zdi
Gk ēsthi (ιοθε)(< *sthī < IE zdhi, with prothesis).
§80. IE θ, δ

IE θ & δ are reconstructed to establish the affinity of certain cognates, where a particular sound is represented as a dental stop in some and as a spirant in others. These two were probably phonetic variants of s & z respectively, (differing only in groove & slit pronunciations of the spirants) under unknown circumstances, and last of all they passed into dental stops in some individual languages,

IE ῥκθος (< IE ῥκθος) > Skt ῥκθας, Av ῥασάθ, Lat ursus < *urcsu;

but Gk ἀρκτός (ἀρκτός), OIrish art

IE τεκθόν (< IE τεκθόν) > Skt τακ्षान, Av ταजान, Ht taks-, Lat teso,

but Gk τέκτων (τεκτων)

IE ὑγδόμ (<dd IE ὑγδόμ) > Skt kṣam but Gk κόθον (χθον), Ht degan

(< *dgan < *gdan, with metathesis and anaptyxis), Tokh(A)

τκάτ, Tokh(B) κτ ‘place’ (tk- < kt- with metathesis).

§81. Origin of the Cerebral Sounds in Skt

Skt has had a set of Cerebral sounds, (viz. s, t, ṭh, ḍh, & ṇ) which were not in IE nor in IIr. But they have developed from the dental sounds in the following manner. IE s & z became IIr σ & ζ and Proto-Skt ś & z, when preceded by IE ῥ/μ/λ/ν/θ/k/q/w (or IIr ῥ/μ/λ/ν/k/q/w). IE ᾕ, ᾣ, Ᾰh > IIr σ, ζ, z, ḍh > Skt s, j, h normally, but before dentals they became s, ζ, (& ζh) in Proto-Skt. zb > ζ before t by shifting of aspiration as by Bartholomae’s law (e.g. *ζh+t > *ζ+dh). Thus Proto-Skt developed two cerebral sounds (σ & ζ) out of the inherited sounds as given above. These two cerebral sounds cerebralized the following dental stops in the Proto-Skt stage. After the process of cerebralization was complete the *ζ was lost (just like °z §79), which was responsible in cerebralizing the dental plosives d & dh into ḍ & ḍh. σ cerebralized t & th into t & th. Moreover the dental nasal ṇ was cerebralized into n after s/θ/r. The origin of each cerebral sound may be illustrated:

(a) Skt s

(i) < IIr σ < IE s (see above), e.g.

Skt tisthāmi < IIr stisthāmi < IE sthīsthāmi
COMPARATIVE GRAMMAR OF SANSKRIT, GREEK & HITTITE

Skt aśveṣu < IIr asvaiṣu < IE ekwoisu
Skt ḫoṣas < Ir ēausōs < IE ḡeusōs
(ii) < IIr ḫ < IE ḫ (see above), e.g.
Skt vaṣṭi < IIr vaṣṭi < IE wekti
Skt ṛṣṭas < IIr ṛṣṭas < IE ḍktos < ḍyaṅ
(b) Skt ṭ (after ṣ) Skt vaṣṭi (see (a)(ii))
(c) Skt ṭḥ (after ṣ) Skt tiṣṭhāmi (see (a)(i))
(d) Skt ḍ (after *ṛṣ) Skt niḍas < Proto-Skt *niṣḍas < IIr niṣḍas < IE nizdos
(e) Skt ḍḥ (after *ṛṣ) Skt uḍhas < Proto-Skt *uṣṭhas < IIr uṣṭhas/uzhtas < IE uḥtos/uḥdhos
(f) Skt ṇ
(i) (after ṣ) Skt krṣṇas < IE grśnos
(ii) (after ṭṛ) Skt mrṇāti < IE mrṇāti

Cerebrals have also developed in MIA out of Skt dentals preceded by ṭṛ (perhaps on analogy of cerebralization of ṇ > ṇ).
Even in the earliest stage of Skt a few cerebralizations of this type are traceable, e.g. vikaṭas < viκṛtas etc. In some words the origin is not clear, e.g. Skt ṣat beside Skt ṭat (called as spontaneous cerebralization); but these belong to the later stage of Skt, hence may be cases of Prakritic cerebralization.

§82. Origin of Ht h (Laryngeal)

Ht has one h (Laryngeal) sound, which is generally written single (h) and sometimes double (hh) like l, r, m, n & s, without any special significance. This sound is quite established in Ht and has attained a phonemic status. Other IE languages do not show any Laryngeal. Some IE phonological problems are supposed to be solved by reconstruction of laryngeals. But the explanations are not convincing, because, only on the basis of the Ht laryngeal, these explanations are not tenable (§83).
Since the laryngeal is a perfectly established sound in Ht and is found in other Anatolian languages, this must have been inherited by Ht from Proto-Anatolian. Proto-Anatolian was highly influenced by Semitic. Traces of Semitic influence are observable in Ht as well. It therefore seems possible that the laryngeal sound was borrowed by Proto-Anatolian from Semitic, and was optionally attached, before or after or in between the vowel sounds and did not attain distinct phonemic value. This was, however, gradually established in some words and was extended to others analogically. It may be conjectured that only Hamza (out of the five semitic laryngeals) was borrowed from Semitic, which was, even in Semitic, lost under certain circumstances and was interchangeable with two other laryngeals. This sound was often prefixed to words beginning with a vowel in Semitic. Thus in Semitic no word began with a vowel. Anatolian was only partly influenced by the laryngeal-coloured pronunciation of the vowels and generalized some of the words, where a laryngeal was introduced only in pronunciation. Gradually this attained a phonemic status.

§83. Reconstruction of IE Laryngeals

Many scholars prefer the reconstruction of some Laryngeal sounds in the proto-speech and claim that this reconstruction smoothens many IE phonological problems. This assumption has started even before the discovery of Ht, by Saussure and Möller etc. This has further been strengthened, after the discovery of Ht, by Kurylowicz, Cuny, Couvreur, Pedersen, Sapir and Sturtevant etc. (Vide E. H. sturtevant: The Indo-Hittite Laryngeals, I 2-9, for a summary of the exposition of the above scholars).

This hypothesis, inspite of having some good points in its favour, remains controversial, because of the following:

(1) The laryngeals donot occur in the other IE languages, except Ht and Ht also has only one laryngeal (§82) (or, at the most two, if Sturtevant etc. be accepted), but the Ht laryngeal is (or the Ht laryngeals are) insufficient to explain any phonological problem of IE. Even if two laryngeals be accepted in Ht, two additional laryngeals are to be assumed for the proto-speech and these two additional laryngeals are supposed to have the same effect on IE
phonology, like the first two. If the laryngeals retained in Ht be called as $H_1$ & $H_2$ and the additional ones as $H_3$ & $H_4$, then above statement may be put as follows. $H_1$ & $H_3$ had one and the same effect on IE phonology (see 2). $H_2$ & $H_4$ also had an identical effect on IE phonology (see 3).

(2) It is assumed that $H_1$ & $H_3$ lengthened the pre-IE (or IH) short vowel in IE, and Ht short vowel retains the original picture. This assumption is ruled out, if on the contrary it be assumed that IE long vowels became short in Ht.

(3) It is assumed that $H_2$ & $H_4$ changed that pre-IE (or IH) $e$ to $a$. This assumption is also unnecessary if $a$ is accepted to be an original vowel.

(4) Alternation of aspirates and non-aspirates in some cognates is explained as a result of the presence or absence of a following laryngeal sound. But such examples are rare, and either the aspirate or the non-aspirate might have been an analogical creation (§84(f)) or the variation might have been due to other factors (§73).

(5) Even if the Laryngeal Theory be accepted, reconstruction of a laryngeal sound in the proto-speech is very difficult. Since Ht evidence is incomplete, the exact laryngeal cannot be known. And one word may contain several laryngeals (if it contains long vowels and aspirates in non-laryngealistic reconstruction) and the reconstructed word will unnecessarily look abnormally long and this lengthy reconstruction also is of no special advantage for any phonological problem, as shown above.

§84. Some IE Sound Changes

(a) A voiced non-aspirate became devoiced before a voiceless stop or s, e.g.

IE *yug-tos > IE *yuqtos > Skt yuktas, Gk zeuktós (ζευκτός) (< IE *yevqtos) (beside IE *yugom > Skt yugam etc. §21).

IE *eub-ti > IE *eup-ti > Ht upsci (beside IE *eub > Gk iup, Skt ub-ja-ti)

IE *pod-su > IE *potsu > Skt patsu Gk possi (ποσσὶ) (< *potsi)

IE *ed-se-ti > IE *et-se-ti > Ht atsetsi (beside IE edmi > Skt admi etc.)
(b) A voiceless stop or s became voiced before a voiced stop.
IE \( \textit{pd} \) (< \textit{ped} > bd > Skt \( \textit{bd} \) (\textit{upabda} ‘trampling’) Gk \( \textit{bd} \) (\textit{epibdai ‘the day after the feast’})
IE \( \textit{sd} \) (< \sqrt{\textit{sed}} > zd e.g. IE \( \textit{nizd-o} \) > Skt \( \textit{niḍa-} \) etc. (§79).
(c) In a combination of two dentals, a spirantual glide developed optionally.
IE \( \textit{tt(h)} \) optionally became \( \textit{tst(h)} \) and IE \( \textit{dd(h)} \) optionally became \( \textit{dzd(h)} \) e.g.
IE \( \textit{woit-tha} \) > IE \( \textit{woit-tha|woit-s-tha} \) > Skt \( \textit{vettha} \) Gk \( \omega \textit{σθα} \) (\( \omega \textit{σθα} \))
IE \( \textit{did-dhi} \) > IE \( \textit{did-z-dhi} \) > IIr \( \textit{dazdhi} \) (\( a < i \) due to influence of perfect) > Skt \( \textit{dehi} \) Av \( \textit{dazdi} \) etc.
(d) IE voiced aspirate+\( s \) > IE voiceless non-aspirate+\( s \) e.g.
IE \( \textit{bhes} \) (\( \sqrt{\textit{bhæs}} \) ‘eat’ cp Skt \( \sqrt{\textit{bhas}} \) ‘chew’) > IE \( \textit{ps} \) > Skt \( \textit{ps} \) (in \( \textit{ps̄tī} \)), Gk \( \textit{ps} \) (in \( \textit{ps̄ō} \)).
IE \( \textit{dhs} \) > IE \( \textit{ts} \) cp Skt \( \textit{bhōṣyate} \) (< IE \( \textit{bheudh-syetai} \) > \( \textit{bheutsyetai} \))
   cp Ht \( \textit{tsketsi} \) < IE \( \textit{dh-ske-ti} \) < \( \sqrt{\textit{dhē}} \).
(e) A combination of IE voiced aspirate+\( t \) had two different developments in the dialects:
   (i) The voiced aspirate > voiceless non-aspirate as in Gk
   \( \textit{hroptōs} \) (\( \textit{pontōs} \)) < IE \( \textit{sroḥt-o-s} \ > \textit{IE srop-to-s} \) cp Gk \( \textit{hrōπheō} \) (\( \textit{rōpheō} \))
   < IE \( \textit{srohbhevo} \))
   (ii) The whole combination was replaced by a voiced non-
       aspirate+\( dh \), (Bartholomae’s law) as in Skt \( \textit{rabdhahas} \) < IE \( \textit{rebh+tos} \)
       > IE \( \textit{reb-dhos} \) cp Skt \( \textit{rabhatē} \) < IE \( \textit{rebh-tai} \).
(f) In some words IE had alternative forms of voiced aspirate and voiced non-aspirate.
   Analogy and contamination, have played their roles, in the prehistoric period, in such cases, for development
   of either of the alternative forms.
IE \( \textit{eḡhom} \) (Skt \( \textit{aham} \)) : IE \( \textit{eḡom} \) (Gk \( \textit{egōn} \) etc.) IE \( *eḡ-o \) was probably the original form and \( eḡ-h-o \) had aspiration due to
   influence of IE \( \textit{meghi} \) (Skt \( \textit{mahy-am} \) & Lat \( \textit{mihi} \) etc.) (Petersen : Language VI 164-93)
IE \( \textit{dhuḡtater-} \) (Skt \( \textit{duḥita} \)) : IE \( \textit{dhuḡtēr} \) (Gk \( \textit{thuḡtēr-} \)). The original
   form was \( \textit{dhuḡtēr} \) beside \( \textit{dhukter} \) (cp Gothic \( \textit{daūhtar} \) etc.) IE \( \textit{dhuḡtēr} \) might have developed by a confusion of IE \( \textit{dhuḡtēr} \) and \( \textit{dhukter} \)
IE megh-(Skt mahān) : meg (Gk méga) ; IE megh was probably original and IE megh had aspiration in analogy with IE bhragh (Skt brhat).

IE ḡhenus (Skt hanus ‘jaw’) : genus (Gk génus). IE ḡenu was probably original and ḡenu developed in analogy with IE ġenu ‘knee’.

(g) IE sy > s (optionally) in some words e.g.

IE syā (< stw) (Skt syūla OHG siuwan etc.) : IE sā (Skt sūtram, Lat suo, sūtus OHG sou-m OICel saum-r Ht sumants, swel etc.

IE syo (demonstrative pronoun/Gen sg ending) : IE so (demonstrative pronoun/Gen sg ending) (§100 & §134).

§85. Some Skt Sound Changes

Skt had the following sound changes besides those inherited from IE (§84).

(1) IE ks (< IE k̑/g̑/ĝh+s) and IE q̑s/q̑w̑s (< IE q̑/q̑w̑/g̑/g̑w̑/gh̑ q̑w̑h+s) fell together in Skt in ks, whereas Iranian shows distinction (cp Av 珣 (< IE ks) & 珣 (IE q̑s/q̑w̑s) (e.g. Skt vakṣyāmi : Av vaχ̑šyā (< IE weq̑w̑-syō ‘I shall speak’) ; Skt rksas : Av arȓs̑ō (< IE ȓksos/ȓk̑tos).

(2) IE k is apparently represented in Skt (instead of normal ṣ) sometimes as :

(i) k e.g. dik (Nom sg) (but diṣas Nom pl), which is actually < Proto-Skt *diks < IE diks (hence practically comes under §85(1) above).

(ii) ṭ e.g. viṭ (Nom sg) (stem viṣ) ; such cases show a t-glide e.g. IE wik+s > *wik-t-s > Proto-Skt *viṭs > Skt viṭ ; similarly rāṭ (< stem rāj-) < IE rēg-s > IE rēks > IE rēkts > Proto-Skt *rāṭs > Skt rāṭ ; and vāṭ (< stem vāḥ-) < IE wēgh-s > IE wēks > IE wēkts > Proto-Skt *vāṭs > Skt vāṭ (similar t-glide is also found in adbhīṣ < *ap-bhīṣ > *aṭpbhīṣ > *adbhbīṣ > adbhīṣ).

(3) Deaspiration of one of the two aspirates in consecutive syllables (called as Grassmann’s law, which also operates in Gk) e.g.

IE dhīdhēmi > Skt dadhāmi, Gk tīthēmi (tīthmu).

IE √bhendh > Skt √bandh-, Gk penth-.
(4) Only the first consonant of a final conjunct group was retained; the other one was (or the others were) dropped. e.g. Skt vrkān (< IE *wloʰwons), Skt akar (< IE egor-t/eget-s) Skt abharan (< IE *ebhero-n).n.

(5) Prothesis and Anaptyxis

(i) Prothesis appears very rarely before liquids, Skt (Vd) iraiyati ‘puts on order’, iradhat ‘seeks to win’, ilaya ‘resting’ (cp laya-) uloka (cp loka)

(ii) Anaptyxis is also found in pronunciation in Vd Skt in conjuncts with liquids e.g. indʰra, rudʰra.

(6) It may be noted that final s, š & r > h in Skt; (but s, š & r are always preferred in the present book for convenience of historical and comparative study) e.g. kas > kah, avis > avih & akar > akah.

§86. Some Gk Sound Changes

Gk had the following special sound changes besides those inherited from IE (§84).

(1) Deaspiration of one of the two aspirates in consecutive syllables in common with Skt (§85(3)).

(2) Assimilation of many IE conjuncts

(a) plosive+plosive > the second prevailed e.g. d/t+p > pp Hom ḱòppōs < ḱhōd-pōs

(b) plosive+nasal > the nasal prevailed; and the plosive > class nasal e.g. p[b]/ph+m > mm grāmma (< -ph-m-), bn > mn amnōs (< *abnōs), gn > ηn (written γν) gignomai (< *gignomai)

(c) plosive/nasal+liquid > liquid prevailed (see also 3 below)

[Examples given]

(d) nm > mm e.g. sūmmakhos < *sunmakhos

(e) s+nasal > nasal prevailed

sm > mm e.g. emmi < IE esmi
(f) $s$ + liquid $>$ liquid prevailed
$sl > ll$ e.g. $hillaos < *sisaos$ etc.

(g) In most of the conjuncts in $w$, $w$ was lost; but:
IE $kw > pp$ e.g. $hippos < IE ekwos$
IE $tw > ss/s$ (initially), e.g. $se < IE twe$

(h) IE conjuncts in $y$

(i) $py > pt$ e.g. $pitō < *pyūyō$ 'I spit'

(ii) $ly > ll$ e.g. $állos < *alyos$

(iii) $ty/thy > ss/s$ e.g. $sobeō < IE tyog$  

(iv) $ky/khy > (Attic) tt/(Ionic) ss$ e.g. Attic $pita$ Ionic $piṣṣa < *piṣya$

(v) $dygy > z$ (zd) (in Attic-Ionic etc.) e.g. $zeus < IE dyēus$, $házomai < IE yaǵyomai$

(vi) $ny, ry$

any, ary $>$ ain, air, e.g. $máinomai < *manyomai$, $spairō < *sparyō$
ony, ory $>$ oin, oir, e.g. $ánkoina < *ánkonya$, $moira < *morya$
eny, ery $>$ (Lesb) enn, err, (others) $ên/ein ėr/eir$, e.g. $ktēnō/kteinnō$  
$<( *ktényō), phthérrō/phthérō/phtheirō < *phtheryō$
inī, iry, uny, unr $>$ (Lesb) inn, īrr, unn, urr, (others) īn, īr, ūn, īr,  
e.g. $klinō/klinō < *klinyo$

(vii) $ny > ny$ (same treatment as $ny$; see above (vi)) e.g. $bainō$  
$<( *banyō < IE g⁰mmyō$

(viii) $ms > ns$, e.g. Cretan $héns$ (Attic $heś$) $< IE$ $sems$

(ix) $ns + consonant > s + consonant$, e.g. $despōtēs < *dens- < IE$  
demns-.

(3) $mr/ml/nr > mbr/mln/dr$; initially $br/błldr$ e.g. 
$brotō < *mbrotos < *mrōtos < IE mrtos$ cp Skt $mrtas$
andrāsi $< *anrasi < IE n̄rsu$ cp Skt $nr̄su$.

(4) All final consonants and conjuncts were dropped except  
n, r, s, ks, ps.

(5) Prothesis is very regular before r and is also found elsewhere 
e.g. $ēruthros < IE$ $ruthros$ cp Skt $rūdhras$-, $isthi < IE$ $zdhi$ cp Av $zdi$.

(6) Anaptyxis is also sometimes found e.g.  
dolikhōs $< *dolkhos < IE$ $dłghos$ cp Skt $dirghas$.
§87. Some Ht Sound Changes

Besides inheriting the IE sound changes, Ht had the following additional sound changes.

1. The following conjuncts were assimilated
   (a) $kt > tt$ (initially $t$) $luttai < -kt$; $turan < kturan$ (? §57(c))
   (but $kts$ remained: $luktsi$)
   (b) $tn > nn$

   $apanna- < *apatna-$ heteroclitic base of $apatar$
   (c) $mn/nm > mm$ (written $m/mm$)

   $memai < *memnai$, cp Gk $ménnēmai$ (but $-mn-$ remained in $lamanas$
   due to influence of $laman$)

   Ht $gwemi < *gwenmi < IE gwenmi$, cp Skt $hanmi$.

2. IE $ns >$ either $s$ ($gwasket < *gwansket < IE gwhnsket$) or $nts$
   ($antsas < *ans-anś < IE ns-ns$ Acc pl of 1st personal pronoun).

3. IE $dhw/dw >$ Ht $d$, $dan < IE dwo-m$, Ht $dangwis < IE$
   $dhwēŋʷh-$ (§66).

   But IE $tw$ was retained; cp Ht $twel$ ‘yours’ (< IE $twe+ (e)l$),
   $twarai$ ‘breaks’; cp Skt $tvar$ ‘hasten’. Sturtevant derives $tw$ of $twarai$
   $< dhw$ taking Gk $thraūs$ as a cognate; I do not prefer his etymology,
   because in that case the above two etymologies shall have to be
   rejected. (Even if his etymology be accepted the -$w-$ of $twarai$
   ($/dwarai$), shall preferably be interpreted as -$w$-, as is also always
   shown by orthography and the above sound-law of IE $dow/dhw >$ Ht $d$
   will not be disturbed, because $dhwu$ may become $duw-$ in Ht.)

4. $m$ & $w$ seem to alternate in Ht. e.g.
   (a) the suffixes -$mar$ & -$war$. These are inherited from IE,
       (cp Skt -$mant$ & -$want$)
   (b) Ht 1st person pl ending -$meni$ & $weni$. But -$weni$ was
       probably original Dual ending, which has merged with pl in Ht
       (§148)
   (c) There are other cases, where -$m$ & $w$ seem to alternate
       which merely be cases of orthographic confusion of -$w$ & -$m$,
       which is also true for Akkadian.

5. final -$st > -s$ e.g. $nais < *naist$.

6. final -$m > -n$ e.g. $yugan$ (§21).
(7) final -nt > -n (so in Gk & Skt) human < *humant.

(8) Prothesis is almost a must before initial -r e.g. Ht ararantsi (beside rare rarantsi §29).

(9) Anaptyxis (and orthographic anaptyxis) was a salient feature e.g. arunas < IE ornos cp Skt arṇas ; dalugas < IE *dalgas < IE *dəghos ; degan < *dgan < *gdan < IE ąhōm (§80).

(10) Metathesis in dagan < *dgan etc (see 9 above).

§88. IE Accent

Accent was a prominent feature in IE proto-speech. Comparative evidence shows that IE had both stress and pitch accent either at the same period or at different periods. Out of the historical languages Skt and Gk have preserved the original accentual system to a great extent. Germanic also shows evidence of IE accent to some extent, as certain sound-changes in Germanic were governed by the position of IE accent. Ht shows no trace of IE accent, just like many other IE languages.

Skt & Gk, both have clearly preserved the pitch accent (although there is also a possibility of preservation of the stress accent side by side).

The three different accent-grades are distinct in Skt and Gk. The chief accent, or Acute (Skt udātta 'raised') was of the highest pitch. The circumflex (Skt svarita) was originally, result of the combination of an acute with a grave, that of an accented syllable with an unaccented syllable. An unaccented syllable with the lowest tone was considered to have the grave accent (Skt anudātta 'unraised').

The following were unaccented in IE:
(a) Certain particles, such as IE qʷे (Skt ca, Gk τε), IE we (Skt vā, Gk ε).
(b) The Indefinite Pronoun (§137).
(c) Certain alternative enclitic forms of the Personal Pronouns (§131 & §132).
(d) The Vocative was unaccented, if it did not begin a sentence.
(e) A verbal form was accented, only when it began a sentence; otherwise the augment or the upasarga was accented and the verb appeared as an enclitic.
Skt has retained the IE accent-system only in the Vedic language (For details, Vide Macdonell’s Vedic Grammar §§83—109). But in classical Skt there is almost no trace of IE accent.

Gk has retained the IE accent only in disyllabic words ending in a short syllable (e.g. Gk ἱδα: Skt .padam). But in other cases, it has developed a new system of accentuation, termed as the tri-syllabic law, according to which the position of accent became fixed generally within the third mora from the end e.g. ἄρομενος < *προμενος < IE *bheromenos cp Skt bhāramānas (For details vide Buck: Comparative Grammar of Greek and Latin §§217—220).

Normally the weak grade, as a rule, was not accented in IE. But the exceptions such as IE wī kaps (Skt vīkās, Gk lūkos) or septā (Skt saptā & Gk heptā etc.) indicate that the original accentual system has started to be disturbed towards the last stage of the proto-speech.
Chapter IV

Morphology
(Nouns and Adjectives)

§89. General Remarks

Inflection of nouns and adjectives (Ch IV), pronouns and numerals (Ch V) and Verbs (Ch VI), shall be discussed under morphology. Since adjectives do not differ much in inflection from nouns, no special section shall be devoted for adjectives in this concise exposition.

IE Inflection was characterized with distinction in gender (§90), number (§91), and cases (§92) in declension and number, persons (§142), tenses and moods, in conjugation.

§90. IE gender-system

IE distinguished three genders, viz., Masculine, Feminine and Neuter chiefly based on form. Even the formal distinction was not there with Mc & Fem in all declensions. This distinction is very prominent with o/ā stems, which have Mc in -ō and Fem in ă (e.g. IE ἐκώος : ekwā). Some Fem stems ended in r/iā/yā (e.g. IE ὠιγῶ : oĩgwi/ωιγῶi, bheronts : bheronti/bherontiā). But often in other cases the Mc and Fem stems have no formal distinction. Even the distinction in case of the o/ā stems might have also been of late origin. Skt & Gk both have some Fem stems in -o (e.g. Skt dāra- ‘wife’, Gk ἡ ἵππος ‘mare’) and Mc stems in ā e.g. Skt gopās Gk Ατρείδης). Therefore originally there might have not been any formal distinction between Mc and Fem. Ht as a matter of fact shows no Fem gender. Ht might have retained the original picture; but it is more probable that the phonetic change in Ht is responsible for lack of formal distinction of Mc & Fem stems. Both -o & -ā stems have become -a stems in Ht and both have been mutually influenced and therefore the Fem ā stems, which were specially distinguished in IE with νοι ending in Nom sg, took up the -s ending (cp Ht annas ‘mother’, beside Skt nanā ‘mother’) from -o stems and on the other hand the -o stems
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might have taken the Gen sg -s ending from -ā stems. (For other possibilities Vide §§93 & 100). Since IE i > i in Ht, Fem -i (-i) stems might have merged with Mc -i stems. Ht bargwis may be an original Fem stem (< IE bhr̥gwīt), besides Mc bargus (< IE bhr̥ghus) etc. Therefore there is also a full possibility that Ht has lost the formal distinction of Mc and Fem due to phonetic decay.

The Nt though distinct in all stems, had a special inflection only in Nom—Acc—Voc). This shows that at a very early stage, there might have been only one gender (i.e. no gender distinction). In course of time distinction was made between animate and inanimate objects and still in a third stage Mc and Fem evolved out of the animate gender. But this is a matter of speculation. As far as our records are concerned (based on comparative study), IE had the above three genders, which might have evolved at any stage, but were already in function before the IE dialects became independent languages.

§91. Number

IE distinguished three numbers: Singular, Dual, and Plural. The Dual was originally restricted in use only to natural pairs, as found in Vedic Sanskrit and Homeric Greek. This was extended in classical Skt to denote any two objects, but was totally lost in MIA, classical Gk and to a great extent in Ht. Ht shows only a few archaic survivals of the Dual, as in case of Ht hasa hantsasa ‘grand child and great grand child’, and in the verbal first personal plural ending -weni, which is a survival IE first personal Dual ending. Ht has not only lost the Dual, but has also lost much of the pl. It does not present all the pl forms for all the cases. In Nt many stems show identical forms in sg and pl, which may of course be due to phonetic decay and analogical formations. The Nt stems in i/u, which had pl in i/ū(<i/u+s), became identical in sg & pl, because Ht has lost the length distinction. Other cases, where the Nt sg & pl are identical, might have been formed on analogy of i/u stems.

§92. Cases and Case-endings

IE had eight cases: Nominative, Vocative, Accusative, Instrumental, Dative, Ablative, Genitive, and Locative. Voc had a special form only in sg and was identical with Nom in Dual and pl.
The full set of case-endings are citable only in sg. In Dual there were only three sets of endings: (i) Nom-Acc-Voc (ii) Inst-Dat-AbI (iii) Gen-Loc. In pl also only six sets are found: (i) Nom-Voc (ii) Acc (iii) Inst (iv) Dat-AbI (v) Gen (vi) Loc. But this state of affairs was retained only in Skt. Gk has preserved only five cases: Nom, Voc, Acc, Dat (where Inst & Loc have merged) and Gen (where Abl has merged). Ht has preserved only six cases: Nom (where Voc has merged), Acc, Inst, Dat (which includes Loc; but a few forms in -o declension have kept Dat & Loc apart), Abl and Gen.

HISTORY OF CASE-ENDINGS

SINGULAR

§93. Nominative (sg) Mc & Fem

(a) NIL

(i) With Fem ā stems & secondary ī stems (§118)

IE ekwā > Skt aśvā, Lat equa, Gk khōrā (χωρᾶ), cp Ht annas 'mother' for *anna (anna is found in Ht in Dual) with -s extended from -o stems.

(ii) With Mc/Fem -n/-r/-s stems:

IE ᾱtēr > Skt pītā, Gk ἀτέρ (ἀτέρ), Ht aptar (< IE ᾱptōr)

IE rēgēn > Skt rājā, Gk pōimen (ποιμήν), Ht memiyas (< *memiya with -s extended in analogy with -a stems.)

(b) -s

(i) With all Mc vowel stems and the Fem vowel stems other than ā & secondary ī stems:

IE wōsqōs > Skt vrkas, Gk lákos (λακός), Ht arunas < IE ornos.

(ii) With Mc-Fem plosive stems:

IE wōqsōs > Skt vāk (< Proto-Skt vāks), Gk hōps (ωψ), Ht gasts < IE ghosts.

§94. Vocative (sg)

There was no specific ending for Voc. But the bare stem, with ablaut variations was used as the Voc sg. The -o stems had ablaut variation in -e (e.g. IE wōqōs : wōqe), which is retained in Gk
(lúkos : lúke), but lost in Skt. The i/u stems had either strong grade (as in Skt) or weak grade (as in Gk). The -ā- stems had -a in Voc sg (e.g. Skt amba and Gk nûmpa), but Skt has an innovation (e.g. aśve for *aśva) which is very frequent here, and unparalleled elsewhere. The consonantal stems generally had strong grade in Voc (e.g. Skt rājan (Voc) cp Skt rājā (Nom))

§95. Accusative (sg) Mc-Fem

The ending was -m (after vowels) and m/mm (after consonants), -m > Skt -m, Gk & Ht -n ; m > Gk a, Ht an ; mm > Skt am, Ht un

IE wlo₃wom > Skt vrkam, Gk lûkon, Ht arunan

IE bheront-ml-mm > Skt bharantam, Gk pheronta (φεροντα), Ht human.t.

§96. Neuter (Nom-Acc-Voc) (sg)

(a) -m (with -o- stems)

IE yugom > Skt yugam, Gk zugón (ζυγόν), Ht yugan.

(b) NIL (for all other stems)

IE ĝenu > Skt jānu, Gk gónu (γόνυ), Ht genu.

§97. Instrumental (sg)

Inst is lost in Gk (except a few adverbial survivals) and is replaced by IE Abl ending *ed/od in Ht (§99). Hence Skt alone (of these three languages) retains IE Inst (sg) ending. Comparative evidence shows several endings in the proto-speech.

(a) IE -a (as in Gk par-ā, Skt prati-bhid-y-a)

IE wlo₃w̃o+a > IE wlo₃w̃o > Skt (Vd) vrkā, Av vāhrka, Lith vilkū
cp Gk ḏō (ĎO) (adv).

(b) IE -bhi/-mi (not found in Skt, in Inst sg, but Inst Dual bhyām & pl bhis make *bhi probable), cp Gk theophi (θεόφι), OBulg vlūkomi.

(c) IIr innovations

(i) -inā for IIr -a stems (< IE -o stems) by meta-analysis of -i stems (agni-nā > agn-inā) e.g.

IIr vrkd-inā > Skt vrkena (< *vrkenā cp Vd enā), Av vāhrkaena.
(ii) -nā for IIr i/u stems (by meta-analysis of -n stems) e.g. IIr agni-nā > Skt agninā.

(iii) -ā (by metaanalysis of -a stems) e.g. IE rēgn-a > IIr rāzn-ā > Skt rājñā.

§98. Dative (sg) -ai

Gk & Ht Dat (sg) often represents IE Loc (sg), since Loc has merged with Dat in these two languages. And Ht -i (which may represent i or e, may be derived from Loc -i or Dat -ai. But Gk & Ht both have clear traces of original Dat ending with IE -o stems.

IE wλqʷo+ai > wλqʷoí > Skt vrkāya (with particle -a), Gk lúkōi (λυκώ) Ht aruna (< IE ornōi).

IE ekwā+ai > ekwāi > Skt asvāyai (Skt stem has been extended by -āy-, cp Gk khōrāi (χωραί), cp Ht annaī

IE widmen-ai > Skt vidmane, Gk idmenai (ιδμεναί) (Dat Infinitive).

§99. Ablative (sg)

(a) Same as Gen (es : os : s) for all stems (except -o stems) (§100).

(b) -ed/-od for -o stems (found only in Skt). Ht uses this for Inst sg with all stems

IE newo+ed/od > IE newōd/newōd > Skt navād, Ht newet (Inst sg).

(c) Adverbial suffix -tos/ts used alternatively for all stems. -ts is the only Abl sg ending in Ht

IE orno-tos/ts > Skt arṇatas, Ht arunats

§100. Genitive (sg)

(a) -syo/-so, confined to -o stems only

IE wλqʷo-syo/-so > Skt vrkasya/*vrkasa (cp Apabhramśa Gen sg -ha),

Gk lúkōio (< *-syo) lúkou (< *oo < *-oso), cp Goth wulfis (< *-eso), Ht has no trace of this ending.

(b) -es/-os/-s for all stems (except -o stems) in Gen & Abl. (But -s was used sometimes even for -o stems, as found in Skt rathas-patis, vanaspatiṣ etc. and regularly in Ht arunas < IE orno-s, where it has been extended to all stems in sg & pl).
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IE ekwā+|es/os|s > IE ekwās > Skt aśvāyās (with -āy- extension of the stem), Gk khóρās (χῶρας), Ht annas

IE owi+|es/os or owei+|s > IE owiyes|oweis > Skt avyas|aves, Gk óphiós|ópheos (ὄφιος|ὄφεος) (< IE ogʰ>yos|ogʰ>heos), Ht hast(i)yas (< IE oṣthyoς)

IE bhā́gh(e)w-es|bhā́gheu-s > Skt madhvas|bāḥos, Gk þékheos (πηχεος), Ht bangus (< IE bhōṅheu-s)/as(u)was (< IE s(u)wos)

IE bherntos > Skt bharatas, Gk phẹrontos (φεροντος), Ht humantās.

It seems that the Gen was not an independent case, but was an adjectival use of the Nom. The identical form in Ht Gen sg & pl in -s and its similarity to Nom sg in -s is a pointer to this. The -es/-os ending may indicate thematic extension of the noun for formation of the adjective. And the -syo/-so ending found with the -o- stems might have originally been extended from thematic pronouns to thematic nouns. These were originally demonstrative pronouns (with NIL ending in Nom sg), and were combined with other pronouns for formation of pronominal adjective. In course of time these were also treated as Gen sg ending for pronouns and subsequently were extended to nouns. Ht el, which is also a pronoun, is also used as Gen sg ending of pronouns in both sg & pl.

§101. Locative (sg) -i or NIL

The Loc has merged with Dat in Gk & Ht. But the Loc ending has almost replaced the Dat ending in Gk. Ht i may be form Dat or Loc (§98), but unless Dat can be determined this i may be derived here from Loc. The NIL ending was also found with all stems except the -o stems. Skt has a special Loc ending -ām for ā/i/ū stems unparalleled elsewhere. Even Av shows *-ā only (eg Skt aśvāyām, Av aspayā).

IE ῳ|wο-i > Skt vrke, Gk oikoi (οἰκοι) (< IE woiko-i), Ht arune (< IE orno-i)

IE bhā́gheu (+NIL)/bhā́ghew-i > Skt bāhau/bāhav-i (Vd), Gk þékhei (πηχει), Ht genu (< IE ĝeneu+NIL), as(u)w-i (< IE s(u)w-i)

IE udon-i/weden-i > Skt udani/udan, Gk daimoni (δαιμον), Ht wedeni.
§102. Nominative-Vocative (pl) (Mc-Fem) -\textit{es}

The IE -\textit{o}- stems and -\textit{ā}- stems had a contraction with -\textit{es} and ended in -\textit{ō}s and -\textit{ā}s respectively; -\textit{es} has been retained distinctively in other stems. Skt has an ending -\textit{s} with Fem -\textit{i}- stems etc formed on analogy of -\textit{ā}- stems (e.g. \textit{aśvās} analyzed as \textit{aśvā+ś}). Gk has an ending -\textit{i} with -\textit{o}- stems (extended from pronouns e.g. \textit{toi : lúkoi} etc.) and \textit{ā} stems (e.g. \textit{khōrai}, extended from Dual). Ht has extended -\textit{es} even to the -\textit{a}- stems.

\begin{itemize}
  \item IE \textit{bheront-es} > Skt \textit{bharantas}, Gk \textit{phérontes}, Ht \textit{dantes} (<IE \textit{d-ont-es})
  \item IE \textit{bhāghew-es} > Skt \textit{bāhavas}, Gk \textit{pēkhees (πήκεες)}, Ht \textit{kur(w)wes (Ht (u)w < Proto-Hit aw)}
  \item IE \textit{wλqʷo+es} > \textit{wλqʷōs} > Skt \textit{vrkās}, cp Goth \textit{wulfōs}, Gk \textit{lúkoi (λύκοι)}, Ht \textit{ates}.
\end{itemize}

§103. Accusative (pl) (Mc-Fem)

-\textit{ns}/-\textit{o}ns (respectively after vowels and consonants); *-\textit{ns} > Skt -\textit{n} (since final -\textit{s} is dropped §85(4) and the preceding vowel is lengthened in analogy with Nom pl; *-\textit{ns} > Skt -\textit{as}; *-\textit{ns} > Gk \textit{s} with compensatory lengthening (or diphthongization) of the preceding vowel; *-\textit{ns} > Gk -\textit{as}; *-\textit{ns} has no trace in Ht; *-\textit{o}ns > -\textit{ns} > Ht us (§42); this is generalized for all stems in Ht.

\begin{itemize}
  \item IE \textit{wλqʷo-ns} > Skt \textit{vrkān (cp vrkāṁs-ca)}, Goth \textit{wulfans}, Gk \textit{lúkous (lύκους,lύκος)}
  \item (Cretan) \textit{lúkon (lύκος,lύκος)}
  \item IE \textit{bherent-ns} > Skt \textit{bharatas}, Gk \textit{phérontas (φήροντας)}, Ht \textit{humantus < -\textit{ns} (§42)} cp Ht \textit{antuhsus (-a-stems)} (for *\textit{antuhsas}<*\textit{antuhsans)} due to influence of \textit{humantus}.
\end{itemize}

Skt Fem -\textit{ā}/-\textit{i} stems apparently have an -\textit{s} ending in Acc pl e.g. \textit{aśvās, devēṣ}.

§104. Neuter (pl) (Nom-Acc-Voc)

(a) \textit{ā} for -\textit{o}- stems (e.g. *\textit{yugā}, which is originally a Fem sg with NIL ending cp \textit{ekwā}).

\begin{itemize}
  \item IE \textit{yugā} > Skt \textit{yugā (Vd)}, Gk \textit{zugā (ζυγά)} (\textit{a for *ā in Gk on analogy of Gk \textit{phéronta see b(i)}), Ht *\textit{yuga (cp Ht \textit{danata).}}
\end{itemize}
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(b) ə for other stems
   (i) with consonantal stems ə > Skt i, Gk & Ht a
       IE bheront-ə > Skt bharant-i, Gk ϕheroντ-α (ϕεροντε), Ht puman.τa.
   (ii) with -i/-u stems, the ending ə was contracted and the
       result was i̞u in Late IE. But Gk retained the uncontracted form
       (i.e. ia/ia). In Ht IE i̞u > i/u, hence apparently the pl became
       identical with sg. This influenced consonantal stems and sg started
       to be used as pl e.g. Ht wader. On the other hand, due to influence
       of consonantal stems, sometimes -a was added to i/u stems e.g.
       Ht gen(u)wa.
       IE tri-ə > IE trī > Skt (Vd)  tri, (Lat trī), Gk trία (τρία), Ht *tri
           (cp Ht meki).
   In Skt the Nt pl of vowel stems have an addition of -ni (e.g.
       yugāni, trīni etc), which is generalized in classical Skt. This may be
       an analogical formation after the -n stems (e.g. nāmāni) or -ni may a
       particle (§139).

§105. Instrumental (pl)
   This is fully retained in Skt, and found only in a few adverbial
   forms in Gk, but not at all in Ht.
   (a) -bhis (also -mis, dialectally, found in Balto-Slavic and
       Germanic etc.)
       IE owi-bhis > Skt avibhis (cp Gk theóphi & Lith sūnumis).
   (b) ois, an optional ending for -o- stems, which became the only
       ending for -o stems in classical Skt, but was totally lost in MIA.
       Gk Dat pl -ois may be compared with this.
       IE oloquo+ois > oloqois > Skt orkais, Av vəhrkais cp Gk (Dat pl)
       lūkais.

§106. Dative-Ablative (pl)
   -bh(y)os (-mos). This is attested only in Skt and lost in Gk
   & Ht. Gk Dat pl=IE Loc pl (§108). Ht Dat-Gen pl has -(a)s
   (§107).
   IE oloqwo-bhos > Skt vrkebhys (-e- < Loc pl §108) Av vəhrkaeiba,
   Lat pedibus (< IE -bhos), Ht (Dat) humantas (< Gen pl §107).
§107.  Genitive (pl)

IE -ön > Skt ām, Gk ὧν. But Skt has -nām with vowel stems by meta-analysis of -n stems. Ht has -as for Gen-Dat pl, which has been extended at first to Gen pl from Gen sg.

IE \(\text{w}lq^w_o+ōm > w_lq^{wōm} > \text{Skt }^\ast\text{urkām} \text{ (cp devā̄n-janma)/urkānām,} \)

Gk lūkōn (λυκων)

IE bhernt-ōm > Skt bharatām, Gk phérontēn (φεροντων), cp Ht humanēς.

§108.  Locative (pl)

IE -su > Skt (Av etc.) -su, but Gk -si (due to influence of Loc sg -i). This is lost in Ht. IE -o- stem became -oi before -su in analogy with pronominal stems e.g. IE toisū). In Skt this extended stem is used even in Inst-Dat-Abl pl & Gen-Loc Dual

IE \(\text{w}lq^w_o-i-su > \text{Skt }\text{urkēṣu, Gk lūkoisī (λυκοισι)} \)

IE pod-su > IE pōtsu > Skt patsu, Gk possi (ποσσί).

DUAL

§109.  Nominative-Accusative-Vocative (Dual) (Mc-Fem)

(a) IE -ou for -o stems only but extended in Skt to other stems

IE \(\text{w}lq^w_o+ou > \text{IE w}_lq^w_0ου/\text{w}lq^w_ο > \text{Skt urkau/urkā}, \text{ Gk lūkō (λυκω),} \)

cp Ht hasa (Dual of Ht -a stem).

(b) IE -ai for -ā- stems (including the final vowel of the stem)

IE ekwai (< stem ekwā-) > Skt aśve but Gk khōrā (χωρᾶ) (analogy of -o stems) (cp Gk pl khōrai (χωραί) originally Dual).

(c) IE -e consonantal stems only but replaced in Skt by -au extended from -a stems (< IE -o stems)

IE mātēr-e > Skt mātar-a- (in mātara-pitarau quoted in grammar),

but regular mātarau Gk mēter-e (μητερε).

(d) IE -i/-u stems had i/ā as in Skt, but Gk has -e on analogy of consonantal stems

IE bhāghā (stem bhāghu) > Skt bāhū but Gk pēkhe (πηχε).
§110. Neuter (Dual) (Nom-Acc-Voc)
IE *i > Skt *i, but replaced by Mc endings in Gk.
IE yugo+i > IE yugoi > Skt yuge, but Gk zugō (ξυγω) (§109(a))
IE ğenes-i > Skt janāṣ, but Gk génee (γενε) (§109(c)).

§111. Instrumental-Dative-Ablative (Dual)
IE -bhōm > Skt bhām. This is not attested in Gk (Gk Dat=Loc §112), nor in Ht. IE bhōm is reconstructed only on the basis of Skt bhām & Av bhām (The vowel -ō- is reconstructed on the basis of IE bhōs.)
IE bhrābhōm > Skt bhrābhām, cp Av bhrat-bhām.

§112. Genitive-Locative (Dual)
IE ous (or ou) > Skt oṣ (cp Lith doejaus) but Gk oino/oīn etc are new formations. Skt -a- (< IE -o-) stems were extended with -y- before this ending (Vide extension of Loc pl -o- stem with -i in IE.)
IE wōlō+ous > IE wōlōōus > Skt vrka-y-oṣ (<IE wōlōōyou) but Gk lūkoioin (λυκοιων).
IE rēgn-ous > Skt rājñ-oṣ but Gk poimēnoin (ποιμένων).

§113. Heteroclisis
Heteroclisis or use of different stems in one inflectional pattern was a characteristic feature of IE proto-speech; this has been retained in Skt and Ht and Gk also shows some traces of it.

Alternation of r/n in Nt stems was very common. e.g. IE weder/udr : weden/udn, cp Skt udar-a/udr-a : udan-ya-ti, uda-ka (<IE udn); Ht wadar/wedar : weden-as.

IE yeqwr : yeqn, Skt yakr-t : yakt-as, Gk hépar : hépatos (<IE yeqwn-t-os).

Alternation of r/n has become very prolific in Ht cp Ht pahur : pahwen-as, eshar : esan-as (cp Skt asr-k : asan-as).

Heteroclisis of other types are also found:
IE osth (Lat os, Av ast) : IE osthei/osthi (Skt asthi, Gk ostéon, Ht hastai) : IE ostheno/osthn (Skt asthna).
Similarly Skt vār : vāri : varin-as ; Skt madhu : madhun-as ; Gk dōrus : dōratos (< IE dorun-t-os) ; gōnu : gōnatos (< IE ḣonun-t-os).

Ht asus : asamus ; bargus : bargamus may be heteroclisis of u : amu, but may also be scribal error of amu for *awu=au, as m & w are liable to confusion in Ht as in Akkadian (§87).

§114. Stem-Ablaut

The stems were subject to different ablaut-grades. The IE declensional stems may be classified as stems, with ablaut and without ablaut and each into three types: A—stems without ablaut; with constant (a) strong grade, or (b) long grade, or (c) weak grade. B—stems with ablaut; with (a) strong grade in Nom sg, or, (b) long grade in Nom sg, or (c) weak grade in Nom sg.

The above classification is purely theoretical and all such types may not be attestable. Besides some IE stems were distinguished with different grades in different in different cases and numbers; e.g. IE -n- stem (Mc-Fem) had long grade in Nom sg, strong/long grade in Nom Dual & pl; Acc sg & Dual; strong grade in Loc sg & Voc sg; and weak grade in the rest. IE i/u stems were of four types: (a) with strong grade in Nom pl, Dat-Abl-Gen-Voc sg; long grade in Loc sg; and weak in the rest; (b) with weak grade in all the stems; (c) with long grade in Nom-Acc sg-Dual and Nom pl; strong grade in Voc sg; and weak in the rest; (d) long in all the stems; (type (c) & (d) are called as diphthongal stems or long grade stems §§119 & 122).

TABLES OF DECLENSIONS

§115. IE -o- stem

(Skt & Ht -a- stem, Gk -o- stem)


Singular

Nom IE wlo'oro > Skt vrkas, Gk lúkos (lúkos), Ht arunas (< IE ornos).
Acc IE wlo'orom > Skt vrkam, Gk lúkon (lúkon), Ht arunan (<IE ornom).
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Nt (Nom-Acc-Voc) IE yugom > Skt yugam, Gk zugón (ξυγόν), Ht yugan.
Inst IE wlgwō > Skt vrkā|vrkeṇa (§97) Ht newet (< Abl §97).
Dat IE wlgwōi > Skt vrkāy-a (§98), Gk lūkoi (λύκω), Ht aruna (< IE ornō(i)).
Abl IE wlgwōd/wlgw-o-tos/-ts > Skt vrkād, vrka-tas, Ht arunats (< IE orno-ts) cp Ht Inst newet (< IE newēd).
Gen IE wlgw-so|so|-s > Skt vrkasya/*vrkasa(§100)/*vrkas (cp rathas-patis), Gk lúkoiolúkou (λύκοιο/λύκου) (< *lukoo < *luko-so), Ht arunás (< IE orno-s).
Loc IE wlgw-o-i > Skt vrke, Gk oïkoi (οἰκοι), Ht aruni (=arune < IE orno-i).
Voc IE wlgwe > Skt vrka, Gk lūke (λυκε), but Ht arunas (< Nom sg).

Plural
Nom-Voc IE wlgwōs > Skt vrkās/ (also Vd) vrkāsas (with double-affixation of pl ending; also in Av; cp Av vrhrkāṇhō), Gk lūkoi (λυκοι) (§102), Ht attes (§102), Goth wulfōs.
Acc IE wlgw-o-ns > Skt vrkān (§103), vrkāns-ca, Gk lūkous/ (Cretan) lūkons (λυκοῦσ/λύκουσ), Ht attus (§103).
Nt (Nom-Acc) IE yugā > Skt yugā, Gk zugā (ξυγά) (§104), Ht *yugā (cp parna).
Inst IE wlgwōis/wlgw-o-bhis > Skt vrkais/ (Vd also) vrkebhis, Gk (Dat) lūkoi/ (Adv) theophi (λυκοῦσ/θεόφι). Nat-Abl IE wlgw-o-bh(y)os > Skt vrkebhīyas, Gk (Dat < Loc), Ht (Dat=Gen).
Gen IE wlgwōm > Skt *vrkām (devān-jamna)/vrkāṇām (§107), Gk lūkōn (λύκον), Ht (Gen-Dat) attas (§107).
Loc IE wlgw-o-i-su > Skt vrkeṣu, Gk lūkoi (λυκοῖς) (§108).
Dual

Nom-Acc-Voc IE *wlaŋ°(u) > Skt vrkau/ (Vd also) vrkā, Gk lúkō (λυκώ), Ht hasa (§109).

Nt (Nom-Acc-Voc) IE yugo-i > IE yugoi > Skt yuge but Gk zugō (ζυγώ) (§110).

Inst-Dat-Abl IE *wlaŋ°-bhym > Skt vrkābhyām (§111).

Gen-Loc IE *wlaŋ°+ous > IE *wlaŋ°ous| *wlaŋ°-y-ous > Skt vrkayōs, Gk lúkoιιν (λυκοιν) (§112).

§116. IE -ā stem ( > Skt -ā stem, Gk -ā/-ē stem, Ht -a stem).

The -ā stem includes mostly Fem stems. A few Mc stems were perhaps also included cp Skt gōpās, Gk Atreidēs. These are distinguished in having -s in Nom sg.

Skt (< IIr) extends the -ā stem by -asy-. This perhaps started with Dative sg, by double affixation (aśvāi+ati > aśvāyati), perhaps to keep it distinct from Mc (*aśvāi, which in its turn became aśvāy-a, obviously for being distinguished from -ā stems) and also in Loc sg (aśvāyam < aśvā+Loc i+IIr ā+Proto-Skt -m; cp Av aspāya < IIr aśvāyā).

Ht does not distinguish IE -ā & -o stems, since both have become Ht a. Full substitution of Gen sg -so/syo of -a stems by -s, may indicate an influence of original -ā stems over original -o stems in Ht. Ht annas ‘mother’ (cp Skt (RV) nanā ‘mother’) might have been an original -ā stem.


Singular

Nom IE ekwā > Skt aśvā, Gk khōrā (χωρᾶ), cp Ht annas.

Voc IE ekwa > cp Skt ambā/ (but) aśve (innovation), Gk numphe (νυμψή) / (but) khōrā (χωρᾶ) ( < Nom), Ht annas (=Nom)

Acc IE ekwām > Skt aśvām, Gk khōrān (χωρᾶν).

Inst IE ekwā > Skt aśvayā/ (Vd also) aśvā.
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Dat IE ekwāi > Skt aśvāyai, Gk khórai (χωραί), Ht anni/annai.

Abl-Gen IE ekwās > Skt aśvāyās, Gk (Gen) khóras (χωρᾶς), Ht (Gen) annas/ (Abl) annats (< *-tos/ts).
Loc IE ekwāi > Skt aśvāyām, Gk & Ht (See Dat).

Plural
Nom-Voc IE ekwās > Skt aśvās, Gk khórai (χωραί) (< Dual §109), Ht annes (§102).
Acc IE ekwāns (also ekwās ?) > Skt aśvās (§103), Gk khóras/khórans (χωρᾶς/χωρανς) Ht annus (§103).
Inst IE ekwabhis > Skt aśvabhīṣ, Av haenabīṣ.
Dat-Abl IE ekwabh(y)os > Skt aśvābyas, Let equabus.
Gen IE ekwām (< -ā+ōm) > Skt aśvānām (§107), Gk theāon (θεαων) (< *-āsōm Pronomial).
Loc IE ekwāsu > Skt aśvāsu, Gk khórais (χωραίς).

Dual
Nom-Acc-Voc IE ekwai > Skt aśve, Gk khóra (χωρα) (§109) (cp Gk pl khórai < Dual).
Inst-Dat-Abl IE ekwabhym > Skt aśvabhym (§111).
Gen-Loc IE ekwāus (< -ā+ous) > Skt aśvayos (§112), Gk khórain (χωραῖν) (§112).

§117. IE -i stems
The stems with Nom sg in -i may be called as -i stems, for convenience, though in other cases this has strong/long grades. Some of the Ht -i stems, may originally belong to -i stems, but they have merged with -i- stems, because of loss of length.

Stems: (Mc) IE owi-, Skt avi- 'sheep', Gk poli- 'city', Ht dangwi- 'black'. (Nt) IE osthi-, tri-, Skt asthi- 'bone', vāri- 'water', tri- 'three', Gk idri- 'skillful', tri- 'three'.

Singular
Nom IE owis > Skt avis, Gk polis (πόλις), Ht dangwis.
Voc IE owi/owei > Skt ave, Gk poli (πόλι), Ht (=Nom).
Acc IE owim > Skt avim, Gk pólin (πόλιν), Ht dangwin.
Nt (Nom-Acc-Voc) IE osthi > Skt asthi, vāri, Gk ἄδρι (ἄδρυ), Ht dangwi.
Inst IE owi/owya > Skt mātt (Fem), auyā, avinā (§97), Ht hastit (§97).
Dat IE owey-ai/ow(i)yai > Skt avaye/patye, Gk & Ht (Dat < Loc).
Loc IE owei/owey-i > Skt avau (analogy of -u stems), cp Vd agnā (< *agnai) Gk (Dat) pólei ((πόλει), Ht (Dat) dangwi (<-*ei)/
luttiya < *lukti+i (on analogy of -a- stems).
Abl-Gen IE owy-os/owes > Skt avyas/aves, Gk pólios/póleos/póleos/póleōs
(πόλιος/πόλειος/πόλης/πόλεως), Ht (Gen) dangwyas/(Abl) luttiyats
< -tos/los (§99).

Plural

Nom-Voc IE oweyes > Skt avayas, Gk póleis (πόλεις) (< -eas < *-eyes)
Ht mekes (< *mekees < *mekeyes).
Acc IE owins/owyns > Skt avin/aviniś-ca, Gk pólin/pólias/pólis etc.
(πόλιος/πόλιας/πόλις), Ht supyas (-us < -uns < ṇs §103).
Nt (Nom-Acc-Voc) IE tris/trī > Skt trīṇi (§113)/(Vd also) trī, Gk tria
(τρία), Ht meki (< *-i).
Inst IE owibhis > Skt avibhiṣ.
Dat-Abl IE owibh(y)os > Skt avibhyas, Gk (Dat < Loc), Ht (Dat= Gen).
Gen owyōm > Skt avinām (§107), Gk póliōn/póleōn (πόλιων/πόλεων), Ht
hast(i)yas (-as < sg §107).
Loc owisu > Skt avisu, Gk póliisi (πόλισι).
Dual see §§109—112.

Note that Skt Nt -i/u stems have heteroclitic -in/-un stems optionally in Vedic & always in classical Skt e.g. vāri : vārīnas ; madhu : madhunās (§113). So also sometimes in Gk (§113).

§118. IE -i stems

IE -i- stems were of two types : (a) Primary (b) Secondary (or
iy/i stems), formed with suffix yā/i to Mc stems. Skt dhī- & Gk
ki- are primary stems ; Skt bharantī, Gk φήρουσα (φήρουσα) (< IE
bherontis/bheronti) are secondary stems. Ht bargwi- ‘pure’ (beside
bargu- ‘high’) may be compared with the secondary i stems but
inflectionally it belongs to -i- stems.
Stems: IE *dhī, bheronti-/bherontis-, Skt *dhī- 'intellect', bharantī- 'bearing' (fem), devī- 'goddess', Gk kí- 'a worm', phérousa- 'bearing' (fem), Ht bargwi- 'pure'.

Singular

Nom IE dhīs, bheront-ī/-iā (Voc IE bheronti) > Skt dhīs/bharantī (Skt Voc bharantī), Gk kís/phérousa (kís/φέρουσα), cp Ht bargwis.

Acc IE dhiy-m/dhīm, bherontyám/bherontim > Skt dhiyam, bharantīm, Gk kῖν, phérουσαν.

Inst IE dhiya, bherontyā (< ā+a) > Skt dhiyā, bharantyā.

Dat IE dhiyai, bherontyāi > Skt dhiyai/dhiye, bharantyai, Gk (Dat < Loc).

Loc IE dhiyi, bherontyāi > Skt dhiyi/dhiyām (§101), bharantyām (§101) Gk (Dat) kῖ, phέρουσεῖ.

Abl-Gen IE dhiyos, bherontyās > Skt dhiyas, bharantyās, Gk (Gen) kῖος phέρουσεῖ.

Plural

Nom-Voc IE dhiyес, bherontyес > Skt dhiyas, bharantyас, (also Vd) deviś, Gk kiaς, phέρουσαι.

Acc IE dhiy-ns, bherontyns > Skt dhiyas, bharantyas, deviś, Gk kiaς, phέρουσας.

Inst IE dhībhis, bherontibhīs > Skt dhībhīs, bharantibhīs.

Dat-Abl IE dhībh(y)os, bherontibhyos > Skt dhībhīyas, bharantibhyas.

Gen IE dhiyōm, bherontyōm > Skt dhiyām, dhīnām, bharantīnān (for -nām §107), Gk kian, phέρουσον.

Loc IE dhīsu, bherontīsu/bherontyāsu > Skt dhisu, bharantisu, Gk kis, phέρουσεῖσι.

Dual see (§109—112).

§119. Long grade -i stems (or dipthongal -i stems)

These are of two types, as found in Skt: (a) rēi type (> Skt rai-) with long grade in all forms. (b) soqhōi type (> Skt sakhi) with long grade only in Nom-Acc sg-Dual and Nom pl. In Gk the forms are rare and only sg is citable. Ht has numerous stems in long
grade, but most of them have optional weak grade forms. The 
soqhōi type will be shown here, only where it has long grade forms. 
The rest are like -i stems; Skt has an innovation sakhyur in Abl-Gen 
sg due to influence of r- stems.

Stems: IE rēi-, soqhōi, Skt rai- ‘wealth’, sakhi- ‘friend’, Gk peithōi- 

Singular
Nom IE rē(i)s, soqhō(i) > Skt rās (late), sakhā, Av hāxā, Gk peithō(i) 
(πειθων-οι), Lat rēs, cp Ht hukmais.
Voc IE soqhoi > Skt sakhe, Gk peithōk (πειθωκ).
Acc IE rē(i)m, soqhōy-o > Skt rām, sakhāyam, Gk peithō (πειθω) 
(<*peithōa), Lat rēm, Av hāxātm (<*hāxāyōm).
Nt IE osthēi > Ht hastai.
Inst IE rēya > Skt rāyā.
Dat IE rēyai > Skt rāye, Gk & Ht Dat < Loc.
Loc IE rēy-i > Skt rāyi (late), Gk (Dat) peithōk, Ht (Dat) hastai/ 
(also) supaya (influence of Dat of -a stem).
Abl-Gen IE rēy-os > Skt rāyas, Gk peithōus (<*oos <{*oyos).

Plural
Nom IE rēy-es|soqhōyes > Skt rāyas, sakhāyas, Av hāxāyō, Ht hukmais 
(= -aes <*-ayes).
Acc IE rēy-ns > Skt rāyas, Ht luttaus.
Inst IE rē(i)bhis > Skt rābhīṣ (late).
Dat-Abl IE rē(i)-bh(y)os > Skt rābhyas (late).
Gen IE rēyōm > Skt rāyām, Ht supayās (< Gen sg).
Loc rē(i)su > Skt rāsu (late).

Dual see (§109—112).

§120. IE -u stems (like i stems §117)

Stems: (Mc) IE bhāghu-, Skt bāhu- ‘arm’, Gk pēkhu- ‘fore-arm’, 
Ht ‘bangu- ‘all’; (Nt) IE ĝenu-, Skt jānu- ‘knee’, Gk gōnu- ‘knee’, 
Ht ēnu- ‘knee’.
Singular

Nom IE bhāghus > Skt bāhuṣ, Gk pēkhus (πηχυς), Ht bangus (< IE bhṅghus).

Voc IE bhāghu◦bhāghu > Skt bāho, Gk pēku, Ht (< Nom).

Acc IE bhāghum > Skt bāhum. Gk pēkhun, Ht bangun.

Nt (Nom-Acc-Voc) IE ġenu > Skt jānu, Gk gōnu (γόνυ), Ht genu.

Inst IE bhāghw-a > Skt bāhunā (§97)/(also) sunvā (Vd), Ht genut (§97).

Dat IE bhāghewai/bhāghwai > Skt bāhave/(also Vd) pāive, Gk (Dat < Loc), Ht (Dat=Loc).

Loc IE bhāghewi/bhāgheu > Skt bāhavi (Vd)/bāhua, Gk (Dat) pēkhei (πηχει), Ht (Dat) aswi/genu (< IE ġenu with nnil ending), genwa (influence of Dat of -a stem).

Plural

Nom-Voc IE bhāghew-es > Skt bāhavas, Gk pēkhees, Ht bargawaes (-es §102).

Acc IE bhāghu-ns/bhāghw-ns > Skt bāhun, Gk pēkheas but hūiuns (vivvs), Ht bangus (< -uns §103).

Nt (Nom-Acc-Voc) IE ġenu-◦/ġenu > Skt jānū (Vd) jānūni (§104), Gk goōna (γούνα)(< *gonua < IE ġonu), Ht asu (< -u), genwa (§104).

Inst IE bhāghu-bhis > Skt bāhubhis.

Dat-Abl IE bhāghu-bh(y)os > Skt bāhubhyas.

Gen IE bhāghw-ōm > (Vd) pāsvām/bāhūnām (§107), Gk pēkheōn, Ht genwās (< sg §107).

Loc IE bhāghu-su > Skt bāhuṣu, Gk (Dat) pēkhesi (§108).

Dual see (§§109—112).

Nt -u- stems with heteroclisis (§§117 & 113).

121. IE ā stems

These are comparable to IE ī stems (§118). No ā stem can be cited from Ht.

Singular
Nom-Voc IE bhrūṣ |(Voc bhrū) > Skt bhrūṣ, Gk ophrū̂s (oφρός).
Acc IE bhrūṁ|bhruw-m > Skt bhruvam, Gk ophrū́n, ophrū́a.
Inst IE bhruw-a > Skt bhruvā.
Dat IE bhruw-ai > Skt bhruve, bhruvai, Gk (Dat < Loc).
Loc IE bhruv-i > Skt bhruvi, Gk (Dat) ophrúi.
Abl-Gen IE bhruw-os > Skt bhruv-as, Gk ophrū́os.

Plural
Nom-Voc IE bhruw-es > Skt bhruvas, Gk ophrū́es.
Acc IE bhruw-ns > Skt bhruvas, Gk ophruvás, ophrús.
Inst IE bhrubhíṣ > Skt bhrubhíṣ.
Dat-Abl IE bhrubh(y)os > Skt bhruhvı́yas.
Gen IE bhruw-ō̗n > Skt bhruvām, Gk ophrún.
Loc IE bhru-su > Skt bhruṣu, Gk ophrū́s (§108).
Dual see (§§109—112).

§122. IE Long grade -u- stems (or diphthongal -u- stems)
IE had three types: āu, ēu & ōu stems, which are distinct only in Gk. All are -au stems in Skt & Ht. Moreover it is not known, whether Ht harnaus is from IE āu, ēu or ōu as cognates are not found.


Singular
Nom-Voc IE nāu-s, dyēu-s, gʷōu-s > Skt nāus, dyauṣ, gauṣ, Gk nāús/nēús, Zēús, boús/bōs (ναύς/νηύς, Ζεύς, βοῦς/βός), Ht harnaus.
Acc IE nāu-m/nāw-m, dyēu-m/dyēw-m, gʷōu-m/gʷōw-m > Skt nāvam, dyāṁ/dyāvam, gām, Gk naú̃n/nēa, Zēna, boú̃n/bōn, Ht harnaun.
Nt (Nom-Acc-Voc) IE ĕnēu > Ht harnau.
Inst IE nāw-a, dyēw-a/diēw-a, gʷōw-a > Skt nāvā, dyāvā/divā, gavā.
Dat IE nāw-ai, dyēw-ai/diēw-ai, gʷōw-ai > Skt nāve, dyave/div, gave Gk & Ht (< Loc).
Loc IE nāw-i, dyēw-i/diw-i, gʷow-i > Skt nāvi, dyavi/divi, gavi, Gk (Dat) nāi/nēi, Diē, boī. Ht harnawi/harnau (with ending -i & nil respectively).

Abl-Gen IE nāw-os, dyēw-os/diw-os, gʷow-os/gʷou-s > Skt nāvas, divas, goṣ, Gk nēōs, Diōs, boōs, Ht (Gen) harnawas.

Plural


Acc IE nāw-ns, diw-ns, gʷow-ns > Skt nāvas, divas, gās (on analogy with gāṃ). Gk nēas, bōas Ht asaus (<*asauns (§103).

Nt (Nom-Voc-Acc) IE ǵenēw-ा > Ht idalawa.

Inst IE nāu-bhīs, dyu-bhīs, gʷou-bhīs > Skt naubhīṣ, dyubhīṣ, gobhīṣ.

Dat-Abl IE nāu-bh(ṛ)os, dyu-bh(ṛ)os, gʷou-bh(ṛ)os > Skt naubhyas, dyubhyas, gobhyas.

Gen IE nāw-ōm, diw-ōm, gʷow-ōm > Skt nāvām, divām, gavām, Gk nāōn, nōn, boōn.

Loc IE nāu-su, dyu-su, gʷou-su > Skt nauṣu, dyuṣu, goṣu, Gk (Dat) nāusi, nēusi, bousi.

Dual see (§§109—112).

§123. IE -r stems

IE -r stems were of two types, on ablaut-basis, as best represented by IE pōter (a relation-word) and IE dōtor (a non-relation-word). These are distinguished only in Nom Dual and Pl and Acc sg and Dual, where *pōter has a strong grade and dōtor has a long grade. Both have long grade in Nom sg, strong in Loc-Voc sg and weak in the rest of the forms. This distinction has been preserved in Skt and Gk. Since long and strong grades cannot be determined in Ht due to loss of vowel length, the above distinction is obscure in Ht. Moreover most of the IE -ter stems have become thematic stems in Ht.

Singular
Nom IE *pater, dōtōr > Skt pītā, dātā, Gk ἀτέρ, ὅτορ (πατηρ, δώτωρ), Ht gesar, star.
Voc IE *pater, dōtor > Skt pitar, dātar, Gk πατερ, δήτορ, Ht (Nom).
Acc IE *pater-m, ὅτορ-m > Skt pītaram, dātāram, Gk ἀτέρα, ὅτορα
Ht geseran, staran.
Inst IE *pitr-a > Skt pitrā, cp Av piṭra, Ht gesret (§97).
Dat IE *pitr.ai > Skt pītre, Gk & Ht (=Loc).
Loc IE *pitr-i > Skt pītari, Gk ἀτερί, Ht geseri|gesari|gesri.
Abl-Gen IE *pitr-os > Skt pītūr (< IE *pitr-s on analogy of i/u stem),
   cp Av piṭrō (< IIr piṭras), Gk πατρός, Ht (Gen) kururas (Abl)
   starts (-ts|-tos).

Plural
Nom-Voc IE *pater-es, dōtōr-es > Skt pītara, dātāras Gk ἀτέρας ὅτορες/
   dōtōres.
Acc IE *pitr-ns/pitr-ns > Skt piṭn (may also be due to analogy of i/u
   stems), cp Av piṭrō, Gk ἀτέρας (for *patras on analogy of sg),
   Ht geserus (for *gesrus < IE ᾱhesr-ns).
Inst IE *pitr-bhis > Skt piṭrhbiṣ.
Dat-Abl IE *pitr-bh(y)os > Skt piṭrbhyas.
Gen *pitr-ōm > Skt piṭnām (analogy of vowel declensions)/narām
   (< IE ner-ōm), Gk πατρόν, Ht (Dat=Dat-Gen) gesras (< Gen
   sg).
Loc *pitr-su > Skt pītra-su, Gk πατράσι (§108).

Dual see (§§109—112).

§124. IE Neuter -r/-n stems
Many Nt stems in -r alternated with stems in -n in IE. The
original picture has been highly obscured in the individual branches;
it has been better represented in Skt and Ht than in Gk.

Stems: IE weder/-weden-, Skt ahar- ‘day’, udar/-udan- ‘water’, Gk
hudor/-hudat- ‘water’, Ht wedar/-wedan- ‘water’.
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Singular

Nom-Acc-Voc IE weder|wedör|udör > Skt ahar (cp Skt udar-a-), Gk húdor (vδωρ), Ht wadar.
Inst IE wedn-aj/udn-a > Skt udnā, Ht wedant (§97).
Dat wedn-ai/udn-ai > Skt udne, Gk & Ht (Loc).
Loc IE wedn-i/udn-i > Skt udni, Gk (Dat) húdati (υδατι) (<IE udn-t-i), Ht (Dat) wedeni (<*-i/-ai).
Abl-Gen wedn-os/udn-os > Skt udnas, Gk húdatos (< IE udn-t-os), Ht (Gen) wedenas.

Plural

Nom-Acc-Voc IE weden-o > Skt ahāni, Ht wedar (< sg on analogy of Nt i/u stems §104).
Inst IE udn-bhis > Skt udabhis.
Dat-Abl IE udn-bh(y)os > Skt udabhyas.
Gen IE udn-om > Skt udnām, Ht wedenas (< sg §170).
Loc IE udn-su > Skt usadu.

§125. IE -l stems

Probably IE had a few -l stems originally. The IE suffix -tel (beside -ter) was replaced by -ter in all the IE branches except Balto-Slavic and Ht. Even in Ht -tel became thematic, and was declined like an -a stem. It is difficult to determine how far original -l stems were preserved in the individual branches. Skt has practically no -l stem, except the artificial word hal (a grammatical term signifying ‘a consonant’). Gen hal-as, Loc hal-i etc. Gk has only one -l stem: Nom sg háls (άλς) ‘salt’, Gen hálos (άλος) etc. But Ht has several -l stems e.g. tayatsel (<IE (s)táyotēl) ‘theft’, Gen tayatselas etc.

§126. IE -n stems

Singular
Nom IE ręgēn > Skt rājā, Gk poimēn (ποιμήν), Ht memiyas (for *mēmiya on analogy of Ht -a stems).
Voc IE ręgēn > Skt rājan, Gk & Ht (=Nom).
Acc IE ręgēn-m > Skt rājānam, Gk poimēna, Ht memiyan (for Ht *mēmiyana, haplological or influence of -a stem).
Nt (Nom-Acc-Voc) IE nomen/nomn > Skt nāma, Gk ónoma (ὄνομα), Ht lamān (for *nāman by dissimilation).
Inst IE ręgn-a > Skt rājīā, Ht lamnet (§97).
Dat IE ręgn-ai > Skt rājīe, Gk & Ht (=Loc).
Loc IE ręg(e)n-i > Skt rājīi/rājani, Gk (Dat) poimēni, Ht memiyan/i lamnī.
Abl-Gen IE ręg(e)n-os > Skt rājanas, Gk poimēnos, Ht (Gen) memiyanas (Abl) memiyanats (§99).

Plural
Nom-Voc ręgēn-es > Skt rājānas, poimēnes, Ht memiyanes.
Acc IE ręg(e)n-ns > Skt rājās, Gk poimēnas, Ht memiyanus (us < *uns < *nns §103).
Nt (Nom-Acc-Voc) IE nomen-ø > Skt nāmāni, Gk onόmata (< IE nōmn-t-ø), Ht (=sg ; influence of i/u stems).
Inst IE ręgn-bhīs > Skt rājabhiṣ.
Dat-Abl IE ręgn-bh(y)os > Skt rājabhyaś.
Gen IE ręg(e)n-ōm > Skt rājām, Gk poimēnōn, Ht (Gen-Dat) memiyas (< Gen sg §107).
Loc IE ręgēn-su/ręg-su > Skt rājasu, Gk poimēsi.

Dual see (§§109—112).
Gk Νt -n stems have been extended by -t- (excepting in Nom sg).

§127. IE -m stems
IE -m stems were also also very rare. Since final -m > -n in Gk & Ht, the -m stems have fallen together with -n stems in Gk & Ht. The forms actually attested are cited below.
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Singular
Nt (Nom-Acc-Voc) IE ǵhōm > Skt kṣam, Gk khthon, Ht degan (< *dgan < *gdan).
Inst ǵhōm-a > Skt kṣamā.
Abl-Gen ǵhā(ō)m-os > Skt kṣmas, Gk khthonós, Ht dagnas.
Loc ǵhōm-i > Skt kṣami, Gk (Dat) khthoni, Ht dagnidagn (influence of -a stem).

§128. IE -s stems

Originally most of the -s stems were Nt. Mc forms are found generally with compounds. Ht has no trace of the Mc -s stem. In Nt pl of -s stems Skt has developed a nasal just before the -s sound (e.g. manāmsi), probably on analogy with vāms(jvās/us). Mc is cited below only with the Nom-Acc, as in other forms Mc & Nt are identical. No pl form is citable from Ht.


Singular
(Mc) Nom IE dusmenēs > Skt durmanās, Gk dusmenēs (δυσμενής).
(Mc) Voc IE dusmenes > Skt durmanas, Gk dusmenēs.
(Mc) Acc IE dusmenem > Skt durmanasam, Gk dusmenēa.

Nt (Nom-Acc-Voc) IE nebhes > Skt nabhas, Gk néphos (νεφός), Ht nebes.
Inst IE nebhes-a > nabhasā.
Dat IE nebhes-ai > Skt nabhase, Gk & Ht (=Loc).
Loc IE nebhes-i > Skt nabhasi, Gk (Dat) néphei, Ht (Dat) nebesi.
Abl-Gen nebhesos > Skt nabhasas, Gk népheos, Ht (Gen) nebesas (Abl) nebesats (§99).

Plural
(Mc) Nom-Voc IE dusmenses-es > Skt durmanasas, Gk dusmenées.
(Mc) Acc IE dusmenes-ns > Skt durmanasas, Gk dusmenēas.
§129. IE plosive stems

The plosive stems were of various types in accordance with the final plosive of the stem; but the declensions did not differ much. In Ht, however, stems in -t are generally citable.


**Singular**

Nom-Voc IE poit-s (<IE pod-s), bheront-s > Skt pāt, bharan, Gk ἐποτος, pherōn (πατ-, ἐπότων), Ht gasts (<IE ghost-s), dants (<IE d-onts).

Acc IE pod-m, bheront-m > Skt pādam, bharantam, Gk pōda, pheronta, Ht gastan.

Nt (Nom-Acc-Voc) IE bheront > Skt bharan, Gk pherōn, Ht dan (<IE d-ont).

Inst IE pod-a, bhernt-a > Skt padā, bharatā.

Dat IE pod-i, bhernt-ai > Skt pade, bharate, Gk & Ht (=Loc).

Loc IE podi, bhernt-i > Skt padi, bharati, Gk (Dat) podi, pheronti, Ht (Dat) gasti (Retention of -ti here may be due to generalization of the Nom Sg form or gasti may be Dat gastai <IE ghost-ai), humanti.

Abl-Gen IE pod-os, bhernt-os > Skt padas, bharatas, Gk podōs, pherontos, Ht (Gen) gastos.

**Plural**

Nom-Voc IE poit-es, bheront-es > Skt pādas, bharantas, Gk pōdes, pherontes.

Acc IE pod-n, bhernt-n > Skt padas, bharatas, Gk pōdas, pherontas.

Nt (Nom-Acc-Voc) IE bheront-o > Skt bharanti, Gk pheronta, Ht aanta (= ayanta).
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Inst IE pod-bhis, bhernd-bhis (< bhernt-bhis) > Skt padbhiṣ, Bharadbhiṣ.
Dat-Abl IE pod-bh(y)os, bhernd-bh(y)os > Skt padbhyaṣ, Bharadbhyaṣ.
Gen IE pod-öm, bhernt-öm > Skt padām, Bharatām, Gk pedōn, pḥérontōn.
Loc IE pot-su (< IE pod-su), bherntsu > Skt patsu, Bharatu, Gk possi, pḥérousī (< *pheront-si).

Dual see (§§109—112).
CHAPTER V

MORPHOLOGY
(PRONOUNS & NUMERALS)

§130. Pronouns

The pronouns are inflectionally distinct from the nouns, in having no Vocative and in having some special endings (§135). Often more than one pronominal stems are combined for formation of a single pronoun, in such a manner that often the second pronominal element looks like an ending (§134).

The first and second personal pronouns (which are the only personal pronouns in a narrower sense of the term) have no gender distinction, and are much similar to each other and might have influenced each other in the history of development. The normal pronominal endings (§135) are not found with these two pronouns, and several stems are used, to express several cases, with or without a case-ending. The endings cannot be analysed from the stem with certainty, even when an ending is at least apparent.

It seems that there was no third personal pronoun in the proto-speech and one or the other of the demonstrative pronouns were generalized in individual branches as the third personal pronoun (§135). The demonstrative pronouns were more similar to nouns in inflection, yet had the specialities shown above. The declension of the Interrogative (§136), Indefinite (§137) and Relative pronouns were similar to that of the demonstratives. The possessive pronouns, which are practically pronominal adjectives, are declined like nouns and adjectives. Some of the pronominal stems were used as particles (§139).

§131. The First Personal Pronoun

There was no gender distinction in the first person. The following stems are used in the declension:

(i) eš, eša, ešom, ešhom (§84) (ii) mē (iii) mene (or me+particle ne §§134 & 139) (iv) wei (v) nes/nos/ns (vi) meghi (vii) sme/smo (sme/smo is found only as the second element in the first person) (§134).
Singular

Nom IE ęg/ęgo/ęgomo/ęghom > Skt aham, Gk egón (ἕγων) (length of -ό- may be due to influence of pherō; *ego epheron: *egōn pherō), Ht ug (< IE ęg; ur-, due to influence of tug) (also used as Acc-Dat), Av azom (< IE ęgomo/ęghom).

Acc IE me > Skt ma (enclitic)/mām (-m due to influence of non-personal pronouns), Gk mē(n) (με(n)) (-n like Skt -m above)/emē (ἐμὲ) (with prothetic -e), Ht (Acc-Dat) amug (with prothetic a and contamination of -ug) (also used for Nom) (i.e. Ht ug and amug are identical in use, though ug belongs to Nom & amug to Acc-Dat originally).

Dat IE moi, meghī > Skt me (enclitic), mahyam (with -am on analogy of aham), Lat mihi, Gk moi/emoi (μοι/ἐμοι) (see Acc emē for e-)/emin (ἐμίν) (prothetic e-+min < *smín (§134), Ht (=Acc).

Loc IE moi > Skt mayi (< IE moi+i > IE moi: -i is extended from Nominal Loc ending), Gk & Ht (see Dat).

Gen IE me, moi, mene > Skt me (enclitic), mama (< *mana by assimilation), Av manā, Gk emoīl/emoio (< e-me+so/sy; Gen sg ending of non-personal pronouns are extended in Gk to personal pronouns), Ht amel (prothetic a+me+Ht suffix -(e)l, extended from non-personal pronouns).

Abl IE med > Skt mad, Old Lat med, Ht amedats (< med (with prothetic a-)+ats (Abl sg of a stems extended analogically).

Enclitic IE moi > Skt me (cp Gk moi), Ht -mel-mu (-u on analogy of tu).

Plural

Nom IE wei, weis, wey-o-m > Skt vayam (Av vaem, OP vayam), Gk (Hom/Lesb) ōmmes (ἀμµες)/(Doric) hāmēs (ἁµµες) (< Acc ns-sme- with -s extension)/(Ionic-Attic-Hom) ἤµεις (IE ns-smes-es) (with pl ending -es of nouns extended), Ht wes (cp Goth weis)/Ht antsas (See Acc).

Acc IE nos/ns/ns-smes > Skt asmān (with inflection of non-personal pronoun)/nas (enclitic), Gk (Hom) Ἰµµε/ε(Dor) hāmé (< *asme < IE
ns-smē) / (Ionic) hēmēas (IE ns-smēs + ns, with -s extension of the stem as in Nom + inflection of a non-personal pronoun), Ht antsas (* ans + ans < IE ns (stem) + ns (ending of Acc pl of non personal pronouns).

(This is Acc-Dat but also used as Nom).

Dat IE $\text{nōs}/\text{ns}/\text{nsme}/\text{ns-smē-bh(y)om}$ etc. < Skt asmabhyaṃ/nas (enclitic)/asme (Vd) (< Loc pl), Gk (< Loc), Ht (=Acc).

Loc IE $\text{n}s/\text{ns-smē}/\text{n-smē-i}/\text{ns-smi(n)}$ > Skt asme (Vd)/asmāsu (analogy of demonstrative fem), Gk (Dat) āmmi(n) (< IE ns-smī(n)) (§134).

Gen IE $\text{nōs}/\text{ns}/\text{ns-smē}$ > Skt asmākam (< IE ns-smē-qa (pleonastic) -m (Nt sg))—This being of adjectival origin and the Nt form being generalized)/nas (enclitic); Gk (Lesb) āmmeōn (< IE ns-smē-sōm like IE toi-sōm (§153))/(Hom) hēmēōn/(Ion) hēmēōn etc. Ht antsel < IE * ns-el (for -el see Gen sg).

Abl IE $\text{o}-\text{nsmed}$ > Skt asmad (Av ahmat), Ht antsedats (< IE ns-ed-ats); -ed- on analogy of amedats (Abl sg).

Inst IE ns-smē- > Skt asmabhīṣ (influence of demonstrative fem).

Enclitic $\text{nōs}$ > Skt nas, Ht nas (Lat nōs).

Dual

This is not found in Ht.

Nom-Acc IE nōu/wē > Skt āvām (Vd Nom also āvam)/(Acc) nau (enclitic), Gk nō, OBulg ve, Goth wít.

Inst-Dat-Abl IE wē(bhyōm) > Skt āvābhyām/(Vd, Abl also) āvad/ (Dat) nau (enclitic).

Gen-Loc IE wē > Skt āvavōs/(Gen) nau (enclitic), Gk Gen-Dat (< Loc) nōin < *nōu+in).

Enclitic IE nōu > Skt nau.

§132. The Second Personal Pronoun

The stems are (i) teve/twe/tu (ii) te/to (iii) yus (iv) wes/us (v) smē smī(n).
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Singular

Nom IE ɗu/tw-om > Skt tvam (Av ɗu/tām), Gk (Dor) ṭu(ṛv)/Ion-Att) sū (συ) (s- due to influence of se (Acc)), Ht tseg (< IE (Acc) tē but Ht (Acc) tug < IE (Nom) tu; confusion of Nom & Acc in Ht is also in the first person).

Acc IE tē/twe/toi > Skt tvām (-m, with inflection of non-personal pronouns)/(enclitic) tvā & te, Gk (Dor) té/(Ion-Att) sē (< IE twe), Ht (Acc-Dat) tug (< Nom tu)(-g in tug, tseg etc. on analogy of ug (§131).

Dat IE te-bhyom/tu-bhyam/toi > Skt tubhyam/te (enclitic); (Av taibya, Lat tibi Umb tefe etc.), Gk Dat < Loc, Ht Dat=Acc.

Loc IE tūoi > Skt tvayi (like mayī §131) Gk soi.

Gen IE twe/twe > Skt tava, Gk (Hom) sēo (< IE twe-syo)/ (Att) soū/(Ion) sēo, seū (< IE twe-so) (Gk has -syos/-so from non-personal pronouns), Ht twe (IE twe+el (§131).

Abl IE twe > Skt tvad, Ht tweats (like amedats §131).

Inst IE tōoi > Skt tvayā (cp Skt mayā §131).

Enclitic IE toi > Skt te/ (Acc) tvā, (cp Gk toi), Ht te/tu/ta (< IE tō alternative of IE tē).

Plural

Nom IE yus > Skt yūyam (on analogy of vayam §131), Gk humēs (< yus-sme+es §131), Ht smes/smas (written initially sumes etc. with orthographic anaptyxis; but finally sumes always remains; sumes is considered by Sturtevant to be a case of metathesis < *usmes < IE us-smes, but this is incorrect, because initial sumes (also sometimes simes, sames etc.) is always finally smes). Originally in IE smes (§134) was perhaps used as Acc along with yussme.

Acc IE yussme/us-smesme/sme/wos > Skt yuṣmān (cp asmān (§131)/ (enclitic) vas, Gk (Hom) hūmmes/(Dor) hūmē/(Ion) hūmēas (-as like émeas §131), Ht (Acc-Dat) smes (initially written sumes etc. Vide Nom).

Dat IE yus-smes/yus-smes-bhyom/wos > Skt yuṣme (Vd) (< Loc)/yuṣmabhyam/(enclitic) vas, Gk Dat (< Loc), Ht Dat=Acc.

Loc IE yus-smes-i/(y)us-smin > Skt yuṣme (Vd)/yuṣmāsu (cp asmāsu §131), Gk (Dat) hūmmín (cp ammin §131).
Gen IE yus-sme > Skt yuṣmākām (like asmākāmi §131), Gk (Hom) ἥμετον/(Ion-Dor) ἥμεδον (cp 1st person Gen pl in §131), Ht *s(u)mel (< *sme + el cp anstel §131) /s(u)mentsan (< *sme + ēm (alternative form of IE Gcn pl ōm as in Germanic) + sōm (as in non-personal pronouns)).  
Abl IE yus-smed/smed > Skt yuṣmad, Ht s(u)medats (< *smed + Ht ats §99).

Inst IE yus-sme/sme etc. > Skt yuṣmābhīs (like asmābhīṣ §131).

Enclitic IE wos/smes > Skt vas (Lat vōs), Ht smas/smes.

Dual

This is not found in Ht.

Nom-Acc IE yu/wē > Skt yuvām/vām (enclitic), Gk sphō/sphōi (< Reflexive).

Inst-Dat-Abl IE wē (?) > Skt yuvābhyaṁ/(Vd Abl) yuvad.

Gen-Loc IE (?) > Skt yuvayos, Gk sphōin.

Enclitic IE wē > Skt vām.

§133. Possessive & Reflexive Pronouns

(a) Possessive Pronouns are adjectival formations based on pronominal stems with several suffixes, e.g. -o, -yo, -go, -tero etc. The possessives are always enclitics in Ht.

(i) First Personal Possessive

IE me-/ns-sme- (med-/ns-smed- etc.) > Skt māmaka-, māmakina- etc. (< Skt mama- < IE me-ne-); madhya-, matka- etc. (< IE med); asmad-, asmadhya- etc. (< IE ns-smed-); Gk emó- (< IE me-); hēmētero- (< IE ns-sme-tero-); Ht me-/ma-/met- (< IE me/mo/med).

(ii) Second Personal Possessive

IE te-/ted-, two-/twed-/tew, yus-sme-/sme- etc. > Skt tvādya-, twatka-, yuṣmad-, yuṣmadhya- etc., Gk só- (< IE two-, cp Av ōwa-) teō- (< IE tewo-), Ht te-, tet-, sme-, smet-.

(iii) Third Personal Possessive

IE so-, tod- > Skt tadṛya-, tad-, Gk hó- (< IE swo- (Reflexive), heō- (< IE swo- (Reflexive), Ht se-/sa- (IE se-/so-), set- < IE tod-/ted- by contamination with se-/so-), sme-, smet (< IE sme-/smed-).
(b) Reflexive Pronoun

IE se-, se-we-/swe, se-me-/sme-, se-bhe-/sbhe- > Skt sva- (< IE swe-) svayam (analog of vayam), Gk sphé- (< IE sbhe-) (besides Gk third personal possessive hó- < IE swo- (Reflexive); use of autós is more frequent in Gk for the Reflexive), Ht se- (< IE se-), sme- (< IE sme-).

§134. Demonstrative Pronouns: The Stems

A number of stems were used to express the demonstrative pronouns. Often more than one, stems were combined to form a demonstrative. Each stem could end in e/o/i/u.

(i) IE e-/o- > Skt a- (as in a-sya, a-smin etc.), Gk e- (e-ké̇nos), Ht a- (a-s).

(ii) IE i- > Skt i- (id, iha etc.), cp Lat is.

(iii) IE u-, au-, awo- > Skt o (only Voc)/ava- (RV avos Gen-Loc Dual), cp OP ava, Gk u-/au- (au-tós), Ht uni (< IE au-ni).

(iv) IE so-/io- > Skt sa-/ta-, Gk ho-/tó-, Ht sa-/ta-.

(v) IE ne-/no-/ni-/nu- > Skt ana- (< IE e+nê̇)< na- (Ašokan nāni)/-ni (particle) Ašokan aphe-ni/tuphe-ni (< Skt *asme-ni etc.)/nu (emphatic particle), Gk ne- (Thess hó-ne), ni (Arc ho-ni), nu (Arc ho-nû), Ht na- (nas), eni/ani (*e/o+nî), nu.

(vi) IE ke-, ko-, ki, ku > not traceable in Skt, but cp Lith szen, szis, & OBulg ši, Gk ke (e-ke-i, kē̇nos), -ki (au-ki) (cp Lat citra etc.) Ht ka- (kas) (Ht -ki & -ku in kwis-ki & kwis-ku may be form IE ki- & ku- or gi-i & qi-u; §§136 & 137).

(vii) IE de-/do-/di- > Skt -da- (tadā, originally Inst sg < IE to-do-, tadānīm etc.) -di (yadi < IE ye-di, but Gk ei < IE ye-i) Av, OP di-, Gk de (to-de), Ht -da- edi (Dat) < IE e-do-i, edani (Dat) < IE e-do-no-i, dama < IE do-mo or duo-mo.

(viii) IE mo- > Skt (Vd) ama- (< IE e-mo; very rare), Ht -ma- (as in (vii) above). IE -mo- was perhaps later used as superlative and ordinal formative. So also to- (iv) and to-mo etc.

(ix) IE seme-/sme-/smo-/smi(n) > Skt sama- 'some one, the same'/sma-, smad (particles, also as sumad etc. in Vd)/smi(n) (*sma- & -smi- also as the second element of the First & Second Personal Pronouns in pl §§131 & 132 and of the Demonstrative Pronouns in sg §135), Gk -mme/-me (as second elements of First & Second Personal
Pronouns), min (< IE smin) ‘him, her, it’, Ht s(u)ma- (plural stem for the Second & Third Personal and the Reflexive Pronouns). Perhaps IE sme was originally a Reflexive Pronoun (§133(b)) and subsequently extended to the other cases, as shown above.

(x) IE bhe-/bho-/bhí- > Skt ubha- (< IE u+bho), sphé-/spít (< IE s(e)-bhe/s(e)-bhí §133(b)), amphi (< IE mm+bhí), Ht aba (< IE e-bho), Ht (Prefix) be- (< IE bhe-).

(xi) IE el-/elo-/eli- > Skt (Voc) are (VS) (< IE elei), Ht el-. (This el probably came to be used as Gen sg/pl Pronominal ending in Ht like IE -so/-syo, which were originally demonstratives (iv & xii), but probably came to be used as Gen sg ending for -o stems (§100).

(xii) IE to/so+yó > Skt (Vd) tya/-sya-, OP tya/-hya-.

(xiii) IE no+/no+yó > Skt anya- ‘another’.

(xiv) IE el/lō+yó > Gk állo-, cp Lat alius.

(xv) IE e+i+so/to- > Skt eša-/eta-, Av aeta-.

(xvi) IE e+i+om > Skt ayam.

(xvii) IE e+so/sā+au > Skt asau (Skt asakau < IE e+so+go/ qā+au).

(xviii) IE i+mo > Skt ima-.

(xix) IE e+ke+eno > Gk ekéno-/ekéno-.

(xx) IE de+eno > Gk detna/dēna.

§135. Demonstrative Pronouns: Declension

The Demonstrative pronoun has the following declensional peculiarities, which distinguish it from the Nominal declension:
(i) More than one stems were often combined to form a single stem. (ii) Nom sg of -o stems (Mc) also sometimes ends in NIL. (e.g. IE so > Skt sa, Gk ho). (iii) Nom pl ends in -i (e.g. IE to-i > Skt te, Gk toi, Ht e < IE o-i). (iv) sme, smi, so & syo were combined as the second elements of combined stems so often that subsequently they appeared as endings. (v) Nt sg ending is -d (e.g. IE to-d > Skt tad, Gk to, Ht tat).

The declension of the Demonstrative Pronouns is represented below with choicest examples:
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Singular
Nominaive
Mc IE so/sos, os, is etc. > Skt sa/sas, Gk ho, Ht sas/ (also) tas (extended from Acc), as etc., Lat is.
Fem IE sā, ā etc. > Skt sā, Gk (Dor) hā/(Att) hē.

Accusative
Mc IE tom, om, im etc. > Skt tam, Gk tōn, Ht tan (also san on analogy of Nom sg sas).
Fem IE tām, ām etc. > Skt tām, Gk tēn (Ht tan < IE tom/tām).
Nt (Nom-Acc) IE tod, od, id etc. > Skt tad, id (particle), Gk to, Ht tat.

Dative
Mc IE to+aI/ to+sme+ai etc. > IE tōi/tosmēi etc. > Skt tasmāi, asmai, Gk tōs, Ht edi (< Loc IE e-do-i), edani (< Loc IE edo-no-i).
Fem IE tā+ail/ to+syā+ai etc. > IE tāi, tosīyī > Skt tasyai, Gk (Dor) tāi/(Att) tēi.

Locative
Mc IE to-smi(n)/to-i etc. > Skt tasmin/(also Vd) sasmin (analogical formation) (cp Av aetahmi < IE o-i-to-smi), Gk & Ht (=Dat).
Fem IE to-syā-m > Skt tasyām.

Genitive
Mc IE to-syo/to-so etc. > Skt tasya/ *tasa (cp Apabhramṣa tāha) Gk tōn, Ht sel (for *tel an analogical formation, for suffix -el §134(xi)
Fem (Abl-Gen) IE to-syās/tās > Skt tasyās, Gk tēs.

Ablative
Mc IE to-smē+od/to+od > IE tosmōd/tōd > Skt tasmād/(Vd) tād, Ht edets (< *e-de+ts §99).
Fem (=Gen Fem).

Instrumental
Mc IE to+a > IE tō > Skt tena (like vrkaṇa §97), Ht abet (< IE o-bhe- (§134(x)) + ed §97).
Fem IE tā+a/tay-a > Skt tayā, cp Lith taja.
Plural

Nominative

Mc IE *toī, oī etc. > Skt te Gk toĩ, Ht e, se (for *te analogical).
Fem IE tās, ās etc. > Skt tās, Goth thōs, but Gk tāt (< Dual §78).

Accusative

Mc IE tons > Skt tān, Gk tōns/toūs, Ht as (< *ans < IE o-ns), us < *a+us < IE o+Ht us < IE ꜩns §103).
Fem IE tans/tās > Skt tās, Gk tāns/tās.

Nt (Nom-Acc) IE tā/tai > Skt tāni (§104)/(Vd) tā, Gk tā (§104), Ht ke (< IE kai).

Dative-Ablative

Mc IE toibh(y)os > Skt tebhyaś, Ht (Dat) edas (< Gen sg §107)
Gk Dat (< Loc).
Fem IE tābh(y)os > Skt tābhyaś.

Locative

Mc IE toisu > Skt teṣu, Gk (Dat) toksi.
Fem IE tāsu > Skt tāsu, Gk (Dat) tēksi/tāksi.

Genitive

Mc IE to+ūm/toi-so+ūm > IE tōm/toisūm > Skt teṣām, Gk tōn, Ht kel (< IE ke+el §134(xi)), kentsan (< IE ke+ēm (Gen pl alternative of ōm)+sūm) (cp Second Personal Pronoun Gen pl §132).
Fem IE tā+ūm/tā-so+ūm > IE tām/tāsūm > Skt tāsām Gk (Hom) tāōn/(Dor) tān.

Instrumental

Mc IE toibhis > Skt tebhīś.
Fem IE tābhīś > Skt tābhīś.

Dual

(Declined like the nouns vide §§109—112 & §115).

§136. The Interrogative Pronoun

The Interrogative Pronoun was formed in IE with q♀o- (Fem q♀ā), q♀e-, q♀i- & q♀u-. q♀u- was extremely rare in declension (e.g.
Skt Nt sg *kud as in kut-sita), but was frequently found in adverbial formations etc., e.g. Skt kutas, kuha, kutra, kuid (Vd) etc., Gk hopui, and Ht -ku (in kwis-ku) may be derived from IE *kwu (> *ku > ku) or ku (§134(vi)).

Singular

Nom IE qwɔs (Fem qwã), qwis > Skt kas (Fem kã), Lith kas Goth hvas, Gk tis, Ht kwis, Lat quis.

Acc IE qwom (Fem qwãm), qwim > Skt kam (Fem kãm), kim (used as Nt sg in Skt), Gk tina (< *tin (< IE qwim)+a (< IE m), extended from the Acc sg of consonantal declension analogically and tin-becomes the stem) Ht kwin.

Nt (Nom-Acc) IE qwod, qwid, quud > Skt kim (< Mc Acc sg), kad (RV), cid (in Indefinite Pronoun kas-cid etc.), *kud (as in kut-sita given above), Gk ti, Ht kwat, kwit, Lat quod, quid etc.

Dat IE qwɔi/qwɔsmɔi (Fem qwãï, qwɔsyãi) > Skt kasmai (Fem kasyai) Gk tei̯/tòi (< IE qwesõi), Ht kwedani (< IE qwe-do-no-i) (§134(vii)).

Loc IE qwɔi/qwɔsmi(n) (Fem qwɔ-syãm) > Skt kasmín (Fem kasyãm).

Gen IE qwɔ-soyo/qwẽ-so > (Fem qwɔ-syãs/qwẽ-syãs etc.) > Skt kasya, (Fem kasyãs) Av cahiã, Gk teò, Ht kwel (IE < qwe+e §134(xi)).

Abl IE qwɔdjqwɔ-smɔd etc. (Fem=Gen-Fem) > Skt kasmãd, Ht kwets < qwe-t(o)s §99.

Inst IE qwɔ (Fem qwã/qwãya) > Skt kena (cp tena §135) (Fem kayã).

Plural

Nom IE qwɔi (Fem qwã) > Skt ke (Fem kãs), Gk tines (with tin- as base see Acc sg), Ht kwel(also) kwes (< kwe+es on analogy of Nouns).

Acc IE qwons (Fem qwãns/qwãs) > Skt kãn (Fem kãs), Gk tinas (tin-base, as above), Ht kwius (< kwi (< IE qwî)+us (< IE nns))/(also) kwes (< Nom pl).

Nt (Nom-Acc) IE qwã/qwai > Skt kãni/(Vd) kã, Gk tina (< tin-base, as above), Ht kwæ (< IE qwai), cp Lat quae, OScan pai, OPrussian kai ‘what'.
Dat-Abl IE $q^w$oibh(y)os (Fem $q^w$ābh(y)os) > Skt kebhāyas (Fem kābhyan), Ht (Dat) kwesas (< IE $q^w$e-do-s < Gen sg), Gk Dat < Loc.

Loc IE $q^w$oisu (Fem $q^w$āsu) > Skt keṣu (Fem kāsu), Gk (Dat) tēoisi (< IE $q^w$e-so- Gen sg used as stem).

Gen IE $q^w$oisōm (Fem $q^w$āsōm) > Skt keṣām (Fem kāsām), Gk τέον (< stem tech- < IE $q^w$esō- as above).

Inst IE $q^w$obhīs (Fem $q^w$ābhīs) > Skt kebhīṣ (Fem kābhīṣ).

§137. The Indefinite Pronoun

The stems of the Indefinite Pronoun are identical with the stems of the Interrogative Pronoun (§136), but perhaps with accent variation (as in Gk Interrogative τίς but Indefinite τις). Indefinite was often expressed by combination of two Interrogative stems, e.g., Skt kaścid (< IE $q^w$os+$q^w$id), Fem kācīd (< IE $q^w$ā+$q^w$id), Nt kūncīd (< IE $q^w$im+$q^w$id), kaccīd (< IE $q^w$od+$q^w$id); or Skt kaścana (< IE $q^w$os+$q^w$e+ne), Fem kācana (< IE $q^w$ā+$q^w$+ne), Nt kūncana (< IE $q^w$im+$q^w$e+ne). Only the first element was inflected e.g. Skt Nom kaścid, Acc kaścid, Inst kūncid etc.

Gk uses τις as Indefinite; Gk has a Relative-Indefinite with a combination of Relative Pronoun *$q^w$yο- (§138) with Indefinite *$q^w$i- e.g. hōs-ti$ς$ (< IE yos-$q^w$is), hōti (< IE yod-$q^w$id).

Ht kwis-ka, kwis-ki, kwis-ku, kwis-a, Nt kwitki (Final -ka, -ki, -ku may be < IE $q^w$o-/i-$q^w$u- with loss of labial element due to dissimilation or < IE ko-/kī-/ku- (§134(vi)) & final -a < IE -o (§134(i)).

§138. The Relative Pronoun

The Relative pronoun $yο$- (Fem $yā$-) is clearly represented in Skt ($yās$) and Gk ($hōs$), and not traceable in Ht. In some other IE languages also this occurs partly with demonstrative force and was therefore probably originally a demonstrative (cp IE $syo$/$tyo$ < IE $so$/$to$+$yo$ §134). This is declined like a demonstrative.

§139. Some Pronominal Particles

Some of the non-personal pronouns were used as particles, without taking any ending. They were often used as the second element of a combined stem with the first element inflected and the second one used as a particle.
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IE q"w|qwe|qwi/qwu > Skt ca, Gk te, Lat que, Ht ka, ki, ku (§137)

IE to > Ht ta (sentence-connective).

IE so > Skt and Ht sa, Gk ho. The Skt and Gk forms are actually Nom sg forms; but probably originally IE so was a sentence-connective, as shown by Ht and as shown by the restricted use of Skt sa to non-final positions.

IE si (from stem so/si etc.) > Skt stm, (cp OP stm used as pronoun).

IE no/ní/nu > Skt na (particle of comparison in Vd), ni (in tā-ni, *asme-ni, Asokan apheni etc.) (§134), Gk ní/nu etc. (§134), Ht na (also ni of edani may be < IE edo-ni beside IE edonoi as explained above §135).

§140. IE Numerals

IE Numerals are preserved in Skt, Gk & Ht, but Ht records generally present them in figures. Only a few of the numerals are written in words in the Ht records.

Originally ONE, TWO, THREE and FOUR were declined and the rest were indeclinables. But Skt has extended the declension upto TEN.

ONE : Originally several words were used to indicate ONE.

(a) The pronominal stem o-i + (Pronominal stem or suffix) q"w-o-/no-/wó-.

IE oí-q"w-o- > Skt eka- cp Proto-Skt aika in the loan word in Ht documents.

IE oí-no- > Gk oínós ‘ace’, OLat oinos/Lat ūnus, Goth ains (cp Skt pronoun ena-).


(b) IE sem-/sm-/sm- > Skt sam-/sa- (Prefix) ‘together’, Gk éns-/èsn (< IE sem)/hā- (IE sm), mía (< IE sm-), Ht sa (Prefix) (§35).

Two : IE dúw- with dual inflection. Mc IE dúw(u) > Skt dú (Vd)duau, Gk dúo (< IE dúwó), Lat duo, cp Ht dan (< *dwom) ‘second’; Fem(Nt) IE dwai > Skt dve, Lat (Fem) duae, Goth twai; IE dwi- occurs as first member of compounds e.g. IE dwiphs > Skt dvipāt, Gk dipous, Lat bipēs.
THREE: IE trei-/tri-/ (Fem) ti-sr- (<*tri-sr-). Mc treyes > Skt trayas, Av ṭrayō, Gk τρέχει, Lat trēs, Ht tri-. Fem IE tri-sr-es > IE tisres > Skt tisras, Av tisarō, OIrish teoir. This -sr-/ser- suffix was originally a fem formative e.g. IE sved-ser > Skt svasās- ‘sister’, Ht supīsaras ‘virgin’, beside Ht supīs ‘pure’. Nt IE trī/trī > Skt tṛ (Vd)/trīṇi, Gk ΤΡΙΑ, Lat trio.

FOUR: IE qʷetwεr-/qʷetwεr-/qʷetwεr-/ (also) qʷetwεr/(Fem) qʷetwεs- (like tisr- above) Mc qʷetwεores > Skt catwāras, Gk (Hom) tēssares/pisures, (Ion) tēsseres, (Att) tētāres etc. (different forms from different ablaut bases, with various assimilations of -tw- and developments of qʷ-), Lat quattuor, Av catuwārō etc., Ht turan (may be compared if it originally meant ‘four’ §57). Fem IE qʷetwεsres > Skt catrasas, Av catanrō, OIrish catheoir, Nt IE qʷetwεro > Skt catvāri, Gk (Att) tētāra, (Hom) tēssara etc.

FIVE: IE pεnqʷe > Skt paṇca, Av pAnca, Gk πέντε, Lat quintus Goth fimfson.

SIX: IE s(w)eks > Skt ṣat (stem ṣas- in ṣas-thas ‘sixth’), Gk héks/ (dialectal) wēks, Lat sex, Av kṣvas.

SEVEN: IE septm > Skt sapta, Gk heptá, Lat septem, Av hapta, Goth sibun, Ht sepamīya (Dat).

EIGHT: IE oktō(u) > Skt aṣṭā/aṣṭau/ (also later) aṣṭa (analogy of sapta), Gk oktō, Lat octō, Goth ahtau, Av astā.

NINE: IE newn > Skt (& Av) nava, Gk ennea, Lat novem.

TEN: IE dekm > Skt daśa, Gk δέκα, Lat decem, Av dasa, Goth tainun.

ELEVEN: IE oigʷo-dekm/oino-dekm/oivuo-dekm/sem-dekm > Skt ekādaśa (-ā- on anasogry of dvādaśa), Gk éndeka, Lat undecim etc.

TWELVE: IE dwō(u) dekm > Skt dvādaśa, Gk duōdeka/dōdeka, Lat duodecim.

THIRTEEN—NINETEEN: IE treyes dekm etc. > Skt trayodaśa, caturdaśa, paṇcadaśa, sōdas (<*saśdaśa < IE s(w)eksdekm), saptađaśa, aṣṭādaśa, navadaśa/ekonaviṃśati, Gk treks kai deκa etc.
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Twenty: IE \(wikmti\) > Skt \(vim\hbox{\_\_sati (i > im)}\), Gk \(ekosi/(dialectal)\) \(wikati\), Lat \(viginti\).

Thirty: IE \(triokm\hbox{\_t(s)}\) > Skt \(trim\hbox{\_s}\), Gk \(tri\hbox{\_konta}\).

Forty: IE \(qwek\hbox{\_mt(s)}\) > Skt \(catvarim\hbox{\_s}\), Gk \(tet\hbox{\_rakonta}\).

Fifty: IE \(penqwek\hbox{\_mt(s)}\) > Skt \(pa\hbox{\_nc\hbox{\_s}}\), Gk \(pentekonta\).

Sixty—Ninety: \(s(w)eks-ti/s(w)eko-konto\ etc. > Skt \(sa\hbox{\_si, saptati, a\hbox{\_tti (< IE o\hbox{\_k\_tti) and navati, Gk heks\hbox{\_konta, hebdom\hbox{\_konta (< ordinal), ogdomega (< ordinal) and enn\hbox{\_konta.}}")}}\)

Hundred: IE \(km\hbox{\_tom}\ > Skt \(satam\), Gk \(hekat\hbox{\_on\hbox{\,(see §58 for examples from other IE languages).}}\)

Thousand: IE \(sm\hbox{\_}\hbox{\_heslo-} > Skt \hbox{\_sah\hbox{\_hara-}, Av hazan\hbox{\_ro, Gk khel\hbox{\_lioi, khilioi etc.}}\)}}\)
CHAPTER VI

MORPHOLOGY (VERBS)

§141. The Verbal System

The verbal system includes finite and non-finite verbs. The finite verb is conjugated in different tenses, moods, voices, numbers and persons, while the non-finite verb is either of invariable inflection (e.g. the Infinitive §169) or is declined like a substantive (e.g. a participle §168).

§142. The Finite Verb

The IE finite verb had three tenses (Present, Aorist and Perfect), five moods (Indicative, Imperative, Injunctive, Subjunctive and Optative), two voices (Active and Middle), three numbers (sg, Dual & pl) and three persons (the first, second and third persons) and two conjugations (the thematic and athematic conjugations).

The Skt finite verb has inherited the IE system quite faithfully. But the distinction of the thematic and athematic conjugation became obscure in Skt, the athematic endings being extended even to the thematic forms, (e.g. IE bherō > Skt bharāmi for *bharā). A future tense developed in Skt out of the present system with a formative -ṣya-. Classical Skt has lost the older system by retaining only two moods, which are also restricted only to the present tense.

The Gk finite verb has also inherited the IE system equally faithfully, but has also some innovations (e.g. the passive Aorist in -thēn §162, the k-Aorist §162, the k-Perfect §161 and the future §166) and has lost some endings (§§147—152).

The Ht finite verb, on the other hand, has deviated a lot from the original system. It has three tenses only: Present, Preterite (a combination of IE Aorist and Imperfect) and Perfect (not the IE Perfect, but a new development). It has only two moods: Indicative & Imperative. Like IE there are two voices no doubt, the active and the middle, but formation of the middle contains innovations. Only two numbers are retained, the Dual being lost; (some Dual endings have merged with the pl). The three persons are
retained. The distinction of thematic and athematic conjugations has become quite obscure, by the development of a Laryngeal sound in Proto-Ht and the two conjugations are partly distinguished as -mi & -hi conjugations, the -hi conjugation representing the IE thematic conjugation (§148).

§143. The Augment

The IE finite verb had an augment e which was optionally prefixed to an Imperfect or Aorist, to specify the sense of the past tense and perhaps also to keep it distinct from the Injunctive (§154). The augment is optional in Vd Skt and Gk (but has become compulsory in classical Skt). Ht has no trace of the augment.

IE (e)bher-o-m > Skt (a)bham, Gk (δ)phereon, cp Ht gwenesta (¡ IE (e)gwenesto).

§144. Reduplication

The IE verbal root was often subject to reduplication, for formation of the stems for the Present, Aorist, Perfect and some secondary conjugations like the Intensive etc. Originally reduplication was formed in one of the following three different ways.

(i) Complete reduplication of the root (sometimes with ablaut change of the radical vowel). This was more common with Intensives e.g., IE der-der-ti (¡ √der) > Skt dar-dar-ti, Gk marmatō (¡*mar-maryō), Ht hashasan ‘they opened’ (¡ √has ‘open’).

(ii) Reduplication of the initial consonant with the reduplicating vowel e (sometimes with its ablaut-variants ḍ/NIL, which was quite common with Perfects, but was also found with others, e.g. with Perfect: IE d-e-dark-e (√derk) > Skt dadarśa, Gk dédorke; with Present: IE d-e-dō-mi (beside didōmi as in (iii) below) > Skt dadāmi (beside Gk didōmi in (iii) below) cp Gk mémnēmai, Ht memai <*memmē <*m-e-mnē-i).

(iii) Reduplication of the initial consonant with the reduplicating vowel -i, generally with the Presents e.g. IE (s)thi(s)thāmi > Skt tiśthāmi, Gk hístēmi (iornμ), Ht titi; IE didōmi > Gk didōmi (but Skt dadāmi (ii)). Probably e was the reduplicating vowel of the Perfects & i of the Presents originally, but even in the parent speech there might have been interchanges.
Skt has preserved the IE reduplication most extensively and has probably extended the system with a few innovations (which might have also been inherited from IE): (a) reduplication with ā (\(<\)IE ē, see (ii) above) is very common in RV, e.g. jāgarti jāgāra cp Gk δέδεκθεται (b) reduplication with nil (zero grade of e, see (ii)) is unparalleled elsewhere e.g. Skt anāha (RV) (\(<\)IE n-nōdh-e for IE n-e-nōdh-e), uvāca (\(<\)IE u-wōgʷ-e for IE w-e-wōgʷ-e) etc. Even if these are original, i.e. inherited from IE, cases like bubodha for *babodha (\(<\)IE bh-e-bheudh-e) (beside regular babhūva (<IE bh-e-bhūw-e) are undoubtedly analogical formations. Gk has also retained the original distribution of reduplication quite faithfully. But Ht has only a few verbs with reduplication and the original distribution has been disturbed here, chiefly because IE Perfect is lost in Ht, and Aorist has merged with Imperfect. Ht has a special reduplication where the initial consonant and vowel of the root are reduplicated e.g. *papars- (<√pars) and *tutush- (<√tus) etc; analogically -a- & -u- etc. (on analogy of the above cited verbs, where they are radical vowels) are extended to other roots as reduplicating vowels e.g. mumeya.

§145. The IE Present System

Out of the three tense-systems (viz., Present, Aorist and Perfect), the Present-system was fully established in IE and has been faithfully retained by most of its branches, whereas the Aorist and Perfect systems have been either lost, modified or have merged with other systems in some of the historical languages.

The Present system has two types of conjugations, viz., thematic and athematic (also called -ē & -mi conjugations) distinguished in the following manner: (1) The base always ends in -e/-o, in the thematic conjugation, (2) the accent is fixed either on the root or on the suffix in the thematic, whereas it shifts from the one to the other in athematic. (In other words the root was constantly in the strong grade or in the weak grade in the thematic, but it was varying from one grade to the other in the athematic, when followed by various terminations.) (3) the thematic 1st person sg ending was -ē (and perhaps also 3rd person sg ending was -i), whereas in the athematic, the 1st person sg was -mi (and the 3rd person sg was -ti).
Skt has extended the athematic endings to the thematic conjugation, but Gk has retained them distinctively. The distinction has become obscure in Ht, and the -ō conjugation has been replaced by a -hi conjugation in Ht (§147).

§146. The Present Classes (or gaṇas)

The Present conjugation, which has been broadly classified as thematic and athematic, actually comprises several classes (called gaṇas by Sanskrit Grammarians) on the basis of base-formation.

The Present bases were formed with a number of stem-affixes. Some of these have been transferred to the Secondary conjugations with semantic specializations (such as, causative etc.), either in IE or in the individual languages.

Athematic Classes:

1. Root class (with no stem-affix).
   (a) mono-syllabic root used as stem, e.g. IE es+mi > Skt asmi, Gk eimi (ειμι), Ht esmi.

   (b) dissyllabic root ending in -ə used as stem e.g. IE wemə+mi > Skt vamīmi, Gk émeō for *emami, (with analogical change of *a (<IE ə) to e and transfer to ō conjugation).

2. Reduplicated root class (with no stem-affix).
   (a) with -i as the reduplicating vowel (more common with present bases than with the (b), (c) & (d) types given below).

      IE (s)thi(s)ṭhāmi > Skt tiṣṭhāmi, Gk hístēmi (ὑστῆμι), Ht titami.

   (b) with -e as the reduplicating vowel (§144(ii)) e.g. IE dhedhēmi > dadhāmi, Gk mēmnēmai, Ht memai (§144(ii)).

   (c) with the radical vowel (or, its weak grade) as the reduplicating vowel (this might have been an individual development in the languages) e.g. IE ḍhuḥheumi > Skt juhomi, Ht tutuskesi ‘you manage’, cp Lat (Perfect) pūpūgī.

   (d) with full root reduplicated (was originally for Intensives only) e.g. IE qer-qor-mi > Skt (Vd) car-kar-mi, Gk marmairō (< *marmaryō, transferred to -ō conjugation), Ht hashasan.
3. Root\+nā/nə/n > Skt nā/nī/n, Gk nā/na/n, Ht na/n e.g. IE mṛ-nā-ti, mr-nā-tes, mr-n-onti > Skt mṛṇāti, mṛṇītas, mṛṇanti, Gk dāmnēmi, dāmnamen, Ht sunai (<*su-nā-i with transfer to thematic).

4. Root\+neu/nu > Skt no/nu, Gk nū/nu (vū/vv) (Gk nū for *neu on analogy of nā/na in (3)), Ht nu (<*neu/nu, §46). This forms the regular causative in Ht. In Skt and Gk some verbs seem to have a causative value (as in Skt r-ṇo-mi & Gk ḥr-nū-mi) with neu/nu e.g. IE r-neu-mi > Skt r-ṇo-mi 'I move', Gk ὀρνūμι, Ht arnumi; IE r-nu-mes/men > Skt ṛnumas, Gk ὀρνumen, Ht arnumeni.

4a. cp Ht (denominative) ešarnwantsi < IE eṣr-nu-onti.

4b. Skt has another present class: root\+o/u (< IE eu/u) which has developed by metanalysis of tanoti (< IE tṇu-neu-ti) into tan-o-ti, whence kar-o-ti etc.

5. Root\+nasal infix ne/n > Skt na/n (Gk has no athematic nasal infix class, but cp Gk lambānō with root + nasal infix + thematic class affix no), Ht ne/n(also) nen (an analogical development with combination of ne+n) e.g. IE yu-ne-qti (<√yug) > Skt yunakti, cp Ht nenektsi (-ne-), nenkantsi (-n-), nenenkantsi (-nen-) <√nek 'rise, intoxicate'.

Thematic Classes:

6. Root\+e/o. This was of two types: (a) Root accented (i.e. in strong grade)\+e/o (unaccented), (b) Root unaccented (i.e. in weak grade)\+ē/ō (accented). Ht has lost this two fold distinction due to phonetic decay (i.e. Ht luketsi may be < IE leugeti/lugeti) e.g. IE bhērei/bhēr-e-ti > Skt bharati, Gk phērei, Ht luketsi; IE tud-e-ti > Skt tudati, Gk graphēi (Ht luketsi).

7. Root\+skesko > Skt echa, Gk ske/sko, Ht ske/ska e.g. IE gʷm-śke-ti > Skt gacchati, Gk báskei, Av jasaiti; IE r-śke-ti > Skt rochati Ht arsketsi.

7a. Root\+neu/nu+śke > Ht -nu-ske (found only in Ht and used as causative-cum-durative) e.g. IE wes-neu-śke-ti > Ht hwesnu-sketsi.

7b. Reduplicated Root\+śke e.g. IE ġignōskō > Gk gignōskō.
8. Root+nu+éíó > Root+nwe/nwo e.g. IE i-nw-e-ti > Skt invati ‘sends’, Gk τίνο < *tinwō).

9. Root+ne/ño e.g. IE mr-ne-ti > Skt mrñati, Gk kámnō.

10. Root+se/so > Skt desiderative, Gk future and Ht durative, e.g. IE did-so-ō > IE ditsō > Skt ditsāmi, Gk ἡπσό < IE peq*ó-sō), Ht etsai (< IE ed-so-ō).

11. Root+syē/syo > Skt future (Gk future -so may also be derived from this) e.g. IE ed-syō > IE etsyō > Skt atsyāmi.

12. Root+ē ge e.g. IE sphr-ē- ti (beside IE sphrr-e-ti) > Skt sphārjate (beside sphurati, Ht śparetsi), Gk sphaφagéomai; IE ūb-ē- ti (beside *eub- ti > *eup- ti) > Skt ūbhjati ‘rises’ (beside Ht uptsi).

13. Root+yel/yo.

(a) Root (strong grade) accented+yel/yo e.g., IE spek-yō > Skt paśyāmi, Lat speciō, Gk στέλλω (< -lyō).

(b) Root (weak grade)+yē/yō > Skt passive conjugation e.g. IE ud-ye-tai > Skt ud-ya-te, Gk bainō < *banyō < IE gwhmm-yō.

(c) Denominatives in -ye/-yo e.g. IE deiwe-ye-ō > deiweyō (cp IE noun deiwos > Skt devas) > Skt devayāmi, Gk philēō (< *phileyō < noun philós), Ht irmalayahut (< noun irmalas ‘ill’).

(d) Ht has also yel/yo affixed to a verbal base, which has already one stem-affix, e.g. seskeyahut ‘sleep’ (< IE ses-ske-yo-), with alternative bases seske- (< ses-ske) & ses- (root class).

(e) Ht a/ae class may also be included here, where the verbal base sometimes ends in -a- and sometimes in -ae- (also written -ai-) e.g. tarnami : tarnametsi, which may be most conveniently explained as a < *a < *a < IE oyo/āyo and ae < *ae < IE oye/āye. (The IE -o/-ā depending upon the final vowel of the Mc/Fem substantive).

14. Root+eye/eyo > Skt and Gk causative (also) and Ht denominative (also) e.g. IE sēdeyō > Skt sādayāmi, Gk phobēō (< *eyō), Ht daleyetsi ‘leaves’ (besides dalai) and Ht (denominative) kusaneyatsi ‘hires’ (beside kusan ‘pay’).

15. Root+peye/peyo > Skt (also causative) e.g. IE sthā-peyo-nti > Skt sthāpayanti, Ht stapayantsi (written istapaantsi).
§147. The Personal terminations

IE had the following four sets of terminations. (a) The Primary endings were used in the Present Indicative. (b) The Secondary endings were used with the Aorist, Imperfect, Pluperfect, Optative mood, Subjunctive mood and Injunctive mood. (c) The Perfect endings were used with the Perfect Indicative. (d) The Imperative endings were used with the Imperative mood.

The Primary endings for 1st person sg and perhaps also for the 3rd person sg were distinguished in the thematic and athematic conjugations. The distinction was fully preserved in Gk and almost fully lost in Skt and partly preserved in Ht.

The Ht -hi- conjugation may preferably be considered to be a continuation IE thematic conjugation, rather than, of IE Perfect (as assumed by others), on the following grounds. (a) Reduplication is more frequent in IE Perfect, but less frequent in Ht -hi conjugation (like IE Present conjugation). (b) Ht has also a Perfect tense (though an innovation—a periphrastic perfect) and might have lost the old perfect system, which was replaced by the new one (as is partly true with Sanskrit also). (c) The endings of the hi conjugation are all either primary or secondary endings and not perfect endings. This is non-controversial in case of all endings (§§148-152), except the 1st person sg -hi and the 3rd person sg -i. The 1st person sg -hi (for Ht k §82) has been derived by others from IE Perfect 1st person sg -a, which is quite unlikely. It is preferable to derive it from IE Present subjunctive -e (Ht also shows -he, at least once, in writing e.g. asashe, beside asashi), which might have replaced the Present Indicative 1st Person sg thematic ending -e, probably because of a polite use of the 1st person. The 3rd person sg -i (which has been derived by others from Perfect 3rd Person sg -e) is never written -e in Ht and therefore it is preferable to derive it < IE -i, which might have been the original thematic ending for 3rd Person sg and is also found in all the Gk dialects in the thematic. But towards the close of the IE period the 3rd personal athematic ending -ti might have been generalized for both thematic and athematic, as a result of which this ending had not been retained outside Gk & Ht. In Ht this -i was extended even to some athematic conjugations, because even in thematic, only i remains in writing.
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(representing the thematic vowel cum -i) (§148). (Ht -i & -hi are throughout written here, in the normalized forms, chiefly for not deviating from tradition, and also because sometimes i or e cannot be explicitly determined).

§148. The Active Primary Endings

Roots: IE es, ed, bher, dō, er|r, ēp, Skt as 'be', bhar 'bear', dā 'give', r 'move', Gk es 'be', pher 'bear', dō 'give', Ht es 'be', ed 'eat', sek 'know', gwen 'strike', da 'take', ēp 'take', ar(arnu-) 'bring'.

Singular

1st Person

(i) athematic IE -mi e.g., IE es-mi > Skt asmi, Gk eimi, Ht esmi.

(ii) thematic IE -ō > Skt ā-mi (with -mi from athematic), Gk ō, Ht hi (§147(c) for hi < IE ē) (-hi is also extended to athematic in Ht, because the original distinction of thematic and athematic has been disturbed here) e.g., IE bher-o-ō > IE bherō > Skt bharāmi, Gk phērō, cp Ht sak-hi/saka-hi.

2nd Person IE -si > Skt -si, Gk -si (but due to loss of intervocal -s-, -si > -i after vowel and then there was extension of the secondary ending -s; the ending > -is) Ht -si/(also) -ti (=te) (< IE -the: the 2nd person pl ending and not from IE -tha the Perfect ending as assumed by others. In Ht -si is more frequent in -mi conjugation and -ti in -hi conjugation.) e.g. IE es-si > IE essi/esi > Skt asi, Gk (Hom) esti/et, Ht gwses (<*gwensi < IE g"hen-si)/gwenti/gweti (< IE g"hen-the).

IE bheresi > Skt bharasi, Gk phereis, cp Ht saksi (<*-the).

3rd Person

(i) IE -ti (Perhaps originally athematic) > Skt ti, Gk -ti/-si (sometimes IE ti > Gk si dialectally), Ht tsi, e.g. IE es-ti > Skt asti, Gk esti, Ht estsi; IE didōti > Skt dadāti, Gk (Dor) didōti/(Att) didōsi.

(ii) IE -i (Perhaps originally thematic ending §147(c)) > lost in Skt (-ti generalized), -i in Gk & Ht. (Ht has extended it to athematic also §147(c), e.g. Ht dai < dhē+i for dhē+ti) e.g. IE bherei > Gk pherei, Ht saki (<*-ei/i) (§147(c)), but Skt bharati.
Plural

1st Person  IE mes(i)/men(i) > Skt mas(i), Gk -mes (Dor)/men (Att), Ht men(i)/wen(i) (IE had two alternative endings -mes and -men and each could further be extended with the particle -i; Ht -wen(i) < Dual); IE (e)s-mes(i)/-men(i) > Skt smas/(Vd) smasi, Gk eimés/ eimén, Ht edwani/adwéni (< IE ed-weni Dual; for Ht ad- §17)/arnumeni (< IE r-nu-men, beside Skt rñumas(i) < IE r-nu-mes(i)); IE bhero-mes(i)/-men(i) > Skt bharāmasi (−a- for -a- on analogy of bharāmi), Gk phéros- mes (Dor)/-men (Att), Ht sakwéni.

2nd Person  IE -the/-thene (with particle -ne) > Skt -tha/-thana (Vd) Gk -te (§73), Ht -teni (<*thene/the-ni, with particles ne/ni) (-teni was generalized in Ht when te < *the was transferred to sg) e.g. IE (e)s-the(ne) > Skt stha/(Vd) sthana, Gk éste, Ht épteni (< IE ép-thene); IE bherethe(ne) > Skt bharatha/(Vd) bharathana, Gk phérête, Ht sekteni.

3rd Person  IE -enti/onti/-nti/-ntti (with ablaut variations) > Skt -anti/-nti/-ati, Gk -enti/-nti/-ati/-anti (with dialectal changes of ti > si, loss of nasal and diphthongization etc.) Ht antsí/ntsí e.g., IE (e)s-enti > Skt santi, Gk (Dor) hentí/(Att) eisí, Ht asantsí (for as- §17) IE bher-o-nti > Skt bharanti, Gk (Dor) phéronti/(Att) phérousi, Ht sekantsí.

Dual

The Dual endings are lost in Ht. That they have merged with pl is inferrable from the use of -wen(i) (originally 1st person Dual) in pl. On the contrary Gk also uses pl ending for Dual in some cases.

1st Person  IE -wes(i)/-wen(i) (cp pl -mes(i)/-men(i)) > Skt -vas/(Vd) -vasti, Gk -men (< pl), cp Ht (pl) -weni/-wani e.g. IE (e)s-wes(i)/-wen(i) > Skt svas/(Vd) svasti, Gk (=pl) ; IE bhero-wes(i)/-wen(i) > Skt bharāvas/(Vd) bharāvasti, Gk (=pl).

2nd Person  IE -thes > Skt -thas, Gk -ton (< secondary ending §147) e.g. IE (e)s-thes > Skt sthas, Gk estón ; IE bherethes > Skt bharathas, Gk phéreton.

3rd Person  IE -tes > Skt -tas, Gk -ton (same as 2nd Person) e.g. IE (e)s-tes > Skt stas, Gk (=2nd Person) ; IE bhere-tes > Skt bharatas, Gk (=2nd Person).
§149. The Active Secondary Endings

Roots: (Same as §148 & additionally) Ht tarna- 'put in'.

Singular

1st Person IE -m/-m/-mm > Skt -m/-am, Gk -n/-a, Ht -nun/-un/-hun (Ht -un < IE -mm, Ht -nun is found where *-n is expected, therefore -nun is an extension of *n with -un; Ht -hun has -h- due to influence of -hi, since -hun is the 1st person sg secondary ending in -hi conjugation only). e.g. IE (e)es-m(m) > IE ēs-m(m) > Skt āsām, Gk ēa (also ēiēn), Ht esun; IE (e)bhero-m > Skt abharam, Gk ἐφερόν, cp Ht arnumun.

2nd Person IE -s > Skt & Gk -s, Ht s (rare)/ta (<3rd Person) e.g., IE (e)es-s > IE ēs > Skt (Vd) ās/(classical) āsī (< ās-is-s Aorist), Gk ēstha (Perfect used as Imperfect) Ht ēsta (with -ta < 3rd Person); IE (e)bhere-s > Skt abharas, Gk ἐφερες, Ht tarna.

3rd Person IE -t > Skt -t, Gk NIL (because final -t is lost in Gk) Ht -ta (< middle -to)/-sta (<s (Aorist) + ta)/-s < -st (<s (Aorist) + t). (Ht developed -s in the 3rd Person, by dropping final -t from the conjunct and then the 2nd and 3rd Personal endings started to become identical and subsequently -ta was extended from the 3rd person to the 2nd Person). e.g. IE (e)es-t > IE ēst > Skt (Vd) ās (< āsī)/(classical) āsit (< Aorist *āsīt), Gk (Dor) ēs/(Att) ēn, Ht ēsta, nais (<naist); IE (e)bhere-t > Skt abharat, Gk ἐφερε, Ht tarnesta.

Plural

1st Person IE -me > Skt -ma, Gk -men (Primary), Ht -men (Primary)/-wen (< Dual), e.g. IE (e)-es-me > Skt āsma, Gk ēmen, Ht eswen; IE (e)bhero-me > Skt abharāma, Gk ἐφερομεν, cp Ht tarmen (< *tarmenon on analogy of arnumen).

2nd Person IE -te > Skt -ta, Gk -te, Ht -ten (< IE Dual -tem) e.g. IE (e)es-te > IE ēste > Skt āsta, Gk ēste, Ht esten; IE (e)bhere-te > Skt abharata, Gk ἐφερετε, Ht tarnaten/tarnasten (< -s (Aorist) + ten).

3rd Person There were two alternative endings.

(i) IE -ent/-ont/-nt/-nt > Skt -an (< -ant)/-n(< -nt)/-at(*-nt), Gk -on (< -ont)/-n(< -nt), LOST in Ht.
(ii) IE /er/ > Skt ur (< *αrr), Ht er, lost in Gk (but found in Lat etc.) e.g. IE (e)es-ont/-er/-rr > Skt āsan/(Perfect) āsur, Gk (Dor) ἔν(Att) ἐσαν, Ht eser; IE (e)bhero-nt > Skt abharan, Gk ἔφερον; IE (e)did-nt > Skt adadat, cp Gk ἐδίδον (for *edida analogical formation after ἐφερον).

Dual

Ht has lost the Dual, but original Dual endings are transferred to Ht pl in the 1st and 2nd Persons (see plural above).

1st Person IE -we > Skt -va, Gk -men (< pl), cp Ht (pl) -wen (< Primary) e.g. IE (e)es-we > Skt āsva, Gk ἐμεν (cp Ht (pl) eswen); IE (e)bherewe > Skt abharāva, Gk ἐφερομεν.

2nd Person IE -tem/-tom > Skt -tam, Gk -ton (cp Ht (pl) -ten) e.g., IE (e)es-tem/-tom > Skt āstam, Gk ἐστον (Ht (pl) esten); (e)bhere-tem/-tom > Skt abharatam, Gk ἐφερετον.

3rd Person IE ām > Skt ām, Gk τάν/τέν e.g., IE (es-tām > Skt āstām, Gk ἐστέν; IE (e)bhere-tām > Skt abharatām, Gk ἐφερετέν.

§150. The Middle Endings

The middle endings were not so much established in the parent speech, as the active. Skt & Gk preserve the original primary and secondary endings, but Ht seems to have generalized the secondary endings for both. But to distinguish Present, Preterite and the Imperative mood (which originally had in IE the primary, secondary and imperative endings respectively) in the middle voice, Ht uses a few additional formatives appended to the personal endings. They are:

1. -ri (cp Skt -re) < IE -rai, used for distinguishing the Present tense. One verb has -ni (e.g. uran) by dissimilation of -r.

2. -ru (-r- with contamination of -tu Impv), used for the Imperative mood (only with the 1st Person sg and 3rd Person sg & pl). One verb has -nu (e.g. uranu) by dissimilation of -r.

3. -t (Secondary 3rd Person sg ending -t) and -di (written -di) (< Impv -dhī) are generally used to distinguish the Preterite and sometimes for the Impv.
Skt -sma (as in gacchati-sama ‘he went’, beside gacchati ‘he goes’), may be compared with the Ht appended formatives, but both are individual developments.

Ht endings are discussed under the Secondary endings, to which they belong in form only.

§151. The Middle Primary Endings


The middle Primary endings are lost in Ht and the Secondary endings (§152) with the Ht appended formatives (§150) are used to signify the Present tense.

Singular

1st Person IE had two endings (i) -ai (ii) -mai. Perhaps originally one was thematic and the other athematic, but IE -ai (> Skt -e) was generalized in Skt and IE -mai in Gk. e.g., IE ēs-mai/-ai, bheromai/-ai > Skt āse, bhare, Gk ēmæi, pheromai.

2nd Person IE -sai e.g. IE ēs-sai, bheresai > Skt āsse, bharase, Gk hēsai, phēreai.

3rd Person IE -tai e.g. IE ēs-tai, bheretai > Skt āste, bharate, Gk hēstai, phēretai.

Plural

1st Person IE -medhai > Skt -mahe, Gk -metha (< Secondary) IE ēsmedhai, bheromedhai > Skt āsmæhe, bharāmahe, Gk hēmetha, pherōmetha.

2nd Person IE -dhwai > Skt -dhve, Gk -sthe (< Secondary). e.g. IE ēz-dhwai (< ēs-dhwai), bheredhwai > Skt ādhve, bharadhve, Gk hēsthæ, phērēsthæ.

3rd Person

(i) IE -ontai/-ntai/-ntai > Skt -ante/-nte/-ate, Gk -ontai/-ntai/-atai.
(ii) -ntai > (found in) Skt -rate.
(iii) -rai > Skt -re (cp Ht -ri §150).

E.g. IE ēs-ntai, bherontai, kei-ntai, kei-rai > Skt āsate, bharante, serate, sere, Gk hetatai (Hom), pherontai.
Dual

The original Dual endings cannot be determined, because the endings do not agree. The Skt and Gk Dual endings are given below with probable history.

1st Person Skt -vahe (< IE -wedhai), Gk -methon (< Secondary Dual).

2nd Person Skt -āthe (< IE ā*thai), Gk -sthon (< IE Secondary pl dhwom, cp Skt dhvam).

3rd Person Skt -āte (< IE ā*tau), Gk -sthon (see 2nd Person).

§152. The Middle Secondary Endings

Roots: (Same as §151 and additionally) IE dheugh/dhugh, Skt duh ‘milk’.

The Ht middle endings are historically Secondary endings as shown below, but the appended formatives are used to indicate Present, Preterite etc. (§150).

Singular

1st Person (i) IE i > Skt i (ii) IE o > Skt a (in Optative only), Ht ha (iii) IE mān > Gk mēn e.g. IE ēs-i/o/-mān > Skt āsi (cp Skt Opt bharey-a) Gk hēmēn Ht es-ha- (in eshari for -ri §150).

2nd Person (i) IE -thēs > Skt -thās (ii) IE -so > Gk -o, Av -nha (originally thēs may be athematic and -so thematic). e.g. IE ēs-thēs, ebhēr-so > Skt ās-thās, abharathās (but Av baran̄ha), Gk ēso, ephēreo (< *ephereso), Ht esta (in esta-ri) (< 3rd Person -ta).

3rd Person IE -to/(probably also) -o > Skt -ta/(also rarely) -a, Gk -to, Ht -ta/-a e.g. IE ēs-to, ebhereto > Skt āsta, abharata, aduha(aduha) (< IE e-dhugh-o), Gk hēsto, ephēreto, Ht esta/esa (< IE ēs-to, ēs-o).

Plural

1st Person IE medhō > Skt mahi, Gk metha/(Homerlic also) mestha (< contamination of mes+metha), Ht wastā (contamination of IE Dual wes+IE Dual wedhō) e.g. IE ēs-medhō, ebheromedhō > Skt āsmahi, abharāmahi, Gk hēmetha, ephērometha, Ht eswasta- (in eswasta-di for -di §150).
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2nd Person  IE dhwe/dhwem/dhwom/dhum > Skt -dhva (once in RV)/-dhvam, Gk -sthe (< -dhwe, with initial -s- by metanalysis of forms like esthe etc.) Ht -duma (also written -tuma) (< IE dhum, with final -a extended from other middle endings) e.g. IE ēz-dhwe(m)/-dhum (< s-dh), ebhere-dhwe(m)/-dhum > Skt āddhwam, abharadhvam, Gk hēsthe, Ht estuma.

3rd Person  IE -onto/-nto/-nto > Skt -anta/-nta/-ata, Gk -onto, -ato, Ht -anta e.g. IE ēs-nto, ebheronto Skt āsata, abharanta, Gk (Hom) ἥτατο (<* ētato), ephéronto, Ht estanta.

Dual
The original endings cannot be determined. The Skt & Gk endings are:

1st Person  Skt vahi (< IE wedha), Gk -methon (< IE me+dhwom ?)

2nd Person  Skt -āthām, Gk -sthēn.

3rd Person  Skt -ātām, Gk -sthēn.

IE MOODS

§153. The Imperative mood and its endings
Roots:  IE es, bher, ei/i; Skt as 'be', bhar 'bear', i 'go'; Gk es 'be', pher 'bear', ei 'go'; Ht es 'be', es 'sit'.

The Imperative has no modal affix, but is characterized by its special endings. In some of the case forms Impv has no special ending, which indicates that some original Injunctive forms might have merged with Impv. Only in the active sg & pl; the endings seem to be originally Impv endings. In other cases either Secondary endings are used or an individual language has its own innovation. Ht has apparently three sets of Impv endings (for active, middle and for -hi conjugation), but practically they are of identical origin except a few analogical modifications.

In the 1st Person there was no Impv form in IE, but Skt and Ht have developed Impv forms even for the 1st Person, e.g. Skt 1st sg: bharāṇi (< Subjunctive) and Ht 1st sg: karsa-lu (with -lu affix, formed with a contamination of IE adjectival affix -lo and -tu, the 3rd sg Impv ending).
The Imperative Endings:
Only Active sg & pl for 2nd and 3rd Persons are presented below.

Singular

2nd Person

(i) NIL (this may originally be Injunctive) e.g. IE es, bhere > Skt bhara, Gk phére, Ht es, esa (< IE es-o), esi (< IE es-e).

(ii) IE -dhi e.g. IE es-dhi (> IE ez-dhi), bheredhi, idhi > Skt edhi (< Ṛ azdhi cp Av zdī), *bharahi (cp MIA hōhi < Skt *bhavahi), idhi/idi Gk īsthī (<* stthī < IE z-dhi, beside ez-dhi) (with prothetic i-), Ht it (=id)(< IE idhi : loss of final -i in Ht id for *idi, may be due to influence of IE i-tōd (see (iii)).

(iii) IE -tōd (used for 3rd sg also) > Skt -tād, Gk tō e.g. IE bheretōd > Skt bharatād, Gk pheretō. The suffix -tōd is not found in Ht, but Ht -d (see ii) might have developed by a contamination of Proto-Ht *tad (< IE tōd) + *di (< IE dhi). Ht has another suffix -hu for 2nd Person sg middle which might have developed due to contamination of IE (& Ht) -tu (see 3rd Person (i)) with Ht hi.

3rd Person

(i) -tu > Skt & Ht -tu, but lost in Gk and replaced by IE tōd (see (ii)) e.g. IE estu, bheretu > Skt astu, bharatu, Ht estu, saratu; but also cp Ht esa-u, tarna-u with ending -u which may be an original thematic ending like i : ti etc. (§148).

(ii) tōd (same as 2nd Person sg).

Plural

2nd Person IE -te > Skt -ta, Gk -te, Ht -ten (see secondary endings—second person pl). e.g. IE (e)ste, bherete > Skt sta, bharata Gk pherete, Ht esten.

3rd Person IE (i) -(o)ntu (ii) -(o)-ntōd e.g. IE (e)s-ontu, bhero-ntu, bhero-ntōd > Skt santu, bharantu, bharantād, Gk phérontō, Ht esantu/asantu (for Ht a- §17).

§154. The Injunctive mood

The Injunctive was identical in form with an unaugmented Imperfect or Aorist. Since augment was optional even for Aorist or
Imperfect (§143), the Injunctive mood is to be distinguished from Aorist or Imperfect on semantic basis. The Injunctive mood is not traceable in Ht. But the Imperative 2nd person sg with nī ending, which may be originally Injunctive, leaves some faint trace of Injunctive in Ht (§153). Skt and Gk have retained the Injunctive mood fully, but in a later stage in Skt the Injunctive has been fully lost (used in classical Skt only with the prohibitive particle mā e.g., mā gās ‘do not go’). One or two examples of Injunctive mood may be cited: e.g., Present Injunctive 3rd Person sg IE bheret > Skt bharat, Gk phēre, Aorist Injunctive 2nd Person sg IE dōs > Skt dās Gk dōs < *dōs.

§155. The Subjunctive mood

The subjunctive mood was formed with the Secondary endings (Skt used the Primary ending also) and a modal suffix -e/-o- e.g. IE es-o-t (beside Indicative es-ti) > Skt asat (beside Indicative asti) with a verbal base ending in a primary vowel, the modal affix -e/-o- was contracted to the final vowel of the base, which might have resulted in -ē/ō-; but on comparative study of Gk (ē/ō) & Lat (ā/ē) forms, it seems that -ē was probably the original form here and this replaced partly by -ō- in Gk and -ā- in Lat, in analogy with other verbal forms. (Skt, of course, is of no help since IE ā/ē/ō have fallen together in Skt) e.g., IE bher-e-eme > IE bherēme > Skt bharāma, Gk phērōmen (for *pherēmen), Lat ferāmus (but cp Lat future ferēmus).

The 1st person sg of Ht -hi conjugation is probably an old subjunctive form (-hi-he < Proto Ht hē < IE subjunctive ē §148). This also may be accepted as an additional evidence for ē to be the original vowel of subjunctive, as suggested above. Apart from the 1st Person sg which may be an old subjunctive, Ht shows no other trace of the subjunctive mood.

§156. The Optative mood

The Optative mood was formed with the Secondary endings, and the modal affix yē (for athematic bases)/ē (for thematic bases). This is retained in Skt & Gk and lost in Ht, e.g. 3rd Person sg, IE (ē)s-yēt > Skt syāt, Gk eīē cp Lat siet; IE bher-o-i-t > Skt bharet, Gk phērōi Gothic baírāi.
IE PERFECT & AORIST

§157. The IE Perfect System

Roots: IE *woid/wid, Skt *vid ‘know’, Gk oid ‘know, see’.

The IE Perfect system was retained in Skt & Gk, but has been replaced in Ht, by a periphrastic Perfect (§158) and the Ht -hi conjugation (§147) does not represent IE Perfect. Skt also has developed a periphrastic perfect in the post-vedic stage (§158).

In IE perfect formation the root was generally reduplicated, with the reduplicating vowel e (e.g., IE *d-e-dork-e > Skt dadarśa, Gk dēdorke) and occasionally with other vowels (§144), which might have also been analogical creations sometimes (e.g. Skt mumoca for *mamoca beside regular bahūṣa). There are also some Perfect forms without reduplication e.g., IE woida > Skt veda, Gk oίδα. It has a special set of endings only for active sg. In active 1st person pl both Skt and Gk show secondary endings. In other cases the endings do not agree, and the original picture cannot be ascertained. The active endings are cited below.

Singular

1st Person -a e.g., IE *woid-a > Skt veda, Gk oίδα.
2nd Person -tha e.g., IE *woid-(s)-tha > Skt vetha, Gk oίσθα.
3rd Person -e e.g., IE *woid-a > Skt veda, Gk oίδε.

Plural

1st Person -me (< Secondary ending) e.g. IE wid-me > Skt vidma, Gk ἰδμεν.
2nd Person ? Skt -a (e.g. veda), Gk -τε (e.g. ἵστε).
3rd Person ? Skt -ur(<rr)(e.g. vidur), Gk -āsi(<anti)(e.g. ἵσσι)

Dual

1st Person ? Skt -va (< Secondary -we) (e.g. vidva), Gk -men (e.g. ἰδμεν).
2nd Person ? Skt -athur (e.g. vidathur), Gk -ton (e.g. ἵστον).
3rd Person ? -tur (e.g. vidatur), Gk -ton (e.g. ἵστον).

Skt has some Perfect forms, where the original reduplication has been replaced in Skt by substituting the radical vowel a (< IE e) by e in Dual & pl e.g., the 3rd person sg forms are saśāda and paśāta but the corresponding pl forms are sedur, petur. The e in sedur is a regular phonetic development (e.g., IE *se-sd- > IE *se-zd- > Ἰlr sa-zd- > Skt sed-), but petur etc. are formed on analogy of sedur.
§158. The Periphrastic Perfect in Skt and Ht

Skt and Ht both have developed the periphrastic Perfect, with the first element consisting of a feminine verbal noun ending in ā and inflected in the Acc sg; (e.g. Skt vidām < IE wid-ā-m, Ht stamasan < IE stomnos-ā-m) and with the second element as an auxiliary. The auxiliary in Skt is an inflected form of √as√kr√bhā (e.g. vidām āsā/cakāra/babhūva) and in Ht an inflected form of √har (written hark) (cp Skt √arḥ (§10) as an auxiliary in gantum arhati) e.g. Ht stamasan harker (=harger) 'they have peared'.

§159. The Plu-perfect in Skt & Gk

Plu-perfect developed in Skt and Gk, with affixation of Secondary endings to the augmented Perfect base e.g. Skt apaptat, Gk ἐπέπιθημεν.

§160. The Skt -au Perfects

Mono-syllabic roots ending in -ā (< IE āś/ēō) ended in -au in 1st and 3rd sg Perfect, in Skt e.g., dadhau, dadau and tasthau √dhā, √dā & √sthā respectively. The original forms were ending in -ā, as are sometimes attested in the Vedic. The -au forms developed in analogy with the alternation of ā : au as in vrkā (< IE ovl̥q̥ō): vṛkau (< IE ovl̥q̥ōu) and in course of time replaced the -ā form (e.g. paprau replaced paprā (Vd) or dadhau replaced *dadhā).

§161. Gk -k- Perfects

Gk developed -k- Perfects generally with monosyllabic stems ending in a long vowel (subsequently extended to others) (hence are comparable to Skt -au Perfect). e.g., Gk tēthēka, dēdōka, and hēstāka etc., where tēthe- etc. are Perfect bases and -a is the ending of the 1st Person and -k- is a special development. This -k- according to Petersen (Language VII, pp. 125-130) has developed by metaanalysis of forms like dēdorka (<IE d-ē-dor̥k-a) into de-dor-ka. This -ka has been analogically extended to tēthēka etc., which would otherwise appear as bare stems, e.g., *tēthe (< tēthē+a). Metrical necessity also might have played a role for this analogical extension for maintaining a tri-syllabic pattern of Perfect forms. The Laryngealistic explanation of Gk -k- Perfects is not accepted here, as the Laryngeals may not be IE sounds (§§82 & 83) : the Ht -hi- conjugation which, according to the Laryngealistic explanation, is compared with Gk -k- Perfects
(Vide Sturtevant HG² §§231 & 234), preferably shows traces of IE thematic conjugation rather than that of IE Perfect (§148).

§162. The IE Aorist System

(a) The IE Aorist indicative was similar to Imperfects in having secondary endings and in prefixing the augment optionally. But the base of the Imperfect was identical with that of the Present, whereas, the Aorist had its own base. An Aorist is either Sigmatic or Asigmatic, in accordance with the presence or absence of a sibilant (sigma) in the base-affix.

The Asigmatic Aorist was of three types: (i) The Root Aor (with the simple root as base) e.g., IE esthāt > Skt asthāt, Gk ēste (ii) The Thematic Aor (with the root + -e/o as base) e.g., IE e-wid-e-t > Skt avidat, Gk idon (< IE (e)-wid-o-m). (iii) The Reduplicative Aor (with the reduplicated root as base) e.g., IE e-w-e-uqʷ-om > Skt avocam, Gk deipon (< *eeupon) IE (e)ǵ-i-ǵen-e-t > Skt ajṭjanat.

The Sigmatic Aorist was of four types in Skt: (i) -s- Aorist (e.g., a-nai-s-am < IE e-nēi-s-mm) (ii) -sa- (< IE -so) Aorist (e.g., a-dik-śa-t < IE e-dik-so-t) (iii) -iś- Aorist (e.g., a-tār-iś-am < IE e-tēr-is-mm) and (iv) -siś- Aorist (e.g., ajñā-siś-am < IE e-ǵnō-sis-mm); but it was of only one type in Gk e.g., ēdeiksa (< IE e-deik-s-m), which has also become obscure due to intervocal loss of the sibilant and also due to analogical restoration of the sibilant subsequently.

(b) The Passive Aorists in Skt & Gk

Skt has a Passive Aorist ending in -i (found only in the 3rd Person sg), which is an IIr innovation (e.g. Skt a-śrāv-i, Av a-śrāv-i), Gk has a Passive Aorist with -thē- as formative (e.g. ἐ-do-thē-n) and another with -ē- as formative (e.g., ἐ-graph-ē-n).

(c) The -k- Aorist in Gk

Gk has developed -k- Aor with the same roots which have -k- Perfect, on analogy with the Perfect forms (§161).

(d) Traces of Aorist in Ht

Aorist has merged with the Imperfect in Ht, because of various types of phonetic decay, but traces of -s- Aor are found with the Secondary endings (§149—3rd person sg).
MORPHOLOGY (VERBS)

IE SECONDARY CONJUGATIONS

§163. Denominative

A denominative-base was formed from a substantive with most of the base-affixes, which are used for the formation of the Present-base. But the base-affix -yo was more common, though others were also occasionally found. e.g., (a) with suffix -yo- IE deiw-ye-ti < IE deiw- > Skt devayati (< deva-), Gk philō (< philo-), Ht irmaleyatat (< irmala-) (b) with -nu, IE esr-nu-ti (< esr- > Ht esharnutsi (< eshar-) (c) with bare substantive, IE pulleti (< putlo- > Skt putrati (< putra-).

Ht has a denominative in -a/-ae- (§146(14c)). Ht has another denominative where inflected forms of √es are appended to the substantive stem, e.g. Ht idalu-estsi ‘becomes bad’ (< idalu-) (cp Skt madhū-bhavati).

§164. Causative

The Causative was formed with the stem-affix -eye- in IE. e.g., IE pet-eye-ti > Skt pālayati, Gk potēmêi; Ht has, however, causatives with stem-affix -nu (e.g., asnutsi < IE as-nu-ti < √é < 'to sit') and -ne (hark-na-tsi ‘destroys’ : harktsi ‘be destroyed’).

§165. The Desiderative & Frequentative in Skt

(a) The Desiderative is formed with the root reduplicated, by the reduplicating vowel -i- and with the base affix -so- e.g. IE did-seti > IE ditseti > Skt ditsati (< Skt √dā < IE √dā).

(b) The Frequentative is formed in Skt with the full root reduplicated, taking the base-affix *-ye- and middle endings. e.g. IE gʷem-gʷom-ye-tai > Skt jaṅgamyate.

§166. Future in Skt & Gk

The Future is formed with the base affix -syo (§146(11)) in Skt (in common with Lithuanian) and with -so- (§145(10)) in Gk. e.g. IE dō-s(y)ō > Skt dāsyāmi Gk dōsō (with intervocal -s- retained in analogy with pépsō < IE pepʷs(y)ō).

§167. Periphrastic Conjugations in Skt & Ht

(a) Periphrastic Present in Skt & Ht

Skt & Ht periphrastic presents were formed with the present participle as the first element and with inflected forms of √es as
auxiliary. e.g., Skt gacchann asti (< IE gʷmśkōnts esti), Ht yan estu (< IE y-ont estu),

(b) Periphrastic Present Continuous in Ht
Ht has a periphrastic present continuous with the supine ending in -wan (which may originally be a Neut (Nom/Acc) sg or Loc without ending) e.g. peskewan daer ‘they have been giving’.

(c) Periphrastic Perfect in Skt & Ht (§158)

(d) Periphrastic Future in Skt
Skt has a periphrastic future, where in the 3rd Person (all numbers), inflected forms of the agent noun in -tar (< IE -ter) are employed to signify the future (e.g. 3rd person sg gantā, Dual gantārāu, pl gantāras (< IE gʷom-tē(r), etc.) but in other persons the 3rd person sg (e.g. gantā) serves as the principal part and inflected forms of √as (< IE √es) serve as auxiliary (e.g. 2nd person sg gantāsi; 1st person sg gantāsmi).

PARTICIPLES, INFINITIVES & PREFIXES

§168. Participles

(a) Present-, Aorist-, & Perfect Participles
The Present, Aorist and Perfect participles were formed from the respective bases with suffix -ont/-nt/nt for the Present and Aorist Active, with suffix -wes/(heteroclitic) -wet for Perfect active, and with suffix -mene for all in the middle voice. Skt also developed -āna in the middle voice) which was invariably used with the Perfect and occasionally with others. Ht has retained only forms with -ant (the Perfect being lost and Aorist being obscure). The suffixes may be illustrated.

(i) -ont/-nt (with Present-Aorist Active) e.g., IE bher-o-nt > Skt bharant-, Gk pheront-, Ht adant- (< IE (e)don't- for Ht a < IE e §17).

(ii) -wes/-wet (with Perfect active) e.g. IE wid-wes/-wet > Skt vidvas/-vidvatsu, Gk eidoś/eidotós.

(iii) IE -meno/-mēno/-mno (with Present-Aorist-Perfect middle)
e.g., IE bheromeno- > Skt bhamāṇa-, Gk pherōmeno-, Av baramna-, cp Skt kuruṇa- (with -āna).
(b) **Past (Passive) Participle**

The past passive participle was formed with (generally) the weak grade of the root and the suffix -to. Ht has lost this and uses -ant instead. e.g. IE ḫlu-tos > Skt śrutas, Gk klutós.

§169. **The Infinitive**

The Infinitive is in origin a fossilized case-form. Various noun-stems with various fossilized case-forms came to be used as Infinitive in various languages.

(1) **Skt**: Vedic had several Infinitives formed in several ways:
(a) from root-nouns with various case-endings e.g., Acc viprechām ‘to ask’, Dat ḍrśe ‘to see’, Loc ḍrśi ‘to see’ etc. (b) form a stem ending in -tu e.g., Acc pātum ‘to drink’, Dat pātave ‘to drink’ etc. (c) from stems in -n/-s etc. e.g., vidmane ‘to know’ (d) Infinitive in -dhyaī e.g., gamadhyaī ‘to go’ (e) in classical Skt the forms in -tum (Acc Infinitive of -tu-) only occur and the other forms as shown in (a), (b), (c) & (d) are restricted to Vedic.

(2) **Gk**: (a) een/eien/en (< *esēn Loc Infinitive, from Loc without ending) was formed from thematic stems e.g., phērein ‘to bear’ (b) -ai (Dat Infinitive) used with consonantal stems e.g., idmenai (< IE wid-men-ai). Infinitives of endingless Loc also occurred from such stems e.g., idmen (< IE wid-men (c) Infinitive middle in -sthai (cp Skt -dhyaī above) e.g. eisteshai.

(3) **Ht**: (a) -mantsi/-wantsi (< IE -monti/-wonti), Loc Infinitives from stems in -monti/-wont e.g., dawantsi (< IE dōwonti) ‘to take’, tarnumantsi ‘to put in’. (b) -ana (< *anāi < IE onōi) Dat Infinitive from a stem with IE -ono (cp Skt (Dat) gamanāya) e.g., Ht āpāna (< IE āponōi, cp Skt āpanāya) ‘to get’ (c) -was/-mas (< *wans/*mans) Gen Infinitive from a verbal noun in -wer/-mer (with heteroclitic -wen/-men) e.g., yawas (< *yawans) ‘to make’.

§170. **Upasargās & Prefixes**

IE au/awo/wo/wi > Skt avav/a ‘down’, vi ‘apart’, Ht awan ‘apart’ (Ht -n is from adverbial formations), we/-wa- ‘hither’ (Inseparable prefixes), cp Lat au, OBulg u, Av & OP ava.

IE ana/anu > Skt anu ‘after’, Av anu, Gk anά ‘through’.
IE anto/anti > Skt antam ‘in’ (adv)/antikam (adv), anti ‘near’, Gk anti ‘in front’, Ht anta, antan ‘in’, (but) hanti ‘in front’ (with h- §82) (i- in hanti has remained on analogy of anta).

IE apo > Skt apa ‘away’, Gk àpo ‘away’, Ht apa/apan ‘back’ (for -n see IE au above).

IE e/o > Skt ā ‘up to’ (also a in vrkāy-a), Ht ha (h- §82) (as in ha-nai ‘brings out’, beside nai ‘leads’).

IE ēk > Skt *āś (in āś-car-ya), Gk ek/eks ‘out of’.

IE eti/ti > Skt aṭi ‘beyond’ (Av aiti), Gk ēti ‘also’, Ht tsi (also written tse) (ι- IE *ti).

IE edhi > Skt adhi ‘upon’ (Av aidi).


IE epi/pi > Skt api/pi ‘upon’, Gk ēpi ‘upon’.

IE obho/bho, obhi/bhi > Skt abhi ‘towards’ (Av aiwi) Lat ob, Ht be (=be/bi) ‘away’ (ι- IE bhe/bhi).

IE ud > Skt ud ‘up’, Gk hūd (hús- as in hústeros).

IE upo > Skt upa ‘near’, Gk hūpo ‘under’.

IE kata > Gk káta ‘down’, Ht kata/katan ‘down’.

IE dus > Skt dus ‘bad’, Gk dúś- ‘bad’.

IE ni > Skt ni ‘down’ (Av ni OP niy).

IE nis > Skt nis ‘out’ (Av niś).

IE perā > Skt parā ‘away’, Ht peran ‘forth’.

IE peri > Skt pari ‘around’, Gk peri ‘around’.

IE pro > Skt pra ‘forth’, Gk pró ‘before’, Ht pra ‘forth’ (written pʰra).

IE proti > Skt prati ‘against’, Gk prós ‘towards’ (< *proty- before vowels, has been generalized).

IE sem/sm > Skt sam/sa ‘together’, Gk hén/há/a ‘together, one’, Ht sa ‘together’ (for *san §35).

IE su > Skt sű ‘good’ (cp Gk eu-, hu- ‘good’ & Ht asu ‘good’).
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WORD INDEX

The alphabetic order is indicated here only in case of IE, Skt, Gk and Ht; Av and OP words are in the traditional order and the rest are in the order of the Latin alphabet.

Word-meaning, which has normally been neglected in the text for economy of space, has been supplied in the Index only with Skt, Gk & Ht.

The references are to sections and those in bold type indicate that the corresponding Sections contain the word-meaning or some clue to it such as inflection.

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ô(ω))

[h is presented as ḥ in the Greek index (e.g. ha of the text is printed as ḥa in the index) for alphabetic decency as h has no place in the Greek alphabet]

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