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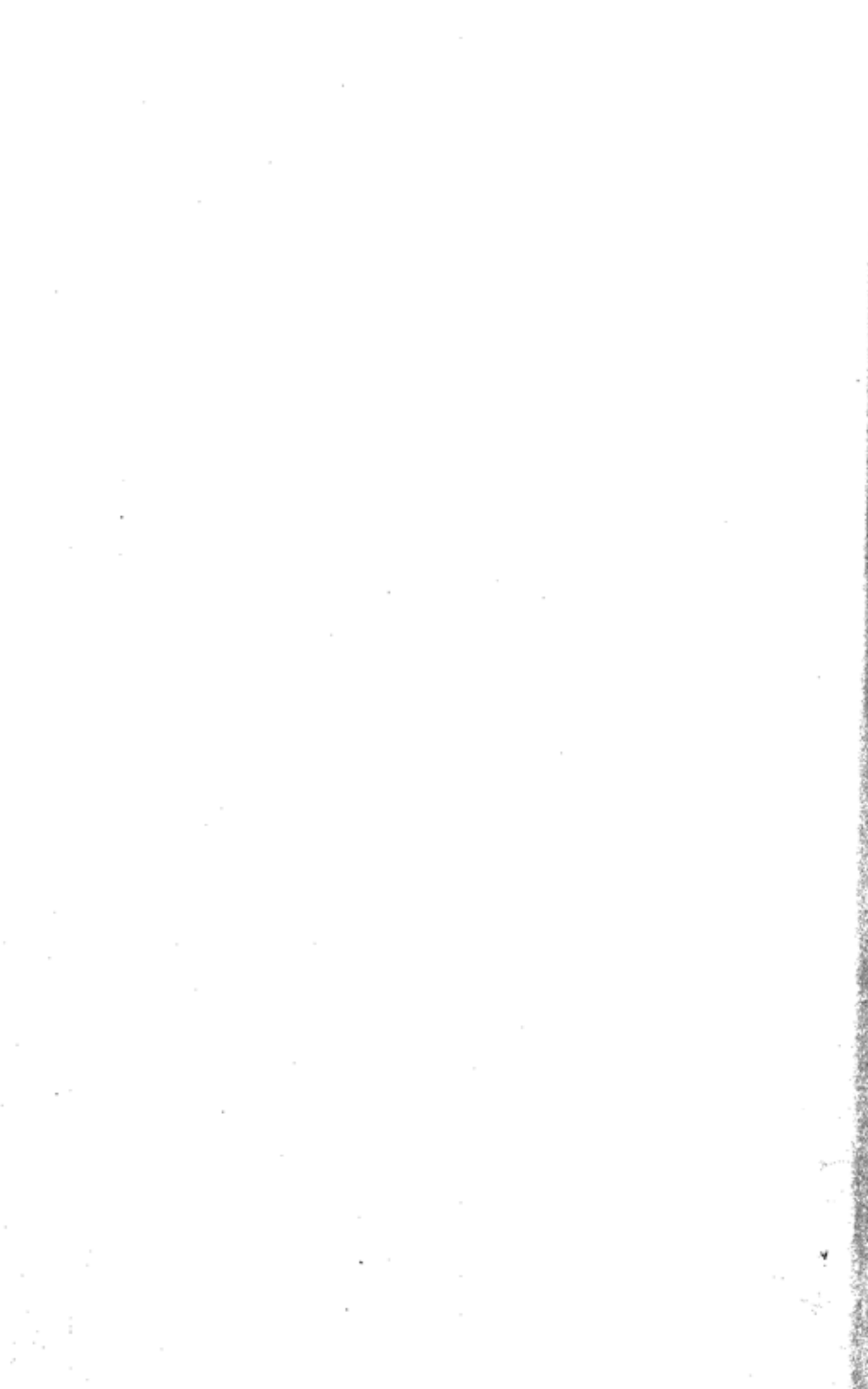
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A
COMPARATIVE GRAMMAR
OF
SANSKRIT, GREEK AND HITTITE



A
Comparative Grammar
of
Sanskrit, Greek and Hittite

46704

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With a Foreword by
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National Professor of India in Humanities

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Om

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)

Received from Mrs. Mughlow-Maharaj. Delhi. 17/6/68-Ford's 18/7/68

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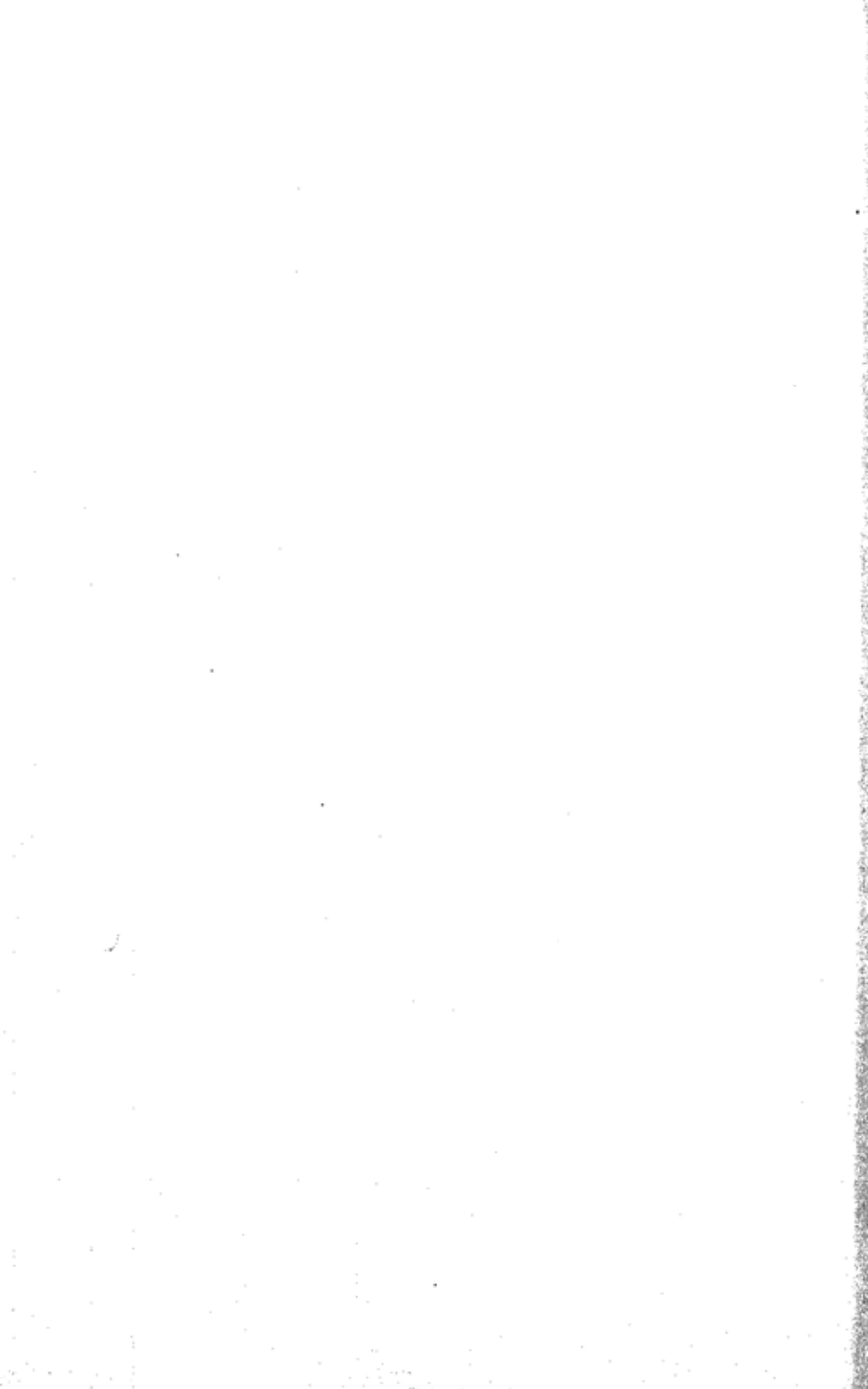
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PREFACE

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
śrīpañcamī

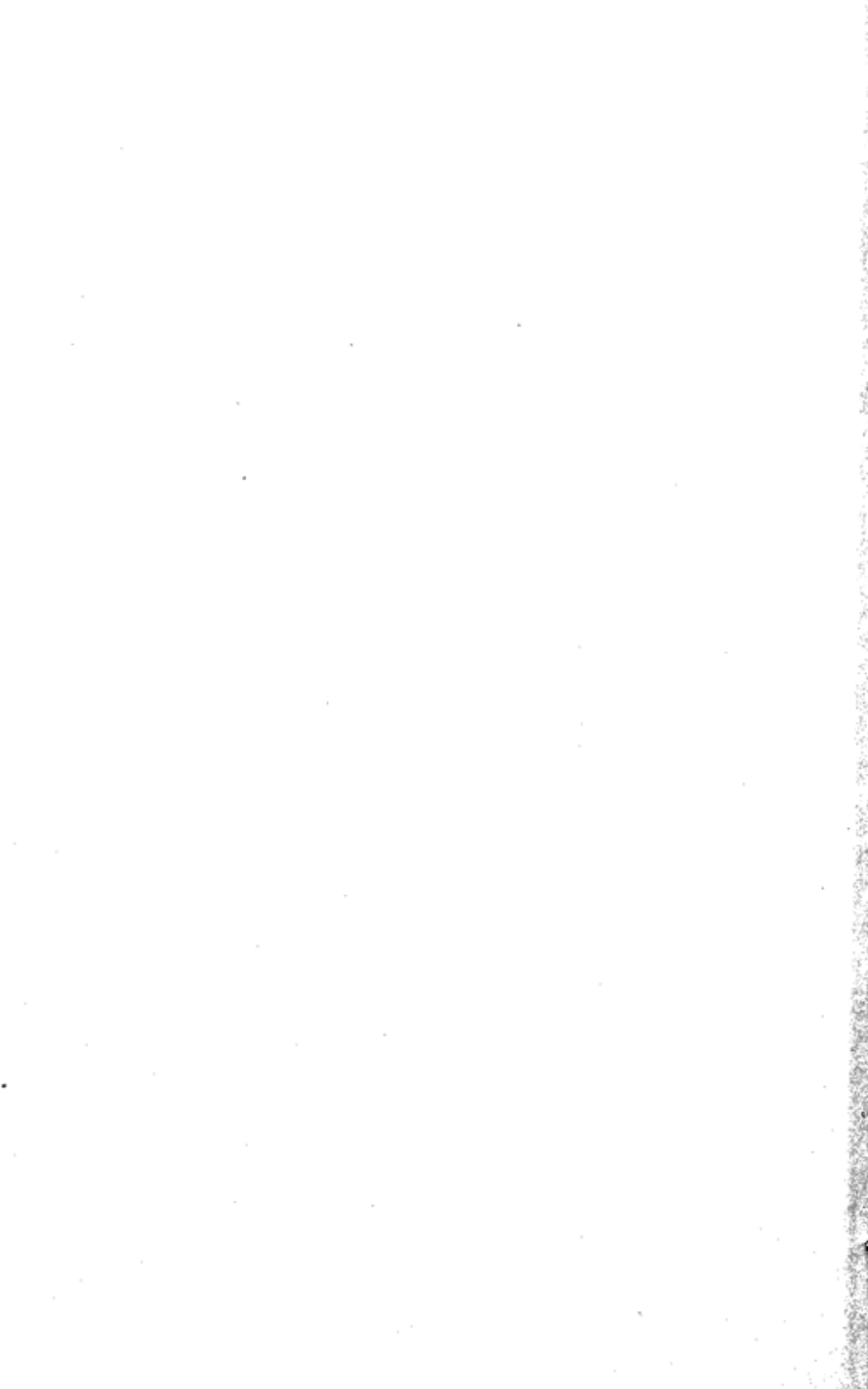
SATYA SWARUP MISRA

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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 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

SUNITI KUMAR CHATTERJI

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A
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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 *Satəm* and *Centum* on the basis of the treatment of Indo-European palatal series. *Satəm* represents the palatals as sibilants, whereas *Centum* represents them as velars (§57). The *Satəm* 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 *dadarśa* but Gk *dédorka* (δέδορκα)) 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, Portuguese, 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 Saṃhitās (Atharva Veda, Sāma Veda, Yajur Veda), Brāhmaṇas, Āraṇyakas and Upaniṣads. 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), Mahārāṣṭrī, Māgadhi, Ardhamāgadhi, Sauraseni etc. and in the third MIA Apabhraṃśa and Avahaṭṭha (the last phase). The New Indo-Aryan languages include Hindi, Bengali, Oriya, Assamese, Marāṭhi, Gujarāṭi, Punjābī, Sindhi, Pahārī 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 \tilde{a} , \tilde{e} , \tilde{o} > IIr \tilde{a} > Skt \tilde{a} (§§10—15).
- (2) IE \tilde{e} > IIr \tilde{i} > Skt \tilde{i} (§16).
- (3) Positional variation of Secondary vowels is best preserved (§18).
- (4) IE \tilde{m} , \tilde{n} > IIr \tilde{a} > Skt \tilde{a} (§§35, 36, 39 & 40)

(5) IE $r, l > \text{Iir } r > \text{Skt } r$ (§§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) $> \text{Iir } s^v > \text{Skt } s$.

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

(10) IE $r, l > \text{Iir } r > \text{Skt } r \text{ \& } l$ (§§29 & 33).

(11) IE $sk > \text{Iir } ss^v > \text{Skt } cch$ e.g. IE $g^wmsketi > \text{Iir } gassati > \text{Skt } gacchati$, Av $jasaiti$ Cp Gk $báskei$ (βάσκει).

(12) IE $gh, gh > \text{Iir } z, zh^v > \text{Skt } j, h$ (§§59 & 60).

(13) IE $z > \text{Iir } z > \text{LOST in Skt.}$

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 \tilde{a} , \tilde{e} , \tilde{o} retained intact) (§§10—15).
- (2) IE \tilde{m} , \tilde{n} > \tilde{a} (like Skt) (§§35, 36, 39 & 40).
- (3) IE \tilde{r} & \tilde{l} > 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 postconsonantly 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.
- (15) Development of k -Perfect and Aorist Passive.

§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 Supilulyamas 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*, *o*, also *e* (before *r* + a consonant & also sometimes elsewhere, see §17) and *ē* (only when this is the initial sound of an original IE long diphthong).
- (3) Syllabic liquids and nasals have a double treatment (e.g. *r* > *ar* & *ur*; perhaps *r̥* > *ar* & *rr* > *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 z) in Ht, if followed by \tilde{i}/\bar{e} (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) & \bar{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
i̥, u̥, r̥, l̥, m̥, n̥
 - (b) syllabic—long
ī, ū, r̄, l̄, m̄, n̄
 - (c) non-syllabic
y, w, r, l, m, n
 - (d) syllabic-cum-non-syllabic
i̥y, uw̥, r̥r̥, ll̥, mm̥, nn̥
- (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 *ǩ, ǩh, ǵ, ǵh, (ñ)*
 - (b) velars *q, qh, g, gh, (ŋ)*
 - (c) labio-velars *qʷ, qʷh, ǵʷ, ǵʷh, (ŋ)*

- (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, (ñ, ṇ) (§74)
- (v) spirants *s, z, θ, δ.*

§6. Sanskrit Sounds

A. Vowels

- (i) simple vowels *a, ā, i, ī, u, ū, r, ṛ, l, ḷ*
- (ii) diphthongs
 - (a) monophthongized *e, o* (=always long *ē, ō* respectively)
 - (b) retained diphthongs *ai, au.*

B. Consonants

- (i) velars *k, kh, g, gh, ṅ*
- (ii) palatals *c, ch, j, jh, ñ*
- (iii) cerebrals *t, th, d, dh, n*
- (iv) dentals *t, th, d, dh, n*
- (v) labials *p, ph, b, bh, m*
- (vi) semi-vowels *y, v*
- (vii) liquids *r, l*
- (viii) spirants *ś, ṣ, s*
- (ix) aspirations *h, ḥ*
- (x) nasalization *ṁ.*

§7. Greek Sounds (in the oldest period)

A. Vowels

- (i) simple vowels *a, ā, e, ē, o, ō, i, ī, u, ū*
- (ii) diphthongs
 - (a) short *ai, ei, oi, ui; au, eu, ou*
 - (b) long *āi, ēi, ōi, āu, ēu, ōu.*

B. Consonants

- (i) velars *k, kh, g, ḡ*
- (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* (= *z d* 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, *ŋ* (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 *e* is generally restored here in the normalized forms, wherever this restoration is etymologically non-controversial.

§10. IE *a* > *a* in all

IE *apo* > Skt (Av, OP) *apa*, Gk *apó* (ἀπό), Ht *apa*

IE $\sqrt{\text{argh}}$ > Skt *arhati*, Gk *árkhō* (ἄρχω), Ht *harkantsi*

IE *anti* > Skt *anti*, Gk *antí* (ἀντί), Ht *hanti*

IE *aġros* > Skt *ajras*, Gk *agrós* (ἀγρός), Lat *ager*, Goth *akrs*

IE *aġō* > Skt *ajāmi*, Gk *ágō* (ἄγω), Lat *agō*.

§11. IE *ā* > Skt *ā*, Gk *ā* (Doric etc.)/*ē* (Attic etc.), Ht *a*

IE *(s)thi(s)thāmi* > Skt *tiṣṭhāmi* Gk (Dor.) *histāmi*/(Attic) *histēmi*
(ἵστανμι/ἵστημι), Ht *titami*

IE *(s)thāpoyonti* > Skt *sthāpayanti* Ht *stapayantsi* (written *istapaantsi*)

IE *bhāghus* > Skt *bāhuṣ* Gk (Dor.) *pākhus*/(Att) *pēkhus* (παῖχus/πηῖχus)

IE *yugā* (Nt pl) > Skt (Vd) *yugā* Gk *zugá* (ζυγά) (Gk *a* < *ā* §104)
Ht **yuga* (cp Ht Nt pl *parna*)

IE $\sqrt{(s)tāy-}$ > Skt *(s)tāyus* Ht *tayetsi* Gk *lētāō* (τήταω).

§12. IE *e* > Skt *a* Gk *e* Ht *e* (also written *i*) (Ht *a* < IE *e* §12a & §17)

IE *esti* > Skt *asti*, Gk *estí* (εῶτί), Ht *estsi*

IE *pedom* > Skt *padam*, Gk *pedon* (πέδον), Ht *pedan*

IE *nebhos* > Skt *nabhas*, Gk *néphos* (νέφος), Ht *nebes*

IE *wēkti* > Skt *vaṣṭi*, Gk *hekōn* (ἐκών), Ht *wektsi*

IE *wel* > Skt *val-sara*, Gk *élos* (έλος), Ht (Dat.) *weti*

IE *sesti* > Skt *sasti*, Ht *sestsi*.

§12a. IE *e* > Ht *a*, before *r* + a consonant

IE *ersti* > Ht *arstsi*, cp Skt *arṣati* & Gk *aperáō* (ἀπεράω).

§12b. IE *e* > Ht *a* sometimes analogically (§17).§13. IE *ē* > Snt *ā* Gk *ē* Ht *e* (also written *i*)

IE *ēstai* > Skt *āste*, Gk *ēstai* (ἑσταί), Ht *estsi* (< **ēsti*)

IE *ēp(neu)ti* > Skt *āpnoti*, Ht *eptsi*

IE *dhidhēmi* > Skt *dadhāmi*, Gk *títhēmi* (τίθημι), 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 *āryanti* (RV VIII 16.6) < IE *ēr-yo-n̥ti*.

§14. IE *o* > Skt *a* Gk *o* Ht *a*

IE *apo* > Skt & Ht *apa*, Gk *apó* (ἀπό)

IE *pro* > Skt & Ht *pra*, Gk *pró* (πρό)

IE *osthei* > Skt *asthi* (< IE *osthī*), Gk *ostéon* (ὀστέον) (< IE *ostheyom*),
Ht *hastai* (< IE *osthēi*)

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

IE *pedom* > Skt *padam* Gk *pedón* (πεδόν), Ht *pedan*.

§15. IE *ō* > Skt *ā* Gk *ō* Ht *a*

IE *nōmen* > Skt *nāman*, Gk *ónoma* (ὄνομα) (< IE *nomn̥*), Ht *laman*
(< **naman* by dissimilation), Lat *nōmen*

IE *wodōr/udōr* > Skt *udār-a-* (cp *sam-udra* weak grade), Gk *húdōr*
(ὕδωρ), Ht *wadar*

IE *didōmi* > Skt *dadāmi*, Gk *didōmi* (δίδομι), Ht *dahi* (< IE *dō* +
Ht *hi* §147)

IE *wlq̥wō* > 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* > *dhə*, *dō* > *də*, *ēp* > *əp*
& *ēs* > *əs* etc.

IE *sthotos* > Skt *sthitas*, Gk *statós* (στατός), Lt *status*

IE *dhotos* > Skt *hitas*, Gk *thetós* (θετός) (for **thatós* on analogy of
títhēmi)

IE *dotos* > Skt *aditi* (< IE *ndoti*), Gk *dotós* (δοτός) (for **datos* on
analogy of *didōmi*)

IE *əp(s)o-nti* > Skt *īpsanti*, 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 *hūdōr* (*ῥῶδωρ*) 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 *estsi* < IE *esti* (cp Skt *asti*), but pl is *asantsi* < IE *sonti* (cp Skt *santi*). 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 **g^wem* > **g^wm* before **-to* (Skt *gatas*, Gk *batós*) but **peq^w* remained **peq^w* before **-to* (Skt *paktas*, Gk *peptos*, Lat *coctus*). Therefore it may be assumed that IE *sonti* also had an alternative from **esonti* (like **edonti*), which became *asantsi* in Ht on analogy with *asantsi* (< IE *as-onti* < IE *√ēs*), which also had sg *estsi* (< 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 + ϑ (e.g. $i + \vartheta > \bar{i}$), which can be determined (a) either by comparison, where some languages retain the uncontracted form (e.g. Gk *tría* < IE *triā*, beside Skt *tī* < IE *tri*) (b) or, when ϑ is known to be a formative element (e.g. IE *tri* + Nt pl $\vartheta > *triā > tri$ etc.) (c) or, when the long secondary vowel is found in a root, which is originally a dissyllabic root ending in \bar{a}/ϑ .

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 \bar{i} after a heavy syllable and before a consonant (unless the \bar{i} is from $i + \vartheta$). 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 $i : \bar{i}$ or $iy : \bar{i}$ may be cited here.

A. Alternations of $i : iy$ etc.

$i : iy$ Skt Nom *dhīṣ* Gen *dhiyas*

$\bar{u} : uw$ Skt Nom *bhrūs* Gk *ophrūs* (*ὀφρῦς*) Gen *bhruvas* Gk *ophrúos* (*ὀφρῦος*) < Gk **ophruwos*.

B. Alternations of *i* : *ī* etc. in Skt

- i* : *ī* Skt *kiṣ* : *kīṣ* ; *kim* : *kīm*
u : *ū* Skt *su* : *sū*(*nara*) ; *uru* : *urū*(*nāsā*)
ṛ : *ṝ* Skt *purā* (< **pr̥rā*) : *pūras* (< **p̥r̥wos*)
l : *l̄* Skt *pr̥iḥuṣ* (< **pl̥thus*) : *pūr̥ṇas* (< **pl̥nos*)
m : *m̄* Skt *gatas* (< **g^wmtos*) : *gāt* (< **g^wm̄t*)
n : *n̄* Skt *hataṣ* (< *g^whntos*) : *ghātaṣ* (< **g^wh̄ntos*).

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

- i* : *ī* IE *g^wiws* (Gk *bíos*) : IE *g^wiws* (Skt *jīvas* Lat *vīvus*)
 IE *wiros* (Skt *virāṣāt*, Lat *vir*) : IE *wiros* (Skt *vīras* Lith *vyras*)
 IE *wisos* (Skt *viṣas*) : IE *wisos* (Gk *íos*, Lat *virus*, Av *vīšō*).
u : *ū* IE *su* (Skt *su*, Av *hu*) : IE *sū* (Skt *sūnara*)
 IE *nu* (Skt Gk OE *nu*) : IE *nū* (Skt Av OE & Gk *nū*)
r : *ṝ* IE *pr̥r* (Skt *puras*, Gk *páros*) : IE *p̥r̄* (Skt *pūras*, Gk *prōtos*)
 IE *str̄* (Skt *vistṛtas*) : IE *st̄r̄* (Skt *vistṛṇas* Gk *strōtós*)
l : *l̄* IE *pl̥nos* (Av *pār̥no*, Goth *fulls* Lith *pilnas* O Bulg *plūnū*) :
 IE *pl̄nos* (Skt *pūr̥ṇas*)
m : *m̄* IE *g^wm̄* (Skt *gatiṣ*, Gk *básis*) : IE *g^wm̄* (Skt *gāt*, Gk *bē*)
n : *n̄* IE *g^wh̄n̄* (Skt *hataṣ*) : IE *g^wh̄n̄* (Skt *ghātaṣ*, Gk *thnētós*)

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 *ī* (variant of *i*) and the *ī* which originated due to contraction of *i* with *a*.

§19. IE *i* > Skt Gk Ht *i*

- IE *ite* > Skt *ita*, Gk *íte* (*ιτῆ*), Ht *iten*
 IE *q^wid* > Skt *cid*, Gk *τί* (*τι*), Ht *kwit*
 IE *esti* > Skt *asti*, Gk *estí* (*ἐστί*), Ht *estsi*
 IE *esmi* > Skt *asmí*, Gk *eimí* (*εἰμί*), Ht *esmi*

§20. IE *i* > Skt & Gk *i*, Ht *i*

IE *g^wīwos* > Skt *jīvas*, Lat *vīvus*, but Gk *bíos* (*βίος*) (§18)

IE *wīsos* > Gk *íos* (*ἰός*), Lat *vīrus*, Av *vīšō*, but Skt *viśa-* (§18)

IE *tri/tris* (Nt pl of *i* stem) > Skt (Vd) *trī*, Lat *trī*, Gk *tría* (*τρία*),
Ht **tri* (cp *meki*)

IE *potnī/potniš* > Skt *patnī*, 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*)*tāyus*, Gk *tēlāō* (*τητάω*) (< IE *tē-tāyō*), Ht
tayetsi

IE *yos* > Skt *yas*, Gk *hós* (*ὅς*)

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 *patriyos* > Skt *pitriyas*, Gk *pátrios* (*πάτριος*), Lat *patrius*, Ht *has-*
tiyas (= *hastyas* or *hastiyas*) (< IE *osth(i)yos*)

§23. IE *u* > Skt *u*, Gk *u* (*v*), Ht *u*

IE *nu* > Skt *nu*, Gk *nū* (*νύ*), Ht *nu*

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

IE *ǵenu/ǵonu* > Skt *jānu*, Gk *gónu* (*γόνυ*), Ht *genu-*

IE *bhnǵhus* > Skt *bahuṣ*, Gk *pakhús* (*παχύς*), Ht *bangus*

§24. IE *ū* > Skt *ū*, Gk *ū* (*ū*), Ht *u*

IE *dhūmos* > Skt *dhūmas*, Gk *thūmós* (*θυμός*)

IE *√sū* (alternative of *√syū/stw*) > Skt *sūtram*, Lat *sūlus*, Ht
sumants

IE *bhrūs* > Skt *bhrūṣ*, Gk *ophrús* (*ὀφρύς*)

IE $\hat{g}en\bar{u}/\hat{g}enu\bar{a}$ > Skt (Vd) $j\bar{a}n\bar{u}$, Gk $go\bar{u}na$ ($\gamma\acute{o}\nu\alpha$) (< * $gonua$),
Ht (Nt pl) asu < * $as\bar{u}$ but Ht $genuwa$ (for * $genu$ < * $gen\bar{u}$) is
due to analogical extension of a (< IE ϑ) 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 $w\acute{e}k\bar{t}i$ > Skt $va\check{s}ti$, Gk $hek\acute{o}n$ ($\epsilon\kappa\acute{o}\nu$) Ht $w\acute{e}k\bar{t}si$

IE wet > Skt $vatsara$, Gk $\acute{e}tos$ ($\epsilon\tau\acute{o}s$), Ht $weti$ (Dat).

§26. IE uw > Skt uw , 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 $ophr\acute{u}os$ ($\acute{o}\phi\rho\upsilon\acute{o}s$), 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 $\sqrt{k}l\phi$) 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 $\acute{e}ar$ ($\epsilon\alpha\rho$), Ht $esar$ ($eshar$ also)

IE $r\bar{n}euti$ > Skt $r\bar{n}oti$, Av $\bar{r}n\bar{a}oi\bar{t}i$, Ht $arnutsi$

IE $p\bar{e}rsu$ > Skt $pitr\bar{s}u$, Gk $patr\acute{a}si$ ($\pi\alpha\tau\rho\acute{\alpha}\sigma\iota$)

IE $bhr\bar{g}h$ > Skt $brhat$, Ht $bargus$

§28. IE \bar{r} > Skt $\bar{r}/\bar{u}r$ Gk $r\bar{o}$ (also or < * $\bar{o}r$) Ht ar

IE $\sqrt{r}s$ > Skt $\bar{r}sy\bar{a}$ Av $\bar{a}r\bar{s}y\bar{a}nt$ Ht $arsaniyer$

IE $\bar{s}t\bar{y}tos/\bar{s}t\bar{i}nos$ > Skt $\bar{s}t\bar{i}r\bar{n}as$ Av $\bar{s}tar\bar{e}t\bar{o}$, Gk $\bar{s}tr\bar{o}l\bar{o}s$ ($\sigma\tau\rho\omega\rho\acute{o}s$)

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 $pro >$ Skt & Ht pra , Gk $pró$ ($\pi\rhoó$)

IE $\overset{\sim}{doru} >$ Skt $dāru$, Gk $dóru$ ($\deltaόρυ$), Ht $daru$

IE $rudhros >$ Skt $rudhīras$ (with anaptyctic $-i-$), Gk $eruthrós$ ($\epsilon\rhoυθρός$) (with prothetic $e-$).

IE $\sqrt{re} >$ Skt ras '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 ir/ur , Gk ar , Ht ur

IE $g^wrrus >$ Skt $guruṣ$, Gk $barús$ ($\betaαρύς$)

IE $g^wrris >$ Skt $giriṣ$, Av $gairiṣ$, Lith $gīria$

IE $qrrū- >$ Ht $kurur$ (§57(c) & §61)

IE $rrq >$ Ht $urkis$ 'a trace', cp Skt $rcyate$ ($<$ IE rq) / $arcati$ ($<$ IE erq) 'shines'.

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

IE $pl- >$ Skt $prthuṣ$, Gk $platús$ ($\piλατύς$), Ht $palhi$

IE $wlq^wos >$ Skt $vrkas$, Gk $lúkos$ ($\lambdaύκος$).

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

IE $dlghos >$ Skt $dīrghas$, Gk $dolikhós$ ($\deltaολιχός$) (anaptyctic $-i-$),
Ht $dalugas$ (anaptyctic $-u-$)

IE $plnos >$ Skt $pūrṇas$, $polloí$ ($\piολλοί$) $<$ $*polnoi$.

§33. IE $l >$ Skt r/l (§27), Gk & Ht l

IE $liponti >$ Skt $limpanti$, Gk $lípos$ ($λίπος$), Ht $lipantsi$

IE $\sqrt{leuq} >$ Skt $rocate$ 'shines' / $lokate$ 'sees', Gk $leukós$ ($\lambdaευκός$) 'bright', Ht $luktsi$

IE $\sqrt{leu} >$ Skt $lunāti$ 'cuts', Gk $lúei$ ($\lambdaυεί$) 'looses', Ht $laai$ ($<$ $*lawai$) 'looses'.

§34. IE ll > Skt *ir/ur* (§27), Gk *al*, Ht *ul* (?)

IE $pllus$ > Skt *puruṣ*, Gk *polús* (πολύς) (for **palus* due to influence of *ol* < *l*). No example can be cited from Ht with certainty. Ht *iṣhiul* 'treaty' (beside *iṣhai* '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-ia* 'seventh' (Dat) (< IE *septmyōi*)

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 $m̄$ > 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 $eg_w m̄t$ > Skt *agāt*, Gk *ébē* (εβη)

IE $d̄mtos$ > Skt *dāntas*, Gk *dmātós* (δμᾶτός).

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

IE *moi* > Skt *me*, Gk *moí* (μοί), Ht *me* (written *mi*)

IE *esmi* > Skt *asmi*, Gk *eimí* (εἰμί), Ht *esmi*

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

IE *pedom* > Skt *padam*, Gk *pédon* (πέδον), Ht *pedan*.

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

IE $ēs-mm$ > Skt *āsam*, Ht *esun* cp Gk *ēa* (ἦα) (< IE $ēs_m$)

IE $smmos$ > Skt *samas*, Gk *hamós* (ἁμός)

IE $pod-mm$ > Skt *pādam*, cp Gk *póda* (πόδα) < IE pod_m , cp Ht *kun* (for **kan*) an analogical extension of *un* (< mm) after consonantal stems.

§39. IE η > Skt & Gk *a*, Ht *an*

IE *bhn̥ghus* > Skt *bahuṣ*, Gk *pakhús* (παχύς), Ht *bangus*

IE *g^whntos* > Skt *hataṣ*, Ht *gwasket* (< **gwansket* < IE *g^whns̥ket*)

IE *ns-sme* > Skt *asma-* (in *asmān*), Gk *ámme* (ἄμμε), Ht *ants-* (in *antsas* < **ns-ns*) (for Ht **ans* > *ants/as* §87(2)).

§40. IE \bar{n} > Skt *ā/ān*, Gk *ā* (Dor)/*ē* (Attic), also *nā* (Dor)/*nē* (Attic);
Ht *an*

IE *g^whñtos* > Skt *ghātas*, Gk *thnātós* (θνᾶτός) (Dor)/*thnēskontos* (θνησκοντος) (Attic); Ht *gwasket* (§39) may also be placed here.

IE *ĝñtos* > Skt *jātas*, Lat *nātus* < **gnātus*.

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

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

IE *nebhos* > Skt *nabhas*, Gk *néphos* (νέφος), Ht *nebes*

IE *newos* > Skt *navas*, Gk *néos* (νέος), Ht *newet* (Inst)

IE *nu* > Skt & Ht *nu*, Gk *nú* (νύ).

§42. IE $\eta\eta$ > Skt *an*, Gk *an*, Ht *un*

IE *nn-udros* > Skt *anudras*, Gk *án-udros* (ἄν-υδρος)

The IE participial suffix *nt* (< *ent*) has alternative form *nnt* which gives Gk *-ant* (beside *-ont*). And IE Acc pl suffix *-ns* alternates with *-nns* which gives Ht Acc pl *-us* < **uns*.

§43. IE \bar{n} & η

IE *n* > \bar{n} before palatals & η before velars/labio-velars. These two became class nasals in each individual language. IE \bar{n} invariably became *m̐* in Skt before *s̐* (< IE *k̐*) & *h̐* (< IE *ĝh̐*). In Gk the velar nasal η was written with gamma (γ) and in Ht with *n*.

IE *penq^we* > Skt *pañca*, Gk *pénte* (πέντε)

IE *√konq* > Skt *śankate*, Ht *kanki*, NE *hang*

IE *ēneñka* (< *√nek/ñk*) > Skt *ānaṃśa*, Gk *ēneñkon* (ἔνεγκον).

§43a. IE *n* > *m* in Skt before *s*

IE *ġhans* > Skt *hamsas*, Gk *khēn* (χην), Lat *ānser*, Lith *žasi-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 *rēis*) : IE *ē* (IE *rēm*, Skt *rām*, Lat *rēm*)

IE *ōu* (IE *g^wōus*, Skt *gauṣ*) : IE *ō* (IE *g^wōm*, Skt *gām*)

IE *ēr/ēl* (IE *patēr*, Gk *patēr*) : IE *ē* (IE *patē*, Skt *pitā*)

IE *ēm/ēn* (IE *rēġēn*, Gk *poimēn*) : IE *ē* (IE *rēġē*, Skt *rājā*)

§45. IE *ai*, *ei*, *oi* > Skt *e* (< IIr *ai*, as IE *a*, *e*, *o* > IIr *a*); Gk *ai*, *ei*, *oi*; Ht *e* (written *i* also).

- (a) IE *ai* > Skt & Ht *e*, Gk *ai*

IE *bheretai* > Skt *bharate*, Gk *phéretai* (φέρεται)

IE *aidhos* > Skt *edhas*, Gk *aithos* (αἶθος)

IE *q^wai* (§136) > Ht *kwe*, Lat *quae*.

- (b) IE *ei* > Skt & Ht *e*, Gk *ei*

IE *gheimonts* > Skt *hemantas*, Gk *kheimôn* (χειμών), Ht *gemants*

IE $\sqrt{\text{deik}}$ > Skt *deśa-*, Gk *deiknūmi* (δείκνυμι), Ht *dekusami* (written *deik-*) < **deksami*

IE *eimi* > Skt *emi*, Gk *eimi* (εἶμι), Ht (Impv) *ehu*

IE *weis* > Ht *wes*, Goth *weis*, cp Skt *vayam* < IE *wei+om*.

- (c) IE *oi* > Skt & Ht *e*, Gk *oi*

IE *wlq^woi* > Skt *vr̥ke*, Gk *lúkoī* (λύκοι), Ht *arune* < IE *ornoī*

IE *moi* > Skt *me*, Gk *moī* (μοί), 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 $\sqrt{\text{aug}}$ > Skt *ojas*, Av *aōjō*, Gk *aúksō* (αὐξω), Lat *augeo*

IE *sausos* > Skt *śośas*, Gk *haĩos* (αἶνος), Lith *sausas*

IE *au* > Ht *u*, cp Lat *au*, cp Skt *ava* < IE *awo*.

- (b) IE *eu* > Skt *o*, Gk *eu*, Ht *u*

IE $\sqrt{\text{leug}}$ > Skt *rocate*, Gk *leukós* (λευκός), Ht *luktsi*

IE *r̥neuti* > Skt *r̥noti*, Gk *ór̥nūmi* (ὀρνύμι), (Gk *nū* for **neu* is analogical; §146(4)), Ht *arnutsi*.

- (c) IE *ou* > Skt *o*, Gk *ou*, Ht *u* (examples are very rare for **ou*)

IE *g^wous* (Gen sg) > Skt *goś* (but Gk *boós* < IE *g^wouws*), cp Gk (Hom) *eilēlouthē* (εἰλήλουθε) (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 *aśvāyāi* (for expected **aśvai* with *-ay-* extension of the stem), Gk *theāi* (*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* (*ἦτε*)

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

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

IE *wlq^wōi* > Skt *vrkāya* (with particle *-a*), cp Gk *híppōi* (*ἵππω*), 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 *harna*us 'birth chair' may come from IE *āu/ēu/ōu*).

(a) IE *āu* > Skt *au*, Gk *au/ā*, Ht *au*

IE *nāus* > Skt *naus*, Gk *naūs* (*ναύς*) (< *nāus*)

IE *√āus* > Ht *austsi*, cp Gk (Dor) *āōs* (*ἄως*).

(b) IE *ēu* > Skt *au*, Gk *eu/ē*, Ht *au*

IE *dyēus* > Skt *dyaus*, Gk *zeūs* (*Ζεύς*), cp Ht *harna*us

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

(c) IE *ōu* > Skt *au*, Gk *ou/ō*, Ht *au*

IE *g^wōus* > Skt *gauṣ*, Gk *boūs* (*βούς*), cp Ht *harna*us

IE *g^wōum* > IE *g^wōm* > Skt *gām*, Gk *bōn* (*βών*)

IE *wlq^wōu/wlq^wō* > Skt *vrkāu/vrkā*, Gk *lúkō* (*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 millenium 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 secundum. See §17) Alternation of $o : ā$ is also not recognized though some words (e.g. IE *ekwos* : *ekwā*) are related in this way as masculine and feminine. Alterations of $ā : ē : ō$ (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 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 *guna*) grade, the lengthened (or *vrddhi*) 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 (ϑ), 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 :

series	strong grade	lengthened grade	weak grade	
			reduced	nil
<i>a</i>	<i>a : o</i>	<i>ā : ṁ</i>	(<i>a</i>) :	nil
<i>e</i>	<i>e : o</i>	<i>ē : ṁ</i>	(<i>e</i>) :	nil
<i>o</i>	<i>o</i>	<i>ō</i>	(<i>o</i>) :	nil
<i>ā</i>	<i>ā : ṁ</i>	—	ϑ :	nil
<i>ē</i>	<i>ē : ṁ</i>	—	ϑ :	nil
<i>ō</i>	<i>ō</i>	—	ϑ :	nil

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* ($< e/\bar{e}$) & *a* ($< a/\bar{a}$, o/\bar{o} , ϑ) 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 $\sqrt{a\hat{g}}$ 'move'

strong grade	lengthened grade	weak grade (reduced) : (nil)
IE $a\hat{g} : o\hat{g}$	$\bar{a}\hat{g} : \bar{o}\hat{g}$	$a\hat{g} : \hat{g}$
Skt <i>ajāmi</i>	<i>ājīṣ</i>	<i>pari-j-man</i>
Gk $\acute{a}\gamma\bar{o} : \acute{o}\gamma\bar{m}\bar{o}n$	Lat <i>ambāgēs</i> : Gk $\acute{a}\gamma\bar{o}\bar{g}\bar{e}$	-aktós
($\acute{\alpha}\gamma\omega$) : ($\acute{o}\gamma\mu\bar{o}n$)	($\acute{\alpha}\gamma\omega\gamma\eta$)	(-ακτός)

§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 (reduced) : (nil)
IE <i>pet</i> : <i>pot</i>	<i>pēt</i> : <i>pōl</i>	<i>pet</i> : <i>pt</i>
Skt <i>patati</i>	<i>pātayati</i>	<i>patita</i> : <i>apaptat</i>
Gk <i>pétomai</i> : <i>potéomai</i> (πέτομαι : ποτέομαι)	<i>pōláomai</i> (πωράομαι)	<i>epiómēn</i> (ἐπτόμην)
Ht <i>petayetsi</i>	(<i>petayetsi</i> ?)	<i>pela(ya)ntsi</i>
IE <i>ĝenu</i> : <i>ĝonu</i>	<i>ĝēnu</i> : <i>ĝōnu</i>	(<i>ĝenu</i>) : <i>ĝnu</i>
Ht <i>genu</i> : Gk <i>gónu</i> (γόνυ)	Ht (<i>genu</i>)	Skt <i>jñu-</i> (in <i>jñu-bādh</i>)
	Skt <i>jānu</i>	Gk <i>gnûks</i> (γνύξ)
IE <i>osthei</i> : <i>osthoi</i>	<i>osthēi</i> : <i>osthōi</i>	<i>osthi</i>
Gk <i>ostéon</i> (ὀστέον)	Ht <i>hastai</i>	Skt <i>asthi</i>
< IE <i>osthey-om</i>		
IE <i>esti</i>		<i>esonti</i> : <i>sonti</i>
Skt <i>asti</i>		<i>santi</i>
Gk <i>estí</i> (ἐστί)		(Dor) <i>hentí</i> (ἐντί)
Ht <i>estsí</i>		<i>asantsi</i> (for <i>a</i> < <i>e</i> §17)
§52. IE <i>o</i> series		
IE <i>g^wous</i> (Gen/sg)	<i>g^wōus</i> (Nom/sg)	<i>g^wu/g^ww</i>
Skt <i>goṣ</i>	<i>gauṣ</i>	<i>dvi-guṣ</i>
Gk <i>boós</i> (βοός)	<i>boûs</i> (βούς)	<i>hekatómbe</i>
(< IE <i>g^wowos</i>)	(< IE <i>g^wōus</i>)	(ἐκατόμβη)
		(< IE <i>g^wwā</i>)
§53. IE <i>ā</i> series		
strong grade		weak grade (reduced) : (nil)
IE <i>sthā</i> (: <i>sthō</i>)		<i>sthā</i> : <i>sth</i>
IE <i>sthisthāmi</i>		<i>sthatōs</i> : <i>sthesthrr</i>
Skt <i>tiṣṭhāmi</i>		<i>sthitās</i> : <i>tasthur</i>
Gk <i>histāmi</i> (Dor) (ιστάμι)		<i>statōs</i>
Ht <i>titami</i>		(<i>staratōs</i>)
(< IE (<i>s</i>) <i>thi</i> (<i>s</i>) <i>thāmi</i>)		<i>titeyants</i> (< IE <i>sthisth-eyonts</i>)

strong grade

IE *bhā* : *bhō*Skt *bhāmi*Gk (Dor) *phāmi* : *phōnē*
(*φᾱμί*) : (*φωνή*)

weak grade

(reduced) : (nil)

bhə : *bh**bh-a-s* 'star'*phamén*

(φᾱμεν)

§54. IE *ē* seriesIE *dhē* : *dhō*IE *dhidhēmi* : *dhōmo-*Skt *dadhāmi* : *dhāman*Gk *tithēmi* : *thōmós*
(*τίθημι*) : (*θωμός*)Ht *dehi*(< IE *dhē* + Ht *hi*)*dhə* : *dh**dhətos* : *dhidh-tai**hitas* : *dhalte**thetós* (*θετός*)(< **thatos*)*tsketsi*(< IE *dh-ske-ti*)IE *ēp* : *ōp*Skt *āpnoti* (< IE *ēp-neu-ti*)Ht *eptsi* (< IE *ēp-ti*)*əp* : (*p*)*īpsati* (< IE *əp-so-ti*)*apantsi* (< IE *əp-onti*)IE *ēs* : (*ōs*)Skt *āste*Gk *ēstai* (*ἔσται*)Ht *estsi**əs* : (*s*)*asanlsi* (< IE *əsonti*)§55. IE *ō* seriesIE *dō*Skt *dādāmi*(< IE *didōmi*)Gk *didōmi*(*δίδωμι*)*də* : *d**diti* : *datte*(< IE *dəti*) : (< IE *didtai*)*dotós* (*δοτός*)for **datos*(< IE *dətos*)Ht *dahi*(< IE *dō* + Ht *hi*)*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 \hat{k} , $\hat{k}h$, \hat{g} , $\hat{g}h$, (\bar{n})

(ii) the (pure) velars q , qh , g , gh , (η)

(iii) the labio-velars q^w , q^wh , g^w , g^wh , (η)

(b) the dentals t , th , d , dh , (n)

(c) the labials p , ph , b , bh , (m)

(d) the semi-vowels, liquids and nasals (alternating with the secondary vowels §18) y , w , r , l , m , n (& \bar{n} , η)

(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 Ht 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 Satam 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 palatals and velars, and labials or labio-velars out of the labio-velars. Thus :

	IE	Satəm	Centum
palatals	$\hat{k}, \hat{g}, \hat{gh}$	$\overset{v}{s}, \overset{v}{z}, \overset{v}{zh}$	k, g, gh
velars	q, qh, gh	k, g, gh	k, g, gh
labio-velars	q^w, g^w, g^wh	k, g, gh	$kw/p, gw/b, ghw/bh$

(a) The treatment of gutturals in Skt: The IE $\hat{k}, \hat{g}, \hat{gh} > \text{Iir } \overset{v}{s}, \overset{v}{z}, \overset{v}{zh} > \text{Skt } \dot{s}, j, h (< *jh)$, (Av s, z & OP θ, δ , as the voiced aspirate was deaspirated in Ir). IE $q/q^w, g/g^w, gh/g^wh > \text{Skt } k, g, gh$ (Av & OP k, g) normally; and $> \text{Skt } c, j, h (< \text{older } jh)$ (Av & OP c, j), if they were originally followed by an IE palatal vowel ($\overset{v}{i}/\overset{v}{e}$). Thus a Skt j may be from IE \hat{g}, g or g^w and h may be from IE \hat{gh}, gh or g^wh . 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 Satəm and Centum classification.

(b) The treatment of gutturals in Gk: IE $\hat{k}/q, \hat{g}/g, \hat{gh}/gh > \text{Gk } k, g, kh$ respectively. But IE q^w, g^w, g^wh 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.

(c) The treatment of gutturals in Ht: IE $\hat{k}/q > \text{Ht } k$ and IE \hat{g}/g and $\hat{gh}/gh > \text{Ht } g$. IE $q^w > \text{Ht } kw$ and IE $g^w/g^wh > \text{Ht } gw$. 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 $g^whenti > \text{Ht } gwentisi$ (Skt $hanti$) and IE $g^whnonti > \text{Ht } gunantsi$ (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' ($< \text{IE } *q^wtur- > *ktur- > *ltur- > tur-$ cp Skt $turya-$), then this will represent a case where IE $q^w > \text{proto Ht } *k$ before a consonant. Latin, also, has $k < \text{IE } q^w$ before a consonant; e.g. $coctus < \text{IE } peq^w-tos$. A few other cases, where Sturtevant assumes the IE labial element to have become Ht u , may preferably be explained otherwise; e.g. Ht $neku < \text{IE } neq^wu$ (& not $< *neq^w$, as Sturtevant assumes).

Ht *kurur* < IE *q̥rūr* (§30) (and not < **q̥wūr* as Sturtevant assumes), since Gk cognate shows IE pure-velar (§61).

§58. IE *k* > Skt *ś*, Gk & Ht *k*

IE *k̑ntom* > Skt *śatam*, Av *satəm*, OP *θata(gu)*, Lith *szimtas*, OBulg *śuto*; Gk *hekatón* (ἑκατόν), Lat *centum*, OIrish *cēt*, Goth *hund*, Tokh *kānt*

IE *k̑eres/k̑rres* > Skt *śiras-*, Av *sarah-*, Arm *sar* 'summit', Gk *kārā* (κάρα), Lat *cerebrum* (IE *k̑eres-rom*)

IE *k̑o-/k̑i-* > Lith *szis* 'this', OBulg *si*, Alb *si*, Arm *-s* 'this' (suffixed to pronouns); Lat *citer*, Gk *-ki* (<IE *k̑id*) (as in *oū-ki*), *keino-* (<IE *k̑eeno-*), OIrish *ce* 'on this side', Goth *himma* 'to this', Ht *kas* (*-ki* of Ht *kwis-ki* may be directly derived from **k̑i* instead of **q̥wi* with dissimilation)

IE *keitai* > Skt *śete*, Gk *keitai* (κεῖται), Ht *keta* 'he lies' (<IE *k̑eito*) (§152)

IE *√wek̑* > Skt *√vaś* 'wish', Av *vasō* 'with pleasure', OP *vasaiy* (Adv) 'very much', Arm *vasn* 'on account of', Gk *hekōn* (ἑκὼν) 'willing', Ht *wektsi* 'desires'

IE *√k̑onq̑* > Skt *śaṅkate* 'doubts', Ht *kanki* 'hangs', Goth *hāhan* 'hang', OHG *hāhan*, OE *hōn*, NE *hang*.

§59. IE *ǵ* > Skt *j*, Gk & Ht *g*

IE *ǵenu* > Skt *jānu*, Av *fra-snu* (<**-znu* < IE-*ǵnu*) 'knee bent forward', Gk *gónu* (γόνα), Ht *genu*, Lat *genu*, Goth *kniu*, Arm *cunr*

IE *√ǵeus* > Skt *jośas*, Av *zaošō*, Gk *geúō* (γεύω), Lat *gustus*, OIrish *to-gu* 'choice', Goth *kiusa*

IE *√arǵ* > Skt *arjunas* 'white', Gk *argós* (ἀργός) 'shining', Ht *hargis* (or *harkis*) 'white'.

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

IE *ǵheimonts* > Skt *hemantas*, Av *zima-* 'winter', Arm *jiun* 'snow', (*j* < *ǵh*), Alb *dimem* 'winter' (*d* < *ǵh*), Lith *žema*, OBulg *zima*;

Gk *kheimôn* (Χειμῶν) 'winter', Ht *gemants*, Lat *hiems* (*h* < IE *ǵh*),
 OIrish *gam*, OCymric *gaem*, OCornish *goyf*

IE *bhnǵhus* > Skt *bahuṣ* (cp Skt *baṃhiyas* < IE *bheñǵhiyes*), Gk
pakhús (παχὺς), Ht *bangus*

IE *√weǵh* > Skt *vahati*, Av *vazaiti*, Alb *vieṭ* 'I steal' (< *lead
 away), Lith *vezù*, OBulg *veza* 'I carry'; Gk *ókhos* (ὄχος), Lat
vehō, OIrish *fēn* (with *g* < IE *ǵh* dropped), Goth *ga-wigan* 'to
 move'.

§61. IE *q* > 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 *greu-/qrews/qrū-* > Skt *kraviṣ*, *krūras* Av *χraviṣ*, *χrūrō*; Gk *kréas*
(κρεάς) (< **krewas*) Ht *kurur* (< IE *qrrū-r* (§30) or < IE *qrūr*
 with anaptyxis of *u*).

IE *√erq/rq* 'menifest' > Skt *arkas* 'ray' (< IE *ergos*), *arcati* 'shines'
 (< IE *erqeti*), Ht *urkis* (< IE *rrqis*) 'a trace'.

§62. IE *g* > Skt *g/j* (§7(a)), Gk & Ht *g*

IE *yugom* > Skt *yugam*, Gk *zugón* (ζυγόν), Ht *yugan*, Lat *iugum*
 Goth *juk*

IE *yeugos* > Skt *yogas*, Gk *zeûgos* (ζεύγος) 'team', Ht *yugas* 'year-
 ling', *da-yugas* 'two-years-old'

IE *√aug* > Skt *ojas* 'strength', Av *aōjō* 'power', Lith *augu* 'I grow',
 Gk *aúksō* (αὐξέω) (< **aug-sō*), Lat *augeō*, OIrish *ōg* 'whole'
 Goth *aukan* 'to increase'.

§63. IE *gh* > Skt *gh/h* (§57(a)), Gk *kh*, Ht *g*

IE *dlghos* > Skt *dīrghas*, Av *darəγō*, OP *darga*, Gk *dolikhós* (δολιχός),
 Ht *dalugas* (Av, Gk & Ht with anaptyxis of *ə*, *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 $q^w >$ Skt k/c (§57(a)), Gk $k/t/p$ (§57(b)), Ht kw (§57(c))

IE q^{wo-} , q^{we-} , $q^{wā-}$, q^{wi-} $>$ Skt *kas*, *kad*, *kā*, *ca*, *cid*, Av *kō*, *kā*, *ca*,
Gk *pó-*, *pā* (Dor), *te*, *tís* (*πό-*, *πᾶ-*, *τε*, *τίς*), Ht *kwis*, *kwat*, *kwit*,
Lat *quod*, OIrish *cia*, Cymr *puw*, Goth *hvas*, *hvō* ($<$ IE $q^{wā}$),
Alb *ke*, Lith *kās*, OBulg *kŭlo* 'who'

IE $penq^{we}$ $>$ Skt *pañca*, Gk *pēnte* (*πέντε*), Lat *quīnque*, OIrish *cōic*,
OCymric *pimp*.

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

IE $\sqrt{g^{wer}/g^{wrr}}$ $>$ Skt *guruṣ* ($<$ IE $g^{wrruṣ}$) 'heavy', *giriṣ* ($<$ IE g^{wrris})
'mountain', Gk *barús* (*βαρύς*) ($<$ IE $g^{wrruṣ}$), Goth *kaúrus*, Ht
hegur ($<$ IE g^{wrr-} $>$ pre-Anatolian $*gwur > *gur >$ (Proto-
Anatolian $*egur$ (with prothetic *e*) $>$ *hegur* (with Laryngeal
§82))

IE g^{wou-} $>$ Skt *gauṣ*, Av *gāuṣ*, Arm *kov*, OBulg *gov-*, Lat *bōs* (loan
from *p*-Italic), Umb *bue*, OIrish *bō*, OHG *chuo*

IE $tyeg^w >$ Skt *tyajati* ($<$ IE $tyeg^{weti}$), Gk *sébomai* (*σεβομαι*)
($<$ IE $tyeg^{womai}$)

IE $g^{w}olbhos <$ Skt *garbhas*, Gk *ádelphos* (*ἄδελφος*) ($<$ IE $smg^{w}elbhos$).

§66. IE $g^{wh} >$ Skt gh/h (§57 (a)), Gk kh , th , ph (§57(b)), Ht gw
(§57(c))

IE $g^{whenti} >$ Skt *hanti*, Gk *theinō* (*θείνω*) ($<$ IE $g^{when-yō}$), Ht
gwentzi

IE $g^{whnonti} >$ Skt *ghnanti*, Ht *gunantsi* (with anaptyctic *u* §57(c)),
cp Gk *phónos* (*φόνος*) ($<$ IE g^{whonos})

IE $g^{whermos}/g^{whormos} >$ Skt *gharmas*, Av *garəmə*, Gk *thermós* (*θερμός*),
Lat *formus*, OHG *warm*, Arm *jerm*, OPruss *gorme*

IE $\sqrt{dhwen}g^{wh} >$ Skt *dhuānkṣas* 'crow' ($<$ black) ($<$ IE $dhwen}g^{wh}h$ -
so-), Gk *dnóphos* (*δνόφος*) 'black', Ht *dangwis* 'black' (Ht *d* $<$ IE
dhw §87(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 *i̯/e* (except in some conjuncts)

IE *tom* > Skt *tam*, Gk *tón* (τόν), Ht *tan*

IE *peteti* > Skt *patati*, Gk *pétomai* (πέτομαι) (< IE *petomai*), Ht *petatsi*

IE *wet* > Skt *vat-sara*, Gk *étos* (έτος), Ht *wet-*

IE *g^mmtis* > Skt *gatis*, Gk *básis* (βάσις).

§68. IE *d* > Skt, Gk & Ht *d*

IE *pedom* > Skt *padam*, Gk *pédon* (πέδον), Ht *pedan*

IE $\sqrt{d\bar{o}}$ > Skt *dadāmi*, Gk *didōmi* (δίδωμι), Ht *dai* (*dō*+ending -i)

IE *dlghos* > Skt *dīrghas*, Gk *dolikhós* (δολιχός), Ht *dalugas*

IE *edmi* > Skt *admi*, Gk *édomai* (έδομαι), Ht *edmi*

IE *doru* > Skt *dāru*, Gk *dóru* (δόρυ), Ht *daru*.

§69. IE *dh* > Skt *dh*/(also sometimes) *h*, Gk *th*, Ht *d*

IE $\sqrt{dh\bar{e}}$ > Skt *dadhāmi*, *hitas*, Gk *títhēmi* (τίθημι), Ht *dehi* (< IE *dhē*+Ht *hi*)

IE $\sqrt{dhebh-neu-ti}$ > Skt *dabhnōti* 'cheats' *dhipṣati* 'desires to cheat', Ht *debnutsi* 'belittles'

IE *dhūmos* > Skt *dhūmas*, Gk *thūmós* (θυμός).

§70. IE *p* > Skt, Gk & Ht *p*

IE \sqrt{pet} > Skt $\sqrt{pat-}$, Gk $\sqrt{pet-}$, Ht $\sqrt{pet-}$ (§67)

IE *pedom* > Skt *padam*, Gk *pédon* (πέδον), Ht *pedan*

IE *apo* > Skt, Av, OP & Ht *apa*, Gk *apó* (ἀπό)

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 *bárbaros* (βάρβαρος)

IE *pibō* > Skt *pibāmi*, Lat *bibō*, OIrish *ebaim*

IE *bele-* > Skt *balam*, Lat *debilis*

IE $\sqrt{eub/üb}$ > Skt *ūbjati* (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 *ph*, Ht *b*

IE *nebhos* > Skt *nabhas*, Gk *néphos* (*νέφος*), Ht *nebes*

IE *bhn̥ghus* > Skt *bahuṣ*, Gk *pakhús* (*παχὺς*), Ht *bangus*

IE *bherō* > Skt *bharāmi*, Gk *phérō* (*φέρω*)

IE *dhebh-neu-ti* > Skt *dabhnōti* '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 contrast 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 *esté* (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 *sḱ* & *sḱh* 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 *ḱh* > Skt *ch* (IE *sḱh* > Skt *cch*), Gk *kh*, Ht **k*

IE $\sqrt{sḱhid}$ > Skt $\sqrt{(c)chid}$, Gk *skhízō* (σχιζω) (< IE *sḱhidyō*).

(b) IE *qh* > Skt *kh*, Gk *kh*, Ht *k*

IE *ḱonqhōs* > Skt *śaṅkhas* Gk *kónkhos* (κόγχος)

IE *sqholoti* > Skt *skhalati*, Ht *skalatsi*.

(c) IE *q^wh* > Skt **kh* (cp Av *k*), Gk *ph* (/ **th*/ **kh* §57(b)), Ht **kw*

IE *sq^wher* > Av *skarəna*, Gk *sphaîra* (σφαῖρα).

(d) IE *th* > Skt *th*, Gk *th* (IE *sth* > Gk *st*), Ht *t*

IE \sqrt{gronth} > Skt *granthiṣ*, Gk *grónthos* (γρόνθος)

IE *pl₀thus* > Skt *pr₀thuṣ*, Gk *pláthanon* (πλάθανον) (< **plathu₀anon*)

(besides *platús* < IE *pl₀tu* with *-tu* suffix like Ht *palhi* < IE *pl₀* + Ht *-hi* suffix)

IE *bherethe* > Skt *bharatha*, Gk *phérete* (φέρετε) (IE *th* > Gk *t* by dissimilation of aspirates)

IE (*s*)*thi*(*s*)*thāmi* > Skt *tiṣṭhāmi*, Gk (Dor) *histāmi* (ἱστᾶμι) (IE *sth* > Gk *st*), Ht *titami* (note Ht *ti-* < IE *thi*, whereas IE *ti* > Ht *tsi*).

(c) IE *ph* > Skt & Gk *ph*, Ht *p*

IE *pholyom* > Skt *phalyam*, *phalati*, Gk *phóllon* (φόλλον), Lat *folium*

IE *sphēyati* > Skt *sphāyati*, Ht *speyatsi*

IE *sphḗgeti* > Skt *sphūrjati*, Gk *spharagéomai* (σφαραγέομαι)

IE *sph^hyem* > Skt *sphyam*, Gk *sphēn* (σφην).

§74. IE Semivowels, liquids and nasals

IE semivowels *y* (§21) & *w* (§25), liquids *r* (§29) & *l* (§33) and nasals *m* (§37), *n* (§41), *ṇ* (§43) & *ṇ* (§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 *z* 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 *ṣ* (§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 *hó* (ὅ), Ht *sas*

IE *nebhos* > Skt *nabhas*, Gk *néphos* (νέφος), Ht *nebes*

IE *nebhesos* > Skt *nabhasas*, Gk *népheos* (νέφεος), Ht *nebesas*

IE *su* > Skt *su*, Gk *hu-* (ῥ-), Ht *asu* (with prothetic *a-*)

IE *esti* > Skt *asti*, Gk *estí* (ἐστί), Ht *estsi*.

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

IE *sweḥkuros* > Skt *śvaśuras*, Gk *hékuros* (ἐκυρος)

IE *sausos* > Skt *śośas*, Gk *háuos* (ἄυος), Lith *sausas*

IE *kasos* > Skt *śasas*, 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 $\sqrt{stāy}$ (Skt *stāyus*) : IE $\sqrt{tāy}$ (Skt *tāyus*, Gk *tētaō*, Ht *tayatsi*)

IE $\sqrt{sthā}$ (Skt *tiṣṭhāmi*, Gk (Dor) *hístāmi* etc.) : IE $\sqrt{thā}$ (Ht *titami* < IE *thithāmi*)

IE \sqrt{spek} (Skt *spaṣṭas*, Lat *specio*) : IE *pek* (Skt *paśyāmi*).

§78. IE *s+s* > IE *s* (optionally)

IE *essi* > IE *esi* > Skt *asi*, Gk *ei* ($\epsilon\acute{\iota}$) but (Homeric) *essi* ($\epsilon\sigma\sigma\acute{\iota}$) (< IE *essi*)

IE *nssme* < IE *nsme* > Skt *asma-*, Gk (Lesb) *ámme* ($\alpha\mu\mu\epsilon$).

§79. IE *z*

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

IE *z* was lost in Skt (IE *z* > IIr *z* & $\overset{v}{z}$ §81; both were lost in Skt, after changing the quality of preceding *a* > *e* (medially) & *o* (finally) and lengthening *i* & *u* > \bar{i} & \bar{u} respectively.

IIr $\overset{v}{z}$ 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 ζ (= *z/d*) 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 *ēs-dhwem* > IE *ēzdhwem* > Skt *āddhwam*, Gk *ēsthe* ($\epsilon\sigma\theta\epsilon$) (< IE *ēz-dhwe*) Ht *estuma* (= *ezduma* ?) (< IE *ēz-dhum*) (§152)

IE *nī-sd-os* > IE *nīzdos* > Skt *nīḍas* (< IIr *nīḍas*), Lat *nīdus*, Arm *nist*

IE *si-zd-ō* > Gk *hīzdō* ($\eta\acute{\iota}\omega$) Lat *sīdo*

IE (*e*)*s-dhi* > IE (*e*)*z-dhi* > Skt *edhi* (< IIr (*a*)*z-dhi*), Av *zdī*
Gk *īsthi* ($\iota\sigma\theta\iota$) (< **sthi* < 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 $\text{r}^{\text{h}}\theta\text{os}$ (< IE $\text{r}^{\text{h}}\text{sos}$) > Skt $\text{rk}\dot{\text{s}}\text{as}$, Av $\text{ar}\dot{\text{a}}\text{s}\dot{\text{o}}$, Lat *ursus* < *ursu- ;

but Gk $\dot{\text{a}}\text{rktos}$ ($\dot{\text{a}}\rho\kappa\tau\text{os}$), OIrish *art*

IE $\text{tek}\theta\text{on}$ (< IE tekson) > Skt $\text{tak}\dot{\text{s}}\text{an}$, Av $\text{ta}\dot{\text{s}}\text{an}$, Ht *taks-*, Lat *texo*,

but Gk téktōn ($\tau\acute{\epsilon}\kappa\tau\omega\nu$)

IE $\dot{\text{g}}\text{h}\dot{\text{o}}\text{m}$ (< IE $\dot{\text{g}}\text{h}z\text{om}$) > Skt $\text{k}\dot{\text{s}}\text{am}$ but Gk $\text{k}\dot{\text{h}}\text{thōn}$ ($\chi\theta\acute{\omega}\nu$), Ht *degan* (< *dgan < *gdan , with metathesis and anaptyxis), Tokh(A) *tkā*, Tokh(B) *kē* 'place' (*tk-* < *kt-* with metathesis).

§81. Origin of the Cerebral Sounds in Skt

Skt has a set of Cerebral sounds, (viz. ṣ , ṭ , ṭh , ḍ , 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 ṣ & ṣ and Proto-Skt ṣ & ṣ , when preceded by IE $\text{i}/\text{u}/\text{r}/\text{l}/\text{k}/\text{q}/\text{w}$ (or IIr $\text{i}/\text{u}/\text{r}$ $\text{ṣ}/\text{k}$). IE k , g , gh > IIr ṣ , ṣ , ṣh > Skt ṣ , j , h normally, but before dentals they became ṣ , ṣ , (& ṣh) in Proto-Skt. ṣh > ṣ before t by shifting of aspiration as by Bartholomae's law (e.g. $\text{*ṣh} + \text{t}$ > $\text{*ṣ} + \text{dh}$). Thus Proto-Skt developed two cerebral sounds (ṣ & ṣ) 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 *ṣ was lost (just like z §79), which was responsible in cerebralizing the dental plosives d & dh into ḍ & ḍh . ṣ cerebralized t & th into ṭ & ṭh . Moreover the dental nasal n was cerebralized into ṇ after $\text{ṣ}/\text{r}$. The origin of each cerebral sound may be illustrated:

(a) Skt ṣ

(i) < IIr ṣ < IE s (see above), e.g.

Skt *tisthāmi* < IIr $\text{ṣ}tisthāmi$ < IE *sthisthāmi*

Skt *asveṣu* < IIr *asvaiṣu* < IE *ekwoisu*

Skt *joṣas* < Ir *zaušos* < IE *ǵeusos*

(ii) < IIr *s* < IE *k* (see above), e.g.

Skt *vaṣṭi* < IIr *vasti* < IE *wēkti*

Skt *iṣṭas* < IIr *istas* < IE *iktos* < $\sqrt{ya}\hat{g}$

(b) Skt *t* (after *ṣ*) Skt *vaṣṭi* (see (a)(ii))

(c) Skt *ṭh* (after *ṣ*) Skt *tiṣṭhāmi* (see (a)(i))

(d) Skt *ḍ* (after **z*) Skt *nīḍas* < Proto-Skt **niḍdas* < IIr *niḍdas* < IE *nizdos*

(e) Skt *ḍh* (after **z*) Skt *ūḍhas* < Proto-Skt **uḍḍhas* < IIr *uḍḍhas* < IE *uǵhtos* < $\sqrt{u}\hat{g}dhos$

(f) Skt *ṇ*

(i) (after *ṣ*) Skt *krṣṇas* < IE *qr̥snos*

(ii) (after \sqrt{r}/r) Skt *mṛṇāti* < IE *mṛnāti*

Cerebrals have also developed in MIA out of Skt dentals preceded by r/r (perhaps on analogy of cerebralization of *n > ṇ*).

Even in the earliest stage of Skt a few cerebralizations of this type are traceable, e.g. *vikaṣas* < *vikṛtas* etc. In some words the origin is

not clear, e.g. Skt $\sqrt{a}\hat{t}$ beside Skt \sqrt{at} (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 smoothenes many IE phonological problems. This assumption has started even before the discovery of Ht, by Sausure 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 do not 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 *yugtos* > Skt *yuktas*, Gk *zeuktós* (ζευκτός) (< IE *yeuktos*) (beside IE *yugom* > Skt *yugam* etc. §21).

IE *eub-ti* > IE *eup-ti* > Ht *uptsi* (beside IE \sqrt{eub} > Gk *iup*, Skt *ub-ja-ti*)

IE *pod-su* > IE *potsu* > Skt *patsu* Gk *possí* (ποσσί) (< **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 *pd* (< *ped*) > *bd* > Skt *bd* (*upabda* 'trampling') Gk *bd* (*epibdai* 'the day after the feast')

IE *sd* (< *sed*) > *zd* e.g. IE *nizd-o* > Skt *nīḍa-* etc. (§79).

(c) In a combination of two dentals, a spirantal glide developed optionally.

IE *tt(h)* optionally became *tst(h)* and IE *dd(h)* optionally became *dzd(h)* e.g.

IE *woid-tha* > IE *woit-tha/woit-s-tha* > Skt *vettha* Gk *oistha* (*οἰσθα*)

IE *did-dhi* > IE *did-z-dhi* > IIr *dadzdhi* (*a* < *i* due to influence of perfect) > Skt *dehi* Av *dazdi* etc.

(d) IE voiced aspirate + *s* > IE voiceless non-aspirate + *s* e.g.

IE *bhs* (√ **bhes* 'eat' cp Skt √ *bhas* 'chew') > IE *ps* > Skt *ps* (in *psāti*), Gk *ps* (in *psōō*).

IE *dhs* > IE *ts* cp Skt *bhotsyate* (< IE *bheudh-syetai* > *bheutsyetai*) cp Ht *tsketsi* < IE *dh-ske-ti* < √ *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 *hroptós* (*ροπτός*) < IE *srobh-to-s* > IE *srop-to-s* cp Gk *hróphleō* (*ρόφlew*) < IE *srobheyoō*

(ii) The whole combination was replaced by a voiced non-aspirate + *dh*, (Bartholomae's law) as in Skt *rabdhas* < IE *rebh+tos* > IE *reb-dhos* cp Skt *rabhate* < IE *rebh-e-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 *eḡhom* (Skt *aham*) : IE *eḡom* (Gk *egōn* etc.) IE **eḡh-o* was probably the original form and *eḡh-o* had aspiration due to influence of IE *meḡhi* (Skt *mahy-am* & Lat *mihi* etc.) (Petersen : Language VI 164-93)

IE *dhuḡhater-* (Skt *duhitā*) : IE *dhuḡhater* (Gk *thugatēr-*). The original form was *dhuḡhater* beside *dhuḡkter* (cp Gothic *daūhtar* etc.) IE *dhuḡhater* might have developed by a confusion of IE *dhuḡhater* and *dhuḡkter*

IE *meĝh*-(Skt *mahān*) : *meĝ* (Gk *méga*) ; IE *meĝ* was probably original and IE *meĝh* had aspiration in analogy with IE *bhrĝh* (Skt *brhat*)

IE *ĝhenus* (Skt *hanus* 'jaw') : *ĝenus* (Gk *génus*). IE *ĝhenu* was probably original and *ĝenu* developed in analogy with IE *ĝenu* 'knee'.

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

IE *syū* (< *siw*) (Skt *syūla* OHG *siuwan* etc.) : IE *sū* (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/ĝ/ĝh+s*) and IE *qs/q^ws* (< IE *q/q^w/g/g^w/gh/g^wh+s*) fell together in Skt in *kṣ*, whereas Iranian shows distinction (cp Av *ṣ* (< IE *ks*) & *χṣ* (< IE *qs/q^ws*) (e.g. Skt *vakṣyāmi* : Av *vaχṣyā* (< IE *weg^w-syō* 'I shall speak') ; Skt *rkṣas* : Av *arəṣō* (< IE *rk^{sos}/rk^{θos}*).

(2) IE *k̑* is apparently represented in Skt (instead of normal *s*) sometimes as :

(i) *k* e.g. *dik* (Nom sg) (but *diśas* Nom pl), which is actually < Proto-Skt **dikṣ* < IE *dīks* (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 *wik̑+s* > **wik̑-t-s* > Proto-Skt **viṭṣ* > Skt *viṭ* ; similarly *rāṭ* (< stem *rāj-*) < IE *rēĝ-s* > IE *rēks* > IE *rēkts* > Proto-Skt **rāṭṣ* > Skt *rāṭ* ; and *vāṭ* (< stem *vāh-*) < IE *wēĝh-s* > IE *wēks* > IE *wēkts* > Proto-Skt **vāṭṣ* > Skt *vāṭ* (similar *t*-glide is also found in *adbhiṣ* < **ap-bhis* > **aptbhis* > **abdbhiṣ* > *adbhiṣ*).

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

IE *dhidhēmi* > Skt *dadhāmi*, Gk *tithēmi* (τιθημι)

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 *vrkân* (< IE *wlq^wons*), Skt *akar* (< IE *eqor-t/eqor-s*) Skt *abharan* (< IE *ebhero-nt*).

(5) Prothesis and Anaptyxis

(i) Prothesis appears very rarely before liquids, Skt (Vd) *irajyati* 'puts on order', *iradhate* '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. *ind^ara*, *rud^ara*.

(6) It may be noted that final *s*, *ś* & *r* > *h* in Skt; (but *s*, *ś* & *r* are always preferred in the present book for convenience of historical and comparative study) e.g. *kas* > *kaḥ*, *aviś* > *aviḥ* & *akar* > *akaḥ*.

§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 *hóppōs* < **hod-pōs*

(b) plosive + nasal > the nasal prevailed; and the plosive > class nasal e.g.

p/b/ph + m > *mm* gramma (< -*ph-m*-), *bn* > *mn* *amnós* (< **abnos*), *gn* > *nn* (written γν) *gínōmai* (< **gignōmai*)

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

dl > *ll* e.g. *hellā* < **sedlā*

ln > *ll* e.g. *bóllōmai* < **bolnōmai*

nl > *ll* e.g. *súllogos* < **sunlogos*

nr > *rr* e.g. *surréō* < *sun-reō* (also *nr* > *ndr* see (3); so also *mr/ml* > *mbr/mbl* see (3))

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

(e) *s* + nasal > nasal prevailed

sm > *mm* e.g. *emmi* < IE *esmi*

(f) *s*+liquid > liquid prevailed

sl > *ll* e.g. *híllaos* < **sislaos* etc.

(g) In most of the conjuncts in *w*, *w* was lost ; but :

IE *k̑w* > *pp* e.g. *híppos* < IE *ek̑wos*

IE *tw* > *ss/s* (initially), e.g. *se* < IE *twe*

(h) IE conjuncts in *y*

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

(ii) *ly* > *ll* e.g. *állos* < **alyos*

(iii) *ty/thy* > *ss/s* e.g. *sobéō* < IE *tyog^w*

(iv) *ky/khy* > (Attic) *tt/(Ionic)* *ss* e.g. Attic *píttā* Ionic *píssa* < **pikya*

(v) *dy/gy* > *z (zd)* (in Attic-Ionic etc.) e.g. *zeús* < IE *dyēus*, *házo^{mai}* < IE *yaĝyomai*

(vi) *ny, ry* :

any, ary > *ain, air*, e.g. *maínomai* (< **manyomai*), *spairō* (< **sparyō*)

ony, ory > *oin, oir*, e.g. *ánkoina* (< **ankonya*), *moíra* < **morya*)

eny, ery > (Lesb) *enn, err*, (others) *ēn/ein ēr/eir*, e.g. *kténno̅/kteínō̅* (< **ktenyō̅*), *phthērō̅/phthēro̅/phtheíro̅* (< **phtheryō̅*)

iny, iry, uny, ury > (Lesb) *inn, irr, unn, urr*, (others) *īn, īr, ūn, ūr*, e.g. *klínnō̅/klínō̅* (< **klínyō̅*)

(vii) *my* > *ny* (same treatment as *ny* ; see above (vi)) e.g. *baínō̅* (< **banyō̅* < IE *g^wmnyō̅*)

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

(ix) *ns* + consonant > *s* + consonant, e.g. *despótēs* < **dens-* < IE *dems-*.

(3) *mr/ml/nr* > *mbr/mb/ndr* ; initially *br/bl/dr* e.g. *brotós* < **mrotos* < **mrotos* < IE *mrtos* cp Skt *mṛtas*
andrásī < **anrasi* < IE *nṛsu* cp Skt *nṛṣu*.

(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. *éruthros* < IE *rudhros* cp Skt *rudhira-*, *ísthi* < IE *zdhi* cp Av *zdi*.

(6) Anaptyxis is also sometimes found e.g. *dolikhós* < **dolkhos* < IE *dġghos* cp Skt *dīrghas*.

§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/nm*)

memai < **memnai*, cp Gk *mémnēmai* (but *-mn-* remained in *lannas* due to influence of *laman*)

Ht *gwemi* < **gwenmi* < IE *g^whenmi*, cp Skt *hanmi*.

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

(3) IE *dhw/dw* > Ht *d*, *dan* < IE *dwo-m*, Ht *dangwis* < IE *dhweng^wh-* (§66).

But IE *tw* was retained ; cp Ht *twel* 'yours' (< IE *twē+(ē)l*), *twarnai* 'breaks' ; cp Skt *tvar* 'hasten'. Sturtevant derives *tw* of *twarnai* < *dhw* taking Gk *thraūō* 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 *twarnai* (/dwarnai), shall preferably be interpreted as *-uw-*, as is also always shown by orthography and the above sound-law of IE *dw/dhw* > Ht *d* will not be disturbed, because *dhuw* 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 may 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 *dlghos*; *degan* < **dgan* < **gdan* < IE *ghdom* (§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 *q^{we}* (Skt *ca*, Gk *te*), IE *wē* (Skt *vā*, Gk *ē*).

(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 dissyllabic words ending in a short syllable (e.g. Gk *póda* : Skt *pādam*). 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. *phérómenos* < **phéromenos* < IE *bhéromenos* cp Skt *bhāramāṇas* (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 *wélgʷos* (Skt *vr̥kas*, Gk *lúkos*) or *septm̥* (Skt *saptá* & Gk *heptá* 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 *-ā* (e.g. IE *ekwos* : *ekwā*). Some Fem stems ended in *i/iə/yā* (e.g. IE *wlqʷos* : *wlqʷi/wlqʷiə*, *bheronts* : *bheronti/bherontia*). 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 *hē hippós* 'mare') and Mc stems in *-ā* e.g. Skt *gopās* Gk *Atreidēs*). 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 *NUL* 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

might have taken the Gen sg *-s* ending from *-ā* stems. (For other possibilities Vide §§93 & 100). Since IE $\bar{i} > i$ in Ht, Fem *-ī* (*/-iə*) stems might have merged with Mc *-i* stems. Ht *bargwis* may be an original Fem stem (< IE *bhr̥ǵhwi*), besides Mc *bargus* (< IE *bhr̥ǵhus*) 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 \bar{i}/\bar{u} (< *i/u + ə*), 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-Abl (iii) Gen-Loc. In pl also only six sets are found : (i) Nom-Voc (ii) Acc (iii) Inst (iv) Dat-Abl (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 *i* stems (§118)

IE *ekwā* > Skt *aśvā*, Lat *equa*, Gk *khōrā* (χωρά), 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 *patēr* > Skt *pitā*, Gk *patēr* (πατήρ), Ht *aptar* (< IE **ptōr*)

IE *rēgēn* > Skt *rājā*, Gk *poimēn* (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 *i* stems :

IE *wlq^wos* > Skt *vrkas*, Gk *lúkos* (λύκος), Ht *arunas* < IE *ornos*.

(ii) With Mc-Fem plosive stems :

IE *wōq^ws* > Skt *vāk* (< Proto-Skt *vākṣ*), Gk *hōps* (ὥψ), 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 *wlq^wos* : *wlq^e*), 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 *númp̄ha*), 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 *m̥/mm* (after consonants), *-m* > Skt *-m*, Gk & Ht *-n*; *m̥* > Gk *a*, Ht *an*; *mm* > Skt *am*, Ht *un*

IE *wlq^wom* > Skt *vrkam*, Gk *lúkon*, Ht *arunan*

IE *bheront-m̥/mm̥* > Skt *bharantam*, Gk *phéronta* (φέροντα), Ht *humantan*.

§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 *genu* > 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-á*, Skt *prati-bhid-y-a*)

IE *wlq^wo+a* > IE *wlq^wō* > Skt (Vd) *vrkā*, Av *vahrka*, Lith *vilkū*

cp Gk *pō* (πω) (adv).

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

(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 *vrka-inā* > Skt *vrkena* (< **vrkenā* cp Vd *enā*), Av *vahrkaena*.

(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 *wlq^wo+ai* > *wlq^wōi* > Skt *vrkāya* (with particle *-a*), Gk *lúkōi* (λύκω) Ht *aruna* (< IE *ornōi*).

IE *ekwā+ai* > *ekwāi* > Skt *aśvāyai* (Skt stem has been extended by *-āy-*, cp Gk *khōrāi* (χώραι), cp Ht *annai*

IE *widmen-ai* > Skt *vidmane*, Gk *idmenai* (ιδμεναι) (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/newēd* > 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 *wlq^wo-syo/-so* > Skt *vrkasya/*vrkasa* (cp Apabhraṃśa Gen sg *-ha*), Gk *lúkoio* (< **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-patiṣ*, *vanaspatiṣ* etc. and regularly in Ht *arunas* < IE *orno-s*, where it has been extended to all stems in sg & pl).

IE *ekwā*+*/es/os/s* > IE *ekwās* > Skt *āśvāyās* (with *-āy-* extension of the stem), Gk *khōrās* (χωρās), Ht *annas*

IE *owi*+*/es/os* or *owei*+*s* > IE *owyes/oweis* > Skt *avyas/aveṣ*, Gk *óphios/ópheos* (ὀφίος/ὀφέος) (< IE *og^whyos/log^wheyos*), Ht *hast(i)yas* (< IE *osthyos*)

IE *bhāḡh(e)w-es/bhāḡheu-s* > Skt *madhvas/bāhoṣ*, Gk *pékheos* (πήχεος), Ht *bangus* (< IE *bhṇḡheu-s*)/*as(u)was* (< IE *s(u)wos*)

IE *bherntos* > Skt *bharatas*, Gk *pheronτος* (φέρωντος), Ht *humanlas*.

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 *āśvāyām*, Av *aspaya*).

IE *wlq^w-o-i* > Skt *vrke*, Gk *oikoi* (οἴκοι) (< IE *woiko-i*), Ht *arune* (< IE *orno-i*)

IE *bhāḡhēu* (+*NIL*)/*bhāḡheu-i* > Skt *bāhau/bāhav-i* (Vd), Gk *pékhei* (πήχει), Ht *genu* (< IE *ḡneu*+*NIL*), *as(u)w-i* (< IE *s(u)w-i*)

IE *udon-i/weden-i* > Skt *udani/udan*, Gk *daímoni* (δαίμονι), Ht *wedeni*.

PLURAL

§102. Nominative-Vocative (pl) (Mc-Fem) -es

The IE -o- stems and -ā- stems had a contraction with -es and ended in -ōs and -ās respectively; -es has been retained distinctively in other stems. Skt has an ending -s with Fem -ī- stems etc formed on analogy of -ā- stems (e.g. *asvās* analyzed as *asvā+s*). Gk has an ending -ī with -o- stems (extended from pronouns e.g. *toi* : *lúkoī* etc.) and ā stems (e.g. *khōrai*, extended from Dual). Ht has extended -es even to the -a- stems.

IE *bheront-es* > Skt *bharantas*, Gk *phérontes*, Ht *dantes* (< IE *d-ont-es*)

IE *bhāghew-es* > Skt *bāhavas*, Gk *phēkhees* (*πήχες*), Ht *kuṭr(u)wes*
(Ht *(u)w* < Proto-Ht *aw*)

IE *wlq^wo+es* > *wlq^wōs* > Skt *vrkās*, cp Goth *wulfōs*, Gk *lúkoī*
(*λυκοί*), Ht *attles*.

§103. Accusative (pl) (Mc-Fem)

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

IE *wlq^wo-ns* > Skt *vrkān* (cp *vrkāmś-ca*), Goth *wulfans*, Gk *lúkous*/
(Cretan) *lúkons* (*λύκους/λύκωνς*)

IE *bhernt-ns* > Skt *bharatas*, Gk *phérontas* (*φέροντας*), Ht *humantus*
< -nns (§42) cp Ht *antuhsus* (-a- stems) (for **antuhsas* < **antuhsans*)
due to influence of *humantus*.

Skt Fem -ā/-ī stems apparently have an -s ending in Acc pl e.g. *asvās*, *devīś*.

§104. Neuter (pl) (Nom-Acc-Voc)

(a) ā for -o- stems (e.g. **yugā*, which is originally a Fem sg with NIL ending cp *ekivā*)

IE *yugā* > Skt *yugā* (Vd), Gk *zugá* (*ζυγά*) (a for *ā in Gk on analogy of Gk *phéronta* see b(i)), Ht **yuga* (cp Ht *danata*).

(b) *ə* for other stems

(i) with consonantal stems *ə* > Skt *i*, Gk & Ht *a*.

IE *bheront-ə* > Skt *bharant-i*, Gk *phéront-a* (φέρωντα), Ht *pumanta*.

(ii) with *-i/-u* stems, the ending *ə* was contracted and the result was *i/ū* in Late IE. But Gk retained the uncontracted form (i.e. *ia/ua*). In Ht IE *i/ū* > *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) *trī*, (Lat *trī*), Gk *tría* (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 *avibhiṣ* (cp Gk *theóphi* & Lith *sūnumīs*).

(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 *wlq^wo+ois* > *wlq^wōis* > Skt *vrkaiṣ*, Av *vəhrkaiṣ^v* cp Gk (Dat pl) *lúkois*.

§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 *wlq^wo-bhyos* > Skt *vrkebhyaṣ* (*-e-* < Loc pl §108) Av *vəhrkaeibyō*, Lat *pedibus* (< IE *-bhos*), Ht (Dat) *humantas* (< Gen pl §107).

§107. Genitive (pl)

IE $\bar{o}m$ > Skt $\bar{a}m$, Gk $\bar{o}n$. But Skt has $-n\bar{a}m$ 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 $wlq^w o + \bar{o}m$ > $wlq^w \bar{o}m$ > Skt $*vrk\bar{a}m$ (cp $dev\bar{a}ñ-janma$) $|vrk\bar{a}ñ\bar{a}m$,

Gk $lúk\bar{o}n$ ($\lambda\acute{\upsilon}κων$)

IE $bhernt\bar{o}m$ > Skt $bharat\bar{a}m$, Gk $phéront\bar{o}n$ ($\phi\acute{\epsilon}ροντων$), cp Ht *humantas*.

§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 *toisu*). In Skt this extended stem is used even in Inst-Dat-Abl pl & Gen-Loc Dual

IE $wlq^w o-i-su$ > Skt $vrk\bar{e}ṣu$, Gk $lúkoisi$ ($\lambda\acute{\upsilon}κοισι$)

IE $pod-su$ > IE $potsu$ > Skt $patsu$, Gk $possí$ ($\piοσσι$).

DUAL

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

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

IE $wlq^w o + ou$ > IE $wlq^w \bar{o}u/wlq^w \bar{o}$ > Skt $urkau/vrk\bar{a}$, Gk $lúk\bar{o}$ ($\lambda\acute{\upsilon}κω$),
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 $khōr\bar{a}$ ($\chi\acute{\omega}ρ\bar{α}$) (analogy of $-o$ stems) (cp Gk pl $khōrai$ ($\chi\acute{\omega}ρ\alphaι$) originally Dual).

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

IE $māter-e$ > Skt $mātar-a-$ (in *mātara-pitarau* quoted in grammar),
but regular *mātarau* Gk $mēter-e$ ($\mu\acute{\eta}τερε$).

(d) IE $-i/-u$ stems had i/\bar{u} as in Skt, but Gk has $-e$ on analogy of consonantal stems

IE $bhāghā$ (stem $bhāghu$) > Skt $bāhū$ but Gk $pékhee$ ($\pi\acute{\eta}χ\epsilon\epsilon$).

§110. Neuter (Dual) (Nom-Acc-Voc)

IE \bar{i} > Skt \bar{i} , but replaced by Mc endings in Gk.

IE *yugo*+ \bar{i} > IE *yugoi* > Skt *yuge*, but Gk *zugō* (ζυγώ) (§109(a))

IE *ġenes*- \bar{i} > Skt *janasī*, but Gk *gēnee* (γένεε) (§109(c)).

§111. Instrumental-Dative-Ablative (Dual)

IE *-bhyōm* > Skt *bhyām*. This is not attested in Gk (Gk Dat=Loc §112), nor in Ht. IE *bhyōm* is reconstructed only on the basis of Skt *bhyām* & Av *byām* (The vowel *-ō-* is reconstructed on the basis of IE *bhyos*.)

IE *bhrūbhyōm* > Skt *bhrūbhyām*, cp Av *bruat-byām*.

§112. Genitive-Locative (Dual)

IE *ous* (or *ou*) > Skt *oṣ* (cp Lith *dvejaus*) but Gk *oin/oiin* 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 *wlq^wo+ous* > IE *wlq^wōus* > Skt *vrka-y-oṣ* (< IE *wlq^woyous*) but

Gk *lúkoiin* (λυκοιν).

IE *rēġn-ous* > Skt *rājñ-oṣ* but Gk *poiménoin* (ποιμένειν).

§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 *yeq^wr* : *yeq^wn*, Skt *yak^r-t* : *yakn-as*, Gk *hēpar* : *hēpatos* (< IE *yeq^wn-t-os*).

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

Heteroclisis of other types are also found :

IE *osth* (Lat *os*, Av *ast*) : IE *osthei/osthi* (Skt *asthi*, Gk *ostéon*, Ht *hastai*) : IE *osthen/osthn* (Skt *asthn-as*).

Similarly Skt *vār* : *vāri* : *variṇ-as* ; Skt *madhu* : *madhun-as* ; Gk *dōru* : *dōratos* (< IE *dorwn-t-os*) ; *gónu* : *gónatos* (< IE *ḡonwn-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)

Stems : (Mc) IE *wlq^wo-*, Skt *vrka-* 'wolf', Gk *lúko-* 'wolf', Ht *aruna-* 'sea', *newa-* 'new' *atta-* 'father'. (Nt) IE *yugo-*, Skt *yuga-* 'yoke' Gk *zugó-* 'yoke', Ht *yuga-* 'yoke', *parna-* 'house'.

Singular

Nom IE *wlq^wos* > Skt *vrkas*, Gk *lúkos* (λύκος), Ht *arunas* (< IE *ornos*).

Acc IE *wlq^wom* > Skt *vrkam*, Gk *lúkon* (λύκον), Ht *arunan* (< IE *ornom*).

Nt (Nom-Acc-Voc) IE *yugom* > Skt *yugam*, Gk *zugón* (ζυγόν), Ht *yugan*.
 Inst IE *wlq^wō* > Skt *vrkā|vrkeṇa* (§97) Ht *newet* (< Abl §97).

Dat IE *wlq^wōi* > Skt *vrkāy-a* (§98), Gk *lúkōi* (λύκω), Ht *aruna* (< IE *ornō(i)*).

Abl IE *wlq^wōd|wlq^wo-tos/-ts* > Skt *vrkād, vrka-tas*, Ht *arunats* (< IE *orno-ts*) cp Ht Inst *newet* (< IE *newēd*).

Gen IE *wlq^wo-syo/-so/-s* > Skt *vrkasya|*vrkasa* (§100)|**vrkas* (cp *rathas-patis*), Gk *lúkoio|lúkou* (λύκοιο|λύκου) (< **lukoo* < **luko-so*), Ht *arunas* (< IE *orno-s*).

Loc IE *wlq^wo-i* > Skt *vrke*, Gk *oíkoi* (οἴκοι), Ht *aruni* (= *arune* < IE *ornō-i*).

Voc IE *wlq^we* > Skt *vrka*, Gk *lúke* (λύκε), but Ht *arunas* (< Nom sg).

Plural

Nom-Voc IE *wlq^wōs* > Skt *vrkās|* (also Vd) *vrkāsas* (with double-affixation of pl ending; also in Av; cp Av *vəhrkāṇhō*), Gk *lúkoi* (λύκοι) (§102), Ht *attles* (§102), Goth *wulfōs*.

Acc IE *wlq^wo-ns* > Skt *vrkān* (§103), *vrkāṇs-ca*, Gk *lúkous|* (Cretan) *lúkons* (λύκους|λύκους), Ht *attus* (§103).

Nt (Nom-Acc) IE *yugā* > Skt *yugā*, Gk *zugá* (ζυγά) (§104), Ht **yuga* (cp *parna*).

Inst IE *wlq^wōis|wlq^wo-bhis* > Skt *vrkais|* (Vd also) *vrkebhis*, Gk (Dat) *lúkois|* (Adv) *théōphi* (λύκοις|θεόφι).

Dat-Abl IE *wlq^wo-bh(y)os* > Skt *vrkebhyas*, Gk (Dat < Loc), Ht (Dat=Gen).

Gen IE *wlq^wōm* > Skt **vrkām* (*devāñ-janma*)|*vrkāṇām* (§107), Gk *lúkōn* (λύκων), Ht (Gen-Dat) *attas* (§107).

Loc IE *wlq^wo-i-su* > Skt *vrkeṣu*, Gk *lúkoisi* (λύκοισι) (§108).

Dual

Nom-Acc-Voc IE $wlq^{wo}(u) > \text{Skt } vrkau/$ (Vd also) $vrk\bar{a}$, Gk $l\acute{u}k\bar{o}$ ($\lambda\acute{u}\kappa\omega$), Ht *hasa* (§109).

Nt (Nom-Acc-Voc) IE $yugo-i > \text{IE } yugoi > \text{Skt } yuge$ but Gk $zug\acute{o}$ ($\zeta\nu\gamma\acute{\omega}$) (§110).

Inst-Dat-Abl IE $wlq^{wo}-bhy\bar{o}m > \text{Skt } vrk\bar{a}bhy\bar{a}m$ (§111).

Gen-Loc IE $wlq^{wo}+ous > \text{IE } wlq^{wo}us/wlq^{wo}-y-ous > \text{Skt } vrkayo\bar{s}$, Gk $l\acute{u}koiin$ ($\lambda\acute{u}\kappaοιν$) (§112).

§116. IE \bar{a} stem ($> \text{Skt } -\bar{a}$ stem, Gk $-\bar{a}/-\bar{e}$ stem, Ht $-a$ stem).

The $-\bar{a}$ stem includes mostly Fem stems. A few Mc stems were perhaps also included cp Skt *g\bar{o}p\bar{a}s*, Gk *Atreid\bar{e}s*. These are distinguished in having $-s$ in Nom sg.

Skt ($< \text{IIR}$) extends the $-\bar{a}$ stem by $-\bar{a}y-$. This perhaps started with Dative sg, by double affixation ($\bar{a}sv\bar{a}i+ai > \bar{a}sv\bar{a}yai$), perhaps to keep it distinct from Mc ($*\bar{a}sv\bar{a}i$, which in its turn became $\bar{a}sv\bar{a}y-a$, obviously for being distinguished from $-\bar{a}$ stems) and also in Loc sg ($\bar{a}sv\bar{a}y\bar{a}m < \bar{a}sv\bar{a}+Loc\ i+IIR\ \bar{a}+Proto-Skt\ -m$; cp Av *asp\bar{a}ya < IIR \bar{a}sv\bar{a}y\bar{a}).*

Ht does not distinguish IE $-\bar{a}$ & $-o$ 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 $-\bar{a}$ stems over original $-o$ stems in Ht. Ht *annas* 'mother' (cp Skt (RV) *nan\bar{a}* 'mother') might have been an original $-\bar{a}$ stem.

Stems : IE $\bar{e}kw\bar{a}-$, Skt $\bar{a}sv\bar{a}-$ 'mare', $amb\bar{a}-$ 'mother', Gk $kh\bar{o}r\bar{a}-$ 'land', $numph\bar{a}-$ 'bride', Ht *anna-* 'mother'.

Singular

Nom IE $\bar{e}kw\bar{a} > \text{Skt } \bar{a}sv\bar{a}$, Gk $kh\bar{o}r\bar{a}$ ($\chi\acute{o}p\bar{a}$), cp Ht *annas*.

Voc IE $\bar{e}kw\bar{a} > \text{cp Skt } amba/$ (but) $\bar{a}sv\bar{e}$ (innovation), Gk $n\acute{u}mph\bar{a}$ ($\nu\acute{\mu}\phi\bar{\alpha}$) (but) $kh\bar{o}r\bar{a}$ ($\chi\acute{o}p\bar{a}$) ($< \text{Nom}$), Ht *annas* (=Nom)

Acc IE $\bar{e}kw\bar{a}m > \text{Skt } \bar{a}sv\bar{a}m$, Gk $kh\bar{o}r\bar{a}n$ ($\chi\acute{o}p\bar{a}n$).

Inst IE $\bar{e}kw\bar{a} > \text{Skt } \bar{a}sv\bar{a}y\bar{a}/$ (Vd also) $\bar{a}sv\bar{a}$.

Dat IE *ekwāi* > Skt *asvāyāi*, Gk *khōrāi* (χώραί), Ht *anni/annai*.

Abl-Gen IE *ekwās* > Skt *asvāyās*, Gk (Gen) *khōrās* (χώρας), Ht (Gen) *annas/* (Abl) *annats* (< *-tos/ts).

Loc IE *ekwāi* > Skt *asvāyām*, Gk & Ht (See Dat).

Plural

Nom-Voc IE *ekwās* > Skt *asvās*, Gk *khōrai* (χώραι) (< Dual §109), Ht *annes* (§102).

Acc IE *ekwāns* (also *ekwās*?) > Skt *asvās* (§103), Gk *khōrās/khōrans* (χώρας/χώρανς) Ht *annus* (§103).

Inst IE *ekwābhis* > Skt *asvābhiḥ*, Av *haenābiṣ*.

Dat-Abl IE *ekwābh(y)os* > Skt *asvābhyas*, Let *equabus*.

Gen IE *ekwām* (< -ā+ōm) > Skt *asvānām* (§107), Gk *theāōn* (θεάων) (< *-āsōm Pronomial).

Loc IE *ekwāsu* > Skt *asvāsu*, Gk *khōrais* (χώραις).

Dual

Nom-Acc-Voc IE *ekwai* > Skt *asve*, Gk *khōrā* (χώρα) (§109) (cp Gk pl *khōrai* < Dual).

Inst-Dat-Abl IE *ekwābhyōm* > Skt *asvābhyām* (§111).

Gen-Loc IE *ekwāus* (< -ā+ous) > Skt *asvayoḥ* (§112), Gk *khōrain* (χώραιν) (§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 -ī 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-* 'jack'. (Nt) IE *osthi-*, *tri-*, Skt *asthi-* 'bone', *vāri-* 'water', *tri-* 'three', Gk *idri-* 'skillful', *tri-* 'three'.

Singular

Nom IE *owis* > Skt *aviṣ*, Gk *pólis* (πόλις), Ht *dangwis*.

Voc IE *owi/owei* > Skt *ave*, Gk *póli* (πόλι), Ht (=Nom).

Acc IE *owim* > Skt *avim*, Gk *pólin* (πόλιν), Ht *dangwin*.

Nt (Nom-Acc-Voc) IE *osthi* > Skt *asthi*, *vāri*, Gk *ídri* (ἰδρί), Ht *dangwi*.

Inst IE *owēi/owya* > Skt *matī* (Fem), *avyā*, *avinā* (§97), Ht *hastit* (§97).

Dat IE *owey-ai/ow(i)yai* > Skt *avaye/patye*, Gk & Ht (Dat < Loc).

Loc IE *owēi/owey-i* > Skt *avau* (analogy of -u stems), cp Vd *agnā* (< **agnai*) Gk (Dat) *pólei* (πόλει), Ht (Dat) *dangwi* (< **ei*)/*luttiya* < **lukti*+*āi* (on analogy of -a- stems).

Abl-Gen IE *owy-os/oweis* > Skt *avyas/aveṣ*, Gk *pólios/póleos/póleōs/póleōs* (πόλιος/πόλεος/πόληος/πόλεως), Ht (Gen) *dangwyas/(Abl) luttiyats* < -*tos/ts* (§99).

Plural

Nom-Voc IE *oweyes* > Skt *avayas*, Gk *póleis* (πόλεις) (< -*ees* < **-eyes*)
Ht *mekes* (< **mekees* < **mekeyes*).

Acc IE *owins/owyns* > Skt *avīn/avīṇs-ca*, Gk *pólins/pólias/pólīs* etc.
(πόλινς/πόλιαις/πόλῆς), Ht *supyus* (-*us* < -*uns* < *nns* §103).

Nt (Nom-Acc-Voc) IE *triə/trī* > Skt *trīṇi* (§113)/(Vd also) *trī*, Gk *tría*
(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 *avīnām* (§107), Gk *póliōn/póleōn* (πόλιων/πόλεων), Ht
hast(i)yas (-*as* < sg §107).

Loc *owisu* > Skt *aviṣu*, Gk *pólisi* (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* : *vāriṇas* ; *madhu* : *madhunas* (§113). So also sometimes in Gk (§113).

§118. IE -*i* stems

IE -*i*- stems were of two types : (a) Primary (b) Secondary (or *iə/i* stems), formed with suffix *yā/iə/i* to Mc stems. Skt *dht-* & Gk *kt-* are primary stems ; Skt *bharantī*, Gk *phérousa* (φέρουσα) (< IE *bherontī*/*bherontī*) 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 *dh̥*, *bherontī-/bherontī-*, Skt *dhī-* 'intellect', *bharantī-* 'bearing' (fem), *devī-* 'goddess', Gk *kī-* 'a worm', *phérousa-* 'bearing' (fem), Ht *bargwi-* 'pure'.

Singular

Nom IE *dh̥s*, *bheront-ī/-i-* (Voc IE *bherontī*) > Skt *dh̥s/bharantī* (Skt Voc *bharantī*), Gk *kīs/phérousa* (*kīs/phérousa*), cp Ht *bargwis*.

Acc IE *dhiy-m/dh̥m*, *bherontyām/bherontīm* > Skt *dhiyam*, *bharantīm*, Gk *kīn*, *phérousan*.

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

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

Loc IE *dhiyi*, *bherontyāi* > Skt *dhiyi/dhiyām* (§101), *bharantiyām* (§101) Gk (Dat) *kī*, *phérousei*.

Abl-Gen IE *dhiyos*, *bherontyās* > Skt *dhiyas*, *bharantiyās*, Gk (Gen) *kíos* *phérousei*.

Plural

Nom-Voc IE *dhiyes*, *bherontyes* > Skt *dhiyas*, *bharantyas*, (also Vd) *devīs*, Gk *kías*, *phérousai*.

Acc IE *dhiy-ns*, *bherontyns* > Skt *dhiyas*, *bharantyas*, *devīs*, Gk *kías*, *phérousas*.

Inst IE *dh̥bhis*, *bherontībhis* > Skt *dh̥bhiḥ*, *bharantībhiḥ*.

Dat-Abl IE *dh̥bh(y)os*, *bherontībhyos* > Skt *dh̥bhyas*, *bharantībhyas*.

Gen IE *dhiyōm*, *bherontyōm* > Skt *dhiyām*, *dh̥nām*, *bharantīnām* (for *-nām* §107), Gk *kīōn*, *phérouōn*.

Loc IE *dh̥su*, *bherontīsu/bherontyāsu* > Skt *dh̥ṣu*, *bharantīṣu*, Gk *kīsi*, *phérousei*.

Dual see (§109—112).

§119. Long grade *-i* stems (or diphthongal *-i* stems)

These are of two types, as found in Skt: (a) *rēi* type (> Skt *rai-*) with long grade in all forms. (b) *soḡhōi* 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 *soghōi* 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-*, *soghōi*, Skt *rai-* 'wealth', *sakhi-* 'friend', Gk *peithōi-* 'obedience' Ht *hukmai-* 'incantation', *luttai-* 'window', *supai-* 'pure'.

Singular

Nom IE *rē(i)s*, *soghō(i)* > Skt *rās* (late), *sakhā*, Av *haχā*, Gk *peithō(i)* (*πειθῶ/-ῶ*), Lat *rēs*, cp Ht *hukmais*.

Voc IE *soghoi* > Skt *sakhe*, Gk *peithōi* (*πειθοῖ*).

Acc IE *rē(i)m*, *soghōy-m* > Skt *rām*, *sakhāyam*, Gk *peithō* (*πειθῶ*) (<**peithōa*), Lat *rēm*, Av *haχāim* (<**haχāyēm*).

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) *peithōi*, Ht (Dat) *hastai* (also) *supaya* (influence of Dat of *-a* stem).

Abl-Gen IE *rēy-os* > Skt *rāyas*, Gk *peithōis* (<**oos* <**oyos*).

Plural

Nom IE *rēy-es/soghōyes* > Skt *rāyas*, *sakhāyas*, Av *haχāyō*, Ht *hukmais* (= *-aes* <**-ayes*).

Acc IE *rēy-ns* > Skt *rāyas*, Ht *luttaus*.

Inst IE *rē(i)bhis* > Skt *rābhiḥ* (late).

Dat-Abl IE *rē(i)-bh(y)os* > Skt *rābhyas* (late).

Gen IE *rēyōm* > Skt *rāyām*, Ht *supayas* (< 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 *genu-*, Skt *jānu-* 'knee', Gk *gōnu-* 'knee', Ht *genu-* 'knee'.

Singular

Nom IE *bhāḡhus* > Skt *bāhuṣ*, Gk *pēkhus* (πῆχυς), Ht *bangus* (< IE *bhnḡhus*).

Voc IE *bhāḡhew/bhāḡhu* > Skt *bāho*, Gk *pēkhu*, Ht (< Nom).

Acc IE *bhāḡhum* > Skt *bāhum*, Gk *pēkhun*, Ht *bangun*.

Nt (Nom-Acc-Voc) IE *ḡenu* > Skt *jānu*, Gk *gónu* (γόνου), Ht *genu*.

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

Dat IE *bhāḡhew-ai/bhāḡhw-ai* > Skt *bāhave*/(also Vd) *paṣve*, Gk (Dat < Loc), Ht (Dat=Loc).

Loc IE *bhāḡhewi/bhāḡheu* > Skt *bāhavi* (Vd)/*bāhau*, Gk (Dat) *pēkhei* (πῆχει), Ht (Dat) *aswi/genu* (< IE *ḡeneu* with NIL ending), *genwa* (influence of Dat of *-a* stem).

Plural

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

Acc IE *bhāḡhu-ns/bhāḡhw-ns* > Skt *bāhūn*, Gk *pēkheas* but *húiuns* (ὕιυνς), Ht *bangus* (< *-uns* §103).

Nt (Nom-Acc-Voc) IE *ḡenu-ə/ḡenū* > Skt *jānū* (Vd) *jānūni* (§104), Gk *goūna* (γούνα) (< **gonua* < IE *ḡenuə*), Ht *asu* (< *-ū*), *genwa* (§104).

Inst IE *bhāḡhu-bhis* > Skt *bāhubhiṣ*.

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

Gen IE *bhāḡhw-ōm* > (Vd) *paṣvām/bāhūnām* (§107), Gk *pēkheōn*, Ht *genwas* (< sg §107).

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

Dual see (§§109—112).

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

121. IE *ū* stems

These are comparable to IE *i* stems (§118). No *ū* stem can be cited from Ht.

Stems : IE *bhrū-*, Skt *bhrū-* 'brow', Gk *ophrū-* 'brow'.

Singular

Nom-Voc IE *bhrūs* [(Voc *bhrū*) > Skt *bhrūṣ*, Gk *ophrūs* (ὀφρύς).

Acc IE *bhrūm*/*bhruw-m* > Skt *bhruvam*, Gk *ophrūn*, *ophrúa*.

Inst IE *bhruw-a* > Skt *bhruvā*.

Dat IE *bhruw-ai* > Skt *bhruve*, *bhrurai*, Gk (Dat < Loc).

Loc IE *bhruw-i* > Skt *bhruvi*, Gk (Dat) *ophruí*.

Abl-Gen IE *bhruw-os* > Skt *bhruv-as*, Gk *ophrūs*.

Plural

Nom-Voc IE *bhruw-es* > Skt *bhruvas*, Gk *ophrúes*.

Acc IE *bhruw-ns* > Skt *bhruvas*, Gk *ophruás*, *ophrús*.

Inst IE *bhrúbhis* > Skt *bhrúbhiṣ*.

Dat-Abl IE *bhrúbh(y)os* > Skt *bhrúbhyas*.

Gen IE *bhruw-ōm* > Skt *bhruvām*, Gk *ophrúōn*.

Loc IE *bhrū-su* > Skt *bhrūṣu*, Gk *ophrúsi* (§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.

Stems : IE *nāu-*, *dyēu-*, *g^wōu-*, Skt *nau-* 'ship', *dyau-* 'sky, day', *gau-* 'cow', Gk *nāu-* 'ship', *Ζēu-* 'Jupiter', *bōu-* 'cow', Ht *harna-* 'birth-chair'.

Singular

Nom-Voc IE *nāu-s*, *dyēu-s*, *g^wōu-s* > Skt *naus*, *dyaus*, *gauṣ*, Gk *nāūs*/*nēūs*, *Ζεύς*, *βοῦς*/*bōs* (*ναῦς*/*νηῦς*, *Ζεύς*, *βόως*/*βῶς*), Ht *harnaus*.

Acc IE *nāu-m*/*nāw-m*, *dyēu-m*/*dyēw-m*, *g^wōu-m*/*g^wōw-m* > Skt *nāvam*, *dyām*/*dyāvam*, *gām*, Gk *naūn*/*nēa*, *Ζēna*, *boūn*/*bōn*, Ht *harnaun*.

Nt (Nom-Acc-Voc) IE *gēnū* > Ht *harnau*.

Inst IE *nāw-a*, *dyēw-a*/*diw-a*, *g^wow-a* > Skt *nāvā*, *dyāvā*/*divā*, *gavā*.

Dat IE *nāw-ai*, *dyēw-ai*/*diw-ai*, *g^wow-ai* > Skt *nāve*, *dyave*/*dive*, *gave* Gk & Ht (< Loc).

Loc IE *nāw-i*, *dyēw-i*/*diw-i*, *g^wow-i* > Skt *nāni*, *dyavi*/*divi*, *gavi*, Gk (Dat) *nāi*/*nēi*, *Dii*, *boi*, Ht *harnawi*/*harnau* (with ending -i & NIL respectively).

Abl-Gen IE *nāw-os*, *dyēw-os*/*diw-os*, *g^wow-os*/*g^wou-s* > Skt *nāvas*, *divas*, *goṣ*, Gk *nēós*, *Diós*, *boós*, Ht (Gen) *harnawas*.

Plural

Nom-Voc IE *nāw-es*, *dyēw-es*, *g^wow-es* > Skt *nāvas*, *dyāvas*, *gāvas*, Gk *nēes*, *bóes*, Ht *asawes*.

Acc IE *nāw-ns*, *diw-ns*, *g^wow-ns* > Skt *nāvas*, *divas*, *gās* (on analogy with *gām*), Gk *nēas*, *bóas* Ht *asaus* (< **asauns* (§103)).

Nt (Nom-Voc-Acc) IE *ġenēw-ə* > Ht *idalawa*.

Inst IE *nāu-bhis*, *dyu-bhis*, *g^wou-bhis* > Skt *naubhiṣ*, *dyubhiṣ*, *gobhiṣ*.

Dat-Abl IE *nāu-bh(y)os*, *dyu-bh(y)os*, *g^wou-bh(y)os* > Skt *naubhyas*, *dyubhyas*, *gobhyas*.

Gen IE *nāw-ōm*, *diw-ōm*, *g^wow-ōm* > Skt *nāvām*, *divām*, *gavām*, Gk *nāōn*, *nēōn*, *boōn*.

Loc IE *nāu-su*, *dyu-su*, *g^wou-su* > Skt *nauṣu*, *dyuṣu*, *goṣu*, Gk (Dat) *nāusí*, *nēusí*, *bousí*.

Dual see (§§109—112).

§123. IE -r stems

IE -r stems were of two types, on ablaut-basis, as best represented by IE *pāter* (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 **pāter* 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.

Stems: IE *pāter-*, *dōtor-*, Skt *pītar-* 'father', *dātār-* 'donor', Gk *pater-* 'father', *dōtor-* 'donor', Ht *gesar-* 'hand', *star-* 'star', *kurur-* 'hostile'.

Singular

Nom IE *pāter*, *dōtōr* > Skt *pitā*, *dātā*, Gk *patēr*, *dōtōr* (πατήρ, δώτωρ),
Ht *gesar*, *star*.

Voc IE *pāter*, *dōtōr* > Skt *pitar*, *dātar*, Gk *pāter*, *dōtor*, Ht (Nom).

Acc IE *pāter-m*, *dōtōr-m* > Skt *pīlaram*, *dātāram*, Gk *patēra*, *dōtora*/
dōlēra, Ht *geseran*, *staran*.

Inst IE *pātr-a* > Skt *pitrā*, cp Av *piθra*, Ht *gesret* (§97).

Dat IE *pātr-ai* > Skt *pitre*, Gk & Ht (=Loc).

Loc IE *pāter-i* > Skt *pitari*, Gk *patēri*, Ht *geseri*/*gesari*/*gesri*.

Abl-Gen IE *pātr-os* > Skt *pitur* (< IE *pātrr-s* on analogy of *i/u* stem),
cp Av *piθrō* (< IIr *pitras*), Gk *patrós*, Ht (Gen) *kururas* (Abl)
starts (-*ts*/-*tos*).

Plural

Nom-Voc IE *pāter-es*, *dōtōr-es* > Skt *pītaras*, *dātāras* Gk *patéres* *dōtores*/
dōlēres.

Acc IE *pātr-ns*/*pātr-ns* > Skt *pīlṛn* (may also be due to analogy of *i/u*
stems), cp Av *piθrō*, Gk *patéras* (for **patras* on analogy of *sg*),
Ht *geserus* (for **gesrus* < IE *ǵhesr-nns*).

Inst IE *pātr-bhis* > Skt *pītrbhiḥ*.

Dat-Abl IE *pātr-bh(y)os* > Skt *pītrbhīyas*.

Gen *pātr-ōm* > Skt *pīlṛṇām* (analogy of vowel declensions)/*narām*
(< IE *ner-ōm*), Gk *patrôn*, Ht (Dat=Dat-Gen) *gesras* (< Gen
sg).

Loc *pātr-su* > Skt *pītrṣu*, Gk *patrāsi* (§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 *hodor*-/hudat- 'water', Ht *wedar*-/wedan- 'water'.

Singular

Nom-Acc-Voc IE *weder/wedōr/udōr* > Skt *ahar* (cp Skt *udar-a-*), Gk *hūdōr* (*ῥῥῥῥ*), Ht *wadar*.

Inst IE *wedn-a/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) *hūdati* (*ῥῥῥῥ*) (< IE *udn-t-i*),
Ht (Dat) *wedeni* (< **-i/-ai*).

Abl-Gen *wedn-os/udn-os* > Skt *udnas*, Gk *hūdatos* (< IE *udn-t-os*), Ht (Gen) *wedenas*.

Plural

Nom-Acc-Voc IE *weden-ə* > Skt *ahāni*, Ht *wedar* (< sg on analogy of Nt *i/u* stems §104).

Inst IE *udn-bhis* > Skt *udabhiḥ*.

Dat-Abl IE *udn-bh(y)os* > Skt *udabhyas*.

Gen IE *udn-ōm* > Skt *udnām*, Ht *wedenas* (< sg §170).

Loc IE *udn-su* > Skt *udasu*.

§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 *hāls* (*ῥῥῥ*) 'salt', Gen *hālos* (*ῥῥῥ*) etc. But Ht has several *-l* stems e.g. *tayatsel* (< IE (*s*)*tāyotēl*) 'theft', Gen *tayatselas* etc.

§126. IE *-n* stems

Stems: (Mc) IE *rēḡen-*, Skt *rājan-* 'king', Gk *poimen-* 'shepherd', Ht *memiyan-* 'word'; (Mc) IE *nomen-*, Skt *nāman-* 'name', Gk *onomat-* 'name', Ht *laman-* 'name'.

Singular

Nom IE *rēġēn* > Skt *rājā*, Gk *poimén* (ποιμήν), Ht *memiyas* (for **memiya* on analogy of Ht *-a* stems).

Voc IE *rēġēn* > Skt *rājan*, Gk & Ht (=Nom).

Acc IE *rēġēn-m* > Skt *rājānam*, Gk *poiména*, Ht *memiyan* (for Ht **memiyanan*, haplological or influence of *-a* stem).

Nt (Nom-Acc-Voc) IE *nōmen/nōmn* > Skt *nāma*, Gk *ónoma* (ὄνομα), Ht *laman* (for **naman* by dissimilation).

Inst IE *rēġēn-a* > Skt *rājñā*, Ht *lamnet* (§97).

Dat IE *rēġēn-ai* > Skt *rājñe*, Gk & Ht (=Loc).

Loc IE *rēġ(e)n-i* > Skt *rājñi/rājani*, Gk (Dat) *poiméni*, Ht *memiyani/lamni*.

Abl-Gen IE *rēġ(e)n-os* > Skt *rājñas*, Gk *poiménos*, Ht (Gen) *memiyanas* (Abl) *memiyanats* (§99).

Plural

Nom-Voc IE *rēġēn-es* > Skt *rājānas*, *poiménes*, Ht *memiyanes*.

Acc IE *rēġ(e)n-n-s* > Skt *rajñas*, Gk *poiménas*, Ht *memiyanus* (*us* < **uns* < **nns* §103).

Nt (Nom-Acc-Voc) IE *nōmen-ə* > Skt *nāmāni*, Gk *onómata* (< IE *nōmn-t-ə*), Ht (=sg ; influence of *i/u* stems).

Inst IE *rēġēn-bhis* > Skt *rājabhiḥ*.

Dat-Abl IE *rēġēn-bh(y)os* > Skt *rājabhyas*.

Gen IE *rēġ(e)n-ōm* > Skt *rājñām*, Gk *poiménōn*, Ht (Gen-Dat) *memiyanas* (< Gen sg §107).

Loc IE *rēġēn-su/rēġn-su* > Skt *rājasu*, Gk *poimési*.

Dual see (§§109—112).

Gk Nt *-n* stems have been extended by *-t-* (excepting in Nom sg).

§127. IE *-m* stems

IE *-m* stems were 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.

Stems : IE *ǵh₂dom-*, Skt *kṣam-* 'earth', Gk *khthon-* 'earth', Ht *degan-* 'earth'.

Singular

Nt (Nom-Acc-Voc) IE *ǵh₂dom̃* > Skt *kṣam*, Gk *khthōñ*, Ht *degan*
(< **dgan* < **gdan*).

Inst *ǵh₂dom-a* > Skt *kṣamā*.

Abl-Gen *ǵh₂d(o)m-os* > Skt *kṣmas*, Gk *khthonós*, Ht *dagnas*.

Loc *ǵh₂dom-i* > Skt *kṣami*, Gk (Dat) *khthoní*, Ht *dagni/dagna* (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. *manāṃsi*), probably on analogy with *vāṃs* (*vās/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.

Stems : (Mc) IE *dusmenes-*, Skt *durmanas-* 'hostile', Gk *dusmenes* 'hostile'; (Nt) IE *nebhos-*, Skt *nabhas-* 'sky', Gk *nephos-* 'sky', Ht *nebes-* 'sky'.

Singular

(Mc) Nom IE *dusmenēs* > Skt *durmanās*, Gk *dusmenēs* (*δυσμενής*).

(Mc) Voc IE *dusmenes* > Skt *durmanas*, Gk *dusmenēs*.

(Mc) Acc IE *dusmenesm* > Skt *durmanasam*, Gk *dusmenéa*.

Nt (Nom-Acc-Voc) IE *nebhes* > Skt *nabhas*, Gk *nēphos* (*νέφος*), Ht *nebes*.

Inst IE *nebhes-a* > *nabhasā*.

Dat IE *nebhes-ai* > Skt *nabhase*, Gk & Ht (=Loc).

Loc IE *nebhes-i* > Skt *nabhasi*, Gk (Dat) *nēphēi*, Ht (Dat) *nebesi*.

Abl-Gen *nebhesos* > Skt *nabhasas*, Gk *nēpheos*, Ht (Gen) *nebesas* (Abl) *nebesats* (§99).

Plural

(Mc) Nom-Voc IE *dusmenes-es* > Skt *durmanasas*, Gk *dusmenées*.

(Mc) Acc IE *dusmenes-ns* > Skt *durmanasas*, Gk *dusmenéas*.

Nt (Nom-Acc-Voc) IE *nebhes-s* > Skt *nabhāmsi*, Gk *néphea*.

Inst IE *nebhes-bhis* > IE *nebhez-bhis* > Skt *nabhobhiṣ*.

Dat-Abl IE *nebhes-bh(y)os* > IE *nebhez-bhvos* > Skt *nabhobhyas*.

Gen IE *nebhes-ōm* > Skt *nabhasām*, Gk *népheōn*.

Loc IE *nebhes-su* > Skt *nabhassu*, Gk *népnessi/néphesi*.

§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.

Stems : IE *pod-*, *bheront-*, *ghost-*, *dont-*, Skt *pad-* 'foot', *bharant-* 'bearing', Gk *pod-* 'foot', *pheront-* 'bearing', Ht *gast-* 'hunger', *dant-* 'taken', *ayant-* 'hot'.

Singular

Nom-Voc IE *pōt-s* (< IE *pōd-s*), *bheront-s* > Skt *pāt*, *bharan*, Gk *pōs*, *phérōn* (πῶς, φέρων), Ht *gasts* (< IE *ghost-s*), *dants* (< IE *d-onts*).

Acc IE *pōd-m*, *bheront-m* > Skt *pādam*, *bharantam*, Gk *pōda*, *phéronta*, Ht *gastan*.

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

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

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

Loc IE *podī*, *bhernt-i* > Skt *padi*, *bharati*, Gk (Dat) *podī*, *phéronti*, 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 *ped-os*, *bhernt-os* > Skt *padas*, *bharatas*, Gk *podós*, *phérontos*, Ht (Gen) *gastas*.

Plural

Nom-Voc IE *pōd-es*, *bheront-es* > Skt *pādas*, *bharantas*, Gk *pōdes*, *phérontes*.

Acc IE *pōd-ns*, *bhernt-ns* > Skt *padas*, *bharatas*, Gk *pōdas*, *phérontas*.

Nt (Nom-Acc-Voc) IE *bheront-s* > Skt *bharanti*, Gk *phéronta*, Ht *aanta* (= *ayanta*).

Inst IE *pod-bhis*, *bhernd-bhis* (< *bhernt-bhis*) > Skt *padbhiḥ*, *bharadbhiḥ*.

Dat-Abl IE *pod-bh(y)os*, *bhernd-bh(y)os* > Skt *padbhyas*, *bharadbhyas*.

Gen IE *pod-ōm*, *bhernt-ōm* > Skt *padām*, *bharatām*, Gk *pedōn*, *phérontōn*.

Loc IE *pod-su* (< IE *pod-su*), *bherntsu* > Skt *patsu*, *bharatsu*, Gk *possí*,
phérousi (< **pheron-t-si*).

Dual sec (§§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) *eġ, eġo, eġom, eġhom* (§84) (ii) *me*³ (iii) *mene* (or *me* + particle *ne* §§134 & 139) (iv) *wei* (v) *nes/nos/ns* (vi) *meġhi* (vii) *sme/smo* (*sme/smo* is found only as the second element in the first person) (§134).

Singular

Nom IE $e\hat{g}/e\hat{g}o/e\hat{g}om/e\hat{g}hom >$ Skt *aham*, Gk $eg\acute{o}n$ ($\epsilon\gamma\acute{o}\nu$) (length of $-o-$ may be due to influence of $phérō$; **ego ephleron* : **egōn pherō*), Ht *ug* (< IE $e\hat{g}$; $u-$, due to influence of *tug*) (also used as Acc-Dat), Av *azəm* (< IE $e\hat{g}om/e\hat{g}hom$).

Acc IE $m\acute{e} >$ Skt $mā$ (enclitic)/ $mām$ ($-m$ due to influence of non-personal pronouns), Gk $mē(n)$ ($\mu\epsilon\acute{\nu}$) ($-n$ like Skt $-m$ above)/ $emé$ ($\epsilon\mu\acute{\epsilon}$) (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*, $m\acute{e}ghi >$ Skt *me* (enclitic), *mahyam* (with $-am$ on analogy of *aham*), Lat *mihī*, Gk $moī/emoi$ ($\mu\omicron\iota/\epsilon\mu\omicron\iota$) (see Acc $emé$ for $e-$)/ $emín$ ($\epsilon\mu\iota\nu$) (prothetic $e-$ + min < * $smin$ (§134), Ht (=Acc).

Loc IE *moi* > Skt *mayi* (< IE $moi+i$ > IE *moyi* : $-i$ 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 $emoū/emōio$ (< $e-me+so/syo$; 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 $-me/-mu$ ($-u$ on analogy of *tu*).

Plural

Nom IE *wei*, *wei-s*, *wey-om* > Skt *vayam* (Av *vaem*, OP *vayam*), Gk (Hom/Lesb) $\acute{a}mmes$ ($\acute{\alpha}\mu\mu\epsilon\varsigma$)/(Doric) $\acute{h}āmés$ ($\acute{\alpha}\mu\epsilon\varsigma$) (< Acc $ns-sme-$ with $-s$ extension)/(Ionic-Attic-Hom) $\acute{h}ēmeis$ (IE $ns-smes-es$) (with pl ending $-es$ of nouns extended), Ht *wes* (cp Goth *weis*)/Ht *antsas* (See Acc).

Acc IE $nos/ns/ns-sme >$ Skt *asmān* (with inflection of non-personal pronoun)/*nas* (enclitic), Gk (Hom) $\acute{a}mme$ /(Dor) $\acute{h}āmé$ (< **asme* < IE

$\text{ns-sme})$ /(Ionic) hēmeas (IE $\text{ns-smes} + \text{ns}$, with $-s$ extension of the stem as in Nom+inflection of a non-personal pronoun), Ht antsas (< * $\text{ans} + \text{ans}$ < IE ns (stem) + ns (ending of Acc pl of non personal pronouns). (This is Acc-Dat but also used as Nom).

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

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

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

Abl IE ns-smed > Skt asmad (Av ahmat), Ht antsedats (< IE ns-ed-ats ; $-ed-$ on analogy of amedats (Abl sg)).

Inst IE ns-sme- > Skt asmābhiḥ (influence of demonstrative fem).

Enclitic nos > Skt nas , Ht nas (Lat nōs).

Dual

This is not found in Ht.

Nom-Acc IE $\text{nōu}/\text{wē}$ > Skt āvām (Vd Nom also āvam)/(Acc) nau (enclitic), Gk nō , O Bulg ve , Goth wit .

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

Gen-Loc IE wē > Skt āvayoḥ /(Gen) nau (enclitic), Gk Gen-Dat (< Loc) nōin < * $\text{nōu} + \text{in}$).

Enclitic IE nōu > Skt nau .

§132. The Second Personal Pronoun

The stems are (i) $\text{tewe}/\text{twē}/\text{tu}$ (ii) te/to (iii) yus (iv) wes/us (v) sme smi(n) .

Singular

Nom IE $\check{t}u/\check{t}w\text{-}om > \text{Skt } tvam \text{ (Av } \check{t}u/\check{t}ūm), \text{ Gk (Dor) } \acute{t}u(\acute{\tau}u)/\text{Ion-Att) } \acute{s}u(\acute{o}v) \text{ (s- due to influence of } se \text{ (Acc)), Ht } tseg \text{ (< IE (Acc) } \acute{t}e \text{ but Ht (Acc) } tug \text{ (< IE (Nom) } tu \text{ ; confusion of Nom \& Acc in Ht is also in the first person).}$

Acc IE $\check{t}e/\check{t}we/\check{t}oi > \text{Skt } tvām \text{ (-m, with inflection of non-personal pronouns)/(enclitic) } tvā \text{ \& } te, \text{ Gk (Dor) } \acute{t}e/(\text{Ion-Att) } \acute{s}e \text{ (< IE } twe), \text{ Ht (Acc-Dat) } tug \text{ (< Nom } tu)(-g \text{ in } tug, tseg \text{ etc. on analogy of } ug \text{ (§131).}$

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

Loc IE $\acute{t}woi > \text{Skt } tvayi \text{ (like } mayi \text{ §131) Gk } soi.$

Gen IE $tewe/twe > \text{Skt } tava, \text{ Gk (Hom) } \acute{s}eto \text{ (< IE } twe\text{-}syo) \text{ (Att) } \acute{s}otē/(\text{Ion) } \acute{s}eo, \acute{s}etē \text{ (< IE } twe\text{-}so) \text{ (Gk has } -syo/-so \text{ from non-personal pronouns), Ht } twel \text{ (IE } twe+el \text{ (§131).}$

Abl IE $twed > \text{Skt } tvad, \text{ Ht } twedats \text{ (like } amedats \text{ §131).}$

Inst IE $\acute{t}woi > \text{Skt } tvayā \text{ (cp Skt } mayā \text{ §131).}$

Enclitic IE $toi > \text{Skt } te/ \text{ (Acc) } tvā, \text{ (cp Gk } toi), \text{ Ht } te/tu/ta \text{ (< IE } \acute{t}o \text{ alternative of IE } \acute{t}e).$

Plural

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

Acc IE $yussme/us\text{-}sme/sme/wos > \text{Skt } yuṣmān \text{ (cp } asmān \text{ (§131)/(enclitic) } vas, \text{ Gk (Hom) } hūmmes/(\text{Dor) } hūnē/(\text{Ion) } hūméas \text{ (-as like } émeas \text{ §131), Ht (Acc-Dat) } smes \text{ (initially written } sumes \text{ etc. Vide Nom).}$

Dat IE $yus\text{-}sme/yus\text{-}sme\text{-}bhyom/wos > \text{Skt } yuṣme \text{ (Vd) (< Loc)/} yuṣmabhyam/(\text{enclitic) } vas, \text{ Gk Dat (< Loc), Ht Dat=Acc.}$

Loc IE $yus\text{-}sme\text{-}i/(y)us\text{-}smin > \text{Skt } yuṣme \text{ (Vd)/} yuṣmāsu \text{ (cp } asmāsu \text{ §131), Gk (Dat) } hūmmīn \text{ (cp } ammin \text{ §131).}$

Gen IE *yus-sme* > Skt *yuṣmākam* (like *asmākam* §131), Gk (Hom) *hūmeiōn*/(Ion-Dor) *hūméōn* (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 Gen 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 *yuṣmābhis* (like *asmābhis* §131).

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

Dual

This is not found in Ht.

Nom-Acc IE *yū/wē* > Skt *yuvām/vām* (enclitic), Gk *sphṓ/sphōi* (< Reflexive).

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

Gen-Loc IE (?) > Skt *yuvayoḥ*, 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-*, *māmakīna-* etc. (< Skt *mama-* < IE *me-ne-*); *madīya-*, *matka-* etc. (< IE *med*); *asmad-*, *asmadīya-* etc. (< IE *ns-smed-*); Gk *emó-* (< IE *me-*); *hēmétero-* (< IE *ns-sme-tero-*); Ht *me-/ma-/met-* (< IE *me/mo/med*).

(ii) Second Personal Possessive

IE *te-/ted-*, *two-/twe-*, *yus-sme-/sme-* etc. > Skt *tvadīya-*, *tuatka-*, *yuṣmad-*, *yuṣmadīya-* etc., Gk *só-* (< IE *two-*, cp Av *θwa-*) *teó-* (< IE *tewo-*), Ht *te-*, *tet-*, *sme-*, *smet-*.

(iii) Third Personal Possessive

IE *so-*, *tod-* > Skt *tadīya-*, *tad-*, Gk *hó-* (< IE *swo-* (Reflexive), *heó-* (< IE *sewo-* (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* (analogy 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-keĩnos*), 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-/to-* > Skt *sa-/ta-*, Gk *ho-/tó-*, Ht *sa-/ta-*.

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

(vi) IE *ke-*, *ko-*, *ki-*, *ku-* > not traceable in Skt, but cp Lith *szen*, *szis*, & OBulg *ši*, Gk *ke* (*e-ke-i*, *keĩnos*), *-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 *q^wi-* & *q^wu-*; §§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 *dwo-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), *mīn* (< 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-/bhi-* > Skt *ubha-* (< IE *u+bho*), *sphé-/sphī* (< IE *s(e)-bhe/s(e)-bhi* §133(b)), *amphī* (< IE *mm+bhi*), 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+yo* > Skt (Vd) *tya-/sya-*, OP *tya-/hya-*.

(xiii) IE *nn/no+yo* > Skt *anya-* 'another'.

(xiv) IE *el/ll+yo* > Gk *állo-*, cp Lat *alius*.

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

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

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

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

(xix) IE *e+ke+eno* > Gk *ekēno-/ekēno-*.

(xx) IE *de+eno* > Gk *deina/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 :

Singular

Nominative

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 *tón*, 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 *tal*.

Dative

Mc IE *to+ai/ to+sme+ai* etc. > IE *tōi/tosmēi* etc. > Skt *tasmai, asmai*, Gk *tōi*, Ht *edi* (< Loc IE *e-do-i*), *edani* (< Loc IE *edo-no-i*).

Fem IE *tā+ai/ to+syā+ai* etc. > IE *tāi, tosyāi* > 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 Apabhramśa *tāha*) Gk *toō*, 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-sme+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 *vrkeṇa* §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 *toi, oi* etc. > Skt *te* Gk *toi*, Ht *e, se* (for **te* analogical).

Fem IE *tās, ās* etc. > Skt *tās*, Goth *θōs*, but Gk *taí* (< Dual §78).

Accusative

Mc IE *tons* > Skt *tān*, Gk *tóns/toús*, Ht *as* (< **ans* < IE *o-n*s), *us* < **a+us* < IE *o+Ht us* < IE *nns* §103).

Fem IE *tans/tās* > Skt *tās*, Gk *táns/tās*.

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

Dative-Ablative

Mc IE *toibh(y)os* > Skt *tebhyas*, Ht (Dat) *edas* (< Gen sg §107) Gk Dat (< Loc).

Fem IE *tābh(y)os* > Skt *tābhyas*.

Locative

Mc IE *toisu* > Skt *teṣu*, Gk (Dat) *toisi*.

Fem IE *tāsu* > Skt *tāsu*, Gk (Dat) *tēisi/tāisi*.

Genitive

Mc IE *to+ōm/toi-so+ōm* > IE *tōm/toisōm* > Skt *teṣām*, Gk *tōn*, Ht *kel* (< IE *ke+el* §134(xi)), *kentsan* (< IE *ke+ēm* (Gen pl alternative of *ōm*)+*sōm*) (cp Second Personal Pronoun Gen pl §132).

Fem IE *tā+ōm/tā-so+ōm* > IE *tām/tāsōm* > Skt *tāsām* Gk (Hom) *tāōn*/(Dor) *tān*.

Instrumental

Mc IE *toibhis* > Skt *tebhiḥ*.

Fem IE *tābhis* > Skt *tābhiḥ*.

Dual

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

§136. The Interrogative Pronoun

The Interrogative Pronoun was formed in IE with *q^wo-* (Fem *q^wā*), *q^we-*, *q^wi-* & *q^wu-*. *q^wu-* 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*, *kuvid* (Vd) etc., Gk *hópuī*, and Ht *-ku* (in *kwis-ku*) may be derived from IE *q^wu* (> **k^wu* > *ku*) or *k^w* (§134(vi)).

Singular

Nom IE *q^wos* (Fem *q^wā*), *q^wis* > Skt *kas* (Fem *kā*), Lith *kas* Goth *huas*, Gk *tis*, Ht *kwis*, Lat *quis*.

Acc IE *q^wom* (Fem *q^wām*), *q^wim* > Skt *kam* (Fem *kām*), *kim* (used as Nt sg in Skt), Gk *tina* (< **tin* (< IE *q^wim*) + *a* (< IE *m*), extended from the Acc sg of consonantal declension analogically and *tin-* becomes the stem) Ht *kwin*.

Nt (Nom-Acc) IE *q^wod*, *q^wid*, *q^wud* > Skt *kim* (< Mc Acc sg), *kad* (RV), *cid* (in Indefinite Pronoun *kaś-cid* etc.), **kud* (as in *kut-sita* given above), Gk *tí*, Ht *kwat*, *kwit*, Lat *quod*, *quid* etc.

Dat IE *q^wōi/q^wosmōi* (Fem *q^wāi*, *q^wosyāi*) > Skt *kasmai* (Fem *kasyai*) Gk *tēōi/tōi* (< IE *q^wesōi*), Ht *kwedani* (< IE *q^we-do-no-i*) (§134(vii)).

Loc IE *q^woi/q^wo-smi(n)* (Fem *q^wo-syām*) > Skt *kasmin* (Fem *kasyām*).

Gen IE *q^wo-syo/q^we-so* > (Fem *q^wo-syās/q^we-syās* etc.) > Skt *kasya*, (Fem *kasyās*) Av *cahyā*, Gk *téo*, Ht *kwel* (IE < *q^we+el* §134(xi)).

Abl IE *q^wōd/q^wo-smōd* etc. (Fem=Gen-Fem) > Skt *kasmād*, Ht *kwets* < *q^we-t(o)s* §99).

Inst IE *q^wō* (Fem *q^wā/q^waya*) > Skt *kena* (cp *tena* §135) (Fem *kayā*).

Plural

Nom IE *q^woi* (Fem *q^wā*) > Skt *ke* (Fem *kās*), Gk *tínes* (with *tin-* as base see Acc sg), Ht *kwe*/(also) *kwes* (< *kwe+es* on analogy of Nouns).

Acc IE *q^wons* (Fem *q^wans/q^wās*) > Skt *kān* (Fem *kās*), Gk *tínas* (*tin-* base, as above), Ht *kwi^{us}* (< *kwi* (< IE *q^wi*) + *us* < IE *nns*)/(also) *kwes* (< Nom pl).

Nt (Nom-Acc) IE *q^wā/q^wai* > Skt *kāni*/(Vd) *kā*, Gk *tína* (< *tin-* base, as above), Ht *kwe* (< IE *q^wai*), cp Lat *quae*, Oscan *pai*, OPrussian *kai* 'what'.

Dat-Abl IE *q^woibh(y)os* (Fem *q^wābh(y)os*) > Skt *kebhyas* (Fem *kābhyas*), Ht (Dat) *kwedas* (< IE *q^we-do-s* < Gen sg), Gk Dat < Loc.

Loc IE *q^woisu* (Fem *q^wāsu*) > Skt *keṣu* (Fem *kāsu*), Gk (Dat) *téoi* (< IE *q^we-so-* Gen sg used as stem).

Gen IE *q^woisōm* (Fem *q^wāsōm*) > Skt *keṣām* (Fem *kāsām*), Gk *tēōn* (< stem *teo-* < IE *q^weso-* as above).

Inst IE *q^woibhis* (Fem *q^wābhis*) > Skt *kebhiḥ* (Fem *kābhiḥ*).

§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 *tīs* but Indefinite *tīs*). Indefinite was often expressed by combination of two Interrogative stems, e.g., Skt *kaścid* (< IE *q^wos+q^wid*), Fem *kācid* (< IE *q^wā+q^wid*), Nt *kiñcid* (< IE *q^wim+q^wid*), *kaccid* (< IE *q^wod+q^wid*); or Skt *kaścana* (< IE *q^wos+q^we+ne*), Fem *kācana* (< IE *q^wā+q^we+ne*), Nt *kiñcana* (< IE *q^wim+q^we+ne*). Only the first element was inflected e.g. Skt Nom *kaścid*, Acc *kañcid*, Inst *kenacid* etc.

Gk uses *tīs* as Indefinite; Gk has a Relative-Indefinite with a combination of Relative Pronoun **yo-* (§138) with Indefinite **q^wi-* e.g. *hós-tīs* (< IE *yos-q^wis*), *hóti* (< IE *yod-q^wid*).

Ht *kwis-ka*, *kwis-ki*, *kwis-ku*, *kwis-a*, Nt *kwiṭki* (Final *-ka*, *-ki*, *-ku* may be < IE *q^wo-/q^wi-/q^wu-* with loss of labial element due to dissimilation or < IE *kō-/ki-/ku-* (§134(vi)) & final *-a* < IE *-o* (§134(i)).

§138. The Relative Pronoun

The Relative pronoun *yo-* (Fem *yā-*) is clearly represented in Skt (*yas*) and Gk (*hós*), 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.

IE $q^{w}o/q^{w}e/q^{w}i/q^{w}u >$ 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 *sīm*, (cp OP *sīm* used as pronoun).

IE *no/ni/nu* > Skt *na* (particle of comparison in Vd), *ni* (in *tā·ni*, **asme·ni*, Asokan *apheni* etc.) (§134), Gk *ni/nu* etc. (§134), Ht *na* (also *ni* of *edani* may be < IE *edo·ni* beside IE *edonoī* 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) $q^{w}o-/no-/wo-$.

IE *oi-q^{w}o-* > Skt *eka-* cp Proto-Skt *aika* in the loan word in Ht documents.

IE *oi-no-* > Gk *oinós* 'ace', OLat *oinos*/Lat *ūnus*, Goth *ains* (cp Skt pronoun *ena-*).

IE *oi-wo-* > Gk *oīos* 'alone', OP *aiva* 'one', Skt *eva* (particle) 'only'.

(b) IE *sem-/sm-/sm̥-* > Skt *sam-/sa-* (Prefix) 'together', Gk *éns-/ês-/ēs* (< IE *sem*)/*hâ-* (IE *sm̥*), *mía* (< IE *sm-*), Ht *sa* (Prefix) (§35).

Two : IE *dwo-* with dual inflection. Mc IE *dwō(u)* > Skt *dvā* (Vd)/*dvau*, Gk *dúō* (< IE *duwō*), 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 *dwiþōds* > Skt *dviþāt*, Gk *dípous*, Lat *bipēs*.

THREE : IE *trei-/tri-/*(Fem) *ti-sr-* (<**tri-sr-*). Mc *treyes* > Skt *trayas*, Av *θrayō*, Gk *treis*, 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 *swe-ser* > Skt *svasar-* 'sister', Ht *supisaras* 'virgin', beside Ht *supis* 'pure'. Nt IE *triā/trī* > Skt *trī* (Vd)/*trīṇi*, Gk *tría*, Lat *trī*.

FOUR : IE *q^wetwer-/q^wetur-/q^wtur-/*(also) *q^wetr/*(Fem) *q^wetesr-* (like *tisr-* above) Mc *q^wetwores* > Skt *catwāras*, Gk (Hom) *téssares/pisures*, (Ion) *tésseres*, (Att) *téttares* etc. (different forms from different ablaut bases, with various assimilations of *-tw-* and developments of *q^w-*), Lat *quattuor*, Av *catwārō* etc., Ht *turan* (may be compared if it originally meant 'four' §57). Fem IE *q^wetesres* > Skt *catasras*, Av *catanrō*, OIrish *cetheoir*, Nt IE *q^wetwera* > Skt *catvāri*, Gk (Att) *téttara*, (Hom) *téssara* etc.

FIVE : IE *penq^we* > Skt *pañca*, Av *panca*, Gk *pénte*, Lat *quinque* Goth *fimf*.

SIX : IE *s(w)éks* > Skt *ṣaṭ* (stem *ṣaṣ-* in *ṣaṣ-ṭhas* 'sixth'), Gk *héks/* (dialectal) *wéks*, Lat *sex*, Av *xšvas*.

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

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

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

TEN : IE *dekm* > Skt *daśa*, Gk *déka*, Lat *decem*, Av *dasa*, Goth *taihun*.

ELEVEN : IE *oiq^wo-dekm/oino-dekm/oiwo-dekm/sem-dekm* > Skt *ekādaśa* (-ā- on anasogy 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*, *pañcadaśa*, *ṣoḍaśa* (<**saḍdaśa* < IE *s(w)éksdekm*), *saptadaśa*, *aṣṭādaśa*, *navadaśa/ekonaviṃśati*, Gk *treis kai déka* etc.

TWENTY : IE *wikmti* > Skt *vimśati* (*i* > *im*), Gk *eikosi*/(dialectal) *wikati*, Lat *viginti*.

THIRTY : IE *triḱmt(ə)* > Skt *triṃśat*, Gk *triákonta*.

FORTY : IE *q^wwetwerēḱmt(ə)* > Skt *catvāriṃśat*, Gk *tettarákonta*.

FIFTY : IE *penq^weḱmt(ə)* > Skt *pañcāśat*, Gk *pentékonta*.

SIXTY—NINETY : *s(w)eks-ti/s(w)eksə-kontə* etc. > Skt *ṣaṣṭi*, *saptati*, *aṣṭi* (< IE *ok̑iēti*) and *navati*, Gk *heksēkonta*, *hebdomēkonta* (< ordinal), *ogdoēkonta* (< ordinal) and *ennēkonta*.

HUNDRED : IE *ḱmtom* > Skt *śatam*, Gk *hekatón* (see §58 for examples from other IE languages).

THOUSAND : IE *(sm-)ḡheslo-* > Skt *sahasra-*, Av *hazaṇrō*, Gk *khéllioi*, *khīlioι* 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 *-sya-*. 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*)*bharam*, Gk (*ē*)*pheron*, cp Ht *gwenesta* (< IE (*e*)*g^whenesto*).

§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 *marmaĩrō* (< **mar-mar-yō*), Ht *hashasan* 'they opened' (< √*has* 'open').

(ii) Reduplication of the initial consonant with the reduplicating vowel *e* (sometimes with its ablaut-variants *ē*/NIL, which was quite common with Perfects, but was also found with others, e.g. with Perfect: IE *d-e-dorĕ-e* (√*derĕ*) > Skt *dadarśa*, Gk *dédorke*; with Present: IE *d-e-dō-mi* (beside *didōmi* as in (iii) below) > Skt *dadāmi* (beside Gk *dídōmi* in (iii) below) cp Gk *mēm̄nēmai*, Ht *memai* < **memmai* < **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 *tiṣṭhāmi*, Gk *hístēmi* (ἵστημι), Ht *titami*; IE *didōmi* > Gk *dídōmi* (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 *e*, see (ii) above) is very common in RV, e.g. *jāgarti jāgāra* cp Gk *dēdēkhetai* (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-wōq^w-e* for IE *w-e-wōq^w-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-* (< \sqrt{pars}) and *tutush-* (< \sqrt{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 *-ō* & *-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 *-ō* (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* (ἐῖμι), Ht *esmi*.

(b) dissyllabic root ending in *-s* used as stem e.g. IE *wemə+mi* > Skt *vamāmi*, Gk *émeō* for **emami*, (with analogical change of **a* (<IE *s*) 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)thāmi* > Skt *tiṣṭhāmi*, Gk *hístēmi* (ἵστημι), Ht *titami*.

(b) with *-e* as the reduplicating vowel (§144(ii)) e.g. IE *dhedhēmi* > *dadhāmi*, Gk *memnēmai*, 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 *ǵhuǵheumi* > Skt *juhomi*, Ht *tutuskesi* 'you manage', cp Lat (Perfect) *pupugī*.

(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/nā/n* > Skt *nā/nā/n*, Gk *nā/na/n*, Ht *na/n* e.g. IE *m₁-nā-ti*, *m₁-nā-tes*, *m₁-n-onti* > Skt *m₁ñāti*, *m₁ñātas*. *m₁ñanti*, 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-ño-mi* & Gk *ór-nū-mi*) with *neu/nu* e.g. IE *r-neu-mi* > Skt *r-ño-mi* 'I move', Gk *órñūmi*, Ht *arnumi*; IE *r-nu-mes/men* > Skt *rñumas*, Gk *órnumen*, Ht *arnumeni*.

4a. cp Ht (denominative) *esharnwantsi* < IE *esr-nw-onti*.

4b. Skt has another present class : root+*o/u* (< IE *eu/u*) which has developed by metanalysis of *tanoti* (< IE *tn-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 *lambánō* 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* (< \sqrt{yug}) > Skt *yunakti*, cp Ht *nenektsi* (-*ne-*), *nenkantsi* (-*n-*), *nenenkantsi* (-*nen-*) < \sqrt{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)+*é/ó* (accented). Ht has lost this two fold distinction due to phonetic decay (i.e. Ht *luketsi* may be < IE *leugeti/lugeti*) e.g. IE *bhérei/bhér-e-ti* > Skt *bharati*, Gk *phérei*, Ht *luketsi*; IE *tud-é-ti* > Skt *tudati*, Gk *graphéi* (Ht *luketsi*).

7. Root+*ske/sko* > Skt *ccha*, Gk *ske/sko*, Ht *ske/ska* e.g. IE *g^wm-ske-ti* > Skt *gacchati*, Gk *báskei*, Av *jasaiti*; IE *r-ske-ti* > Skt *rcchati* Ht *arsketsi*.

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

7b. Reduplicated Root+*ske* e.g. IE *gîgñōskō* > Gk *gignōskō*.

8. Root+*nu+é/ó* > Root+*nwe/nwo* e.g. IE *i-nw-e-ti* > Skt *invati* 'sends', Gk *tínō* (< **tinwō*).

9. Root+*ne/no* e.g. IE *mr-ne-ti* > Skt *mṛṇati*, Gk *kámnō*.

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

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

12. Root+*ĝe* e.g. IE *sphr-ĝe-ti* (beside IE *sphrr-e-ti*) > Skt *sphūrjate* (beside *sphurati*, Ht *sparetsi*), Gk *spharagēmai*; IE *ūb-ĝe-ti* (beside **eub-ti* > **eup-ti*) > Skt *ūbjāti* 'rises' (beside Ht *uptsi*).

13. Root+*ye/yo*.

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

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

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

(d) Ht has also *ye/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. *tarmami* : *tarmaetsi*, which may be most conveniently explained as *a* < **aa* < **aya* < IE *oyo/āyo* and *ae* < **aye* < 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 *phobeō* (< **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 *h* §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 *-ē* (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 *-ō*, 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

(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', *ep* 'take', *ar(arnu-)* 'bring'.

Singular

1st Person

(i) athematic IE -*mi* e.g., IE *es-mi* > Skt *asmi*, Gk *eimí*, 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 *phérō*, 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) *essi/ēs*, Ht *gvesi* (< **gwensi* < IE *g^when-si*)/*gventi/gweti* (< IE *g^when-the*).

IE *bheresi* > Skt *bharasi*, Gk *phéreis*, cp Ht *sakti* (< **-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 *estí*, Ht *estri*; 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 *phérei*, 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/adweni* (< IE *ed-weni* Dual; for Ht *ad- §17*)/*arnumeni* (< IE *r-nu-meni*, beside Skt *rñumas(i)* < IE *r-nu-mes(i)*); IE *bhero-mes(i)/-men(i)* > Skt *bharāmasi* (*-ā-* for *-a-* on analogy of *bharāmi*), Gk *phéromes* (Dor)/*-men* (Att), Ht *sakweni*.

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 *epteni* (< IE *ēp-thene*); IE *bherethe(ne)* > Skt *bharatha/(Vd) bharathana*, Gk *phérete*, Ht *sekteni*.

3rd Person IE *-enti/onti/-nti/-nti* (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 *antsi/ntsi* e.g., IE *(e)s-enti* > Skt *santi*, Gk (Dor) *hentí/(Att) eisi*, Ht *asantsi* (for *as- §17*) IE *bher-o-nti* > Skt *bharanti*, Gk (Dor) *phéronti/(Att) phérousi*, Ht *sekantsi*.

Dual

The Dual endings are lost in Ht. That they have merged with pl is inferable 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) -vasi*, Gk *-men* (< pl), cp Ht (pl) *-weni/-wani* e.g. IE *(e)s-wes(i)/-wen(i)* > Skt *svas/(Vd) svasi*, Gk (=pl); IE *bhero-wes(i)/-wen(i)* > Skt *bharāvas/(Vd) bharāvasi*, 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 *phéretón*.

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 $-m/-m/-mm > \text{Skt } -m/-am, \text{ Gk } -n/-a, \text{ Ht } -nun/-un/-hun$ (Ht $-un < \text{IE } -mm$, 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 $(e)es-m(m) > \text{IE } \tilde{e}s-m(m) > \text{Skt } \tilde{a}sam, \text{ Gk } \tilde{e}a$ (also $\tilde{e}i/\tilde{e}n$), Ht *esun*; IE $(e)bhero-m > \text{Skt } abharam, \text{ Gk } \epsilon\phi\eta\epsilon\rho\eta\alpha\iota, \text{ cp Ht } arnunun$.

2nd Person IE $-s > \text{Skt } -s, \text{ Ht } s$ (rare)/*ta* ($< 3\text{rd Person}$) e.g., IE $(e)es-s > \text{IE } \tilde{e}s > \text{Skt (Vd)} \tilde{a}s/(\text{classical}) \tilde{a}s\tilde{i}\tilde{s} (< \tilde{a}s-is-s \text{ Aorist}), \text{ Gk } \tilde{e}stha$ (Perfect used as Imperfect) Ht *esta* (with $-ta < 3\text{rd Person}$); IE $(e)bhere-s > \text{Skt } abharas, \text{ Gk } \epsilon\phi\eta\epsilon\rho\epsilon\varsigma, \text{ Ht } tarnas$.

3rd Person IE $-t > \text{Skt } -t, \text{ Gk NIL}$ (because final $-t$ is LOST in Gk) Ht $-ta (< \text{middle } -to)/-sta (< s \text{ (Aorist)} + ta)/-s < -st (< s \text{ (Aorist)} + t)$. (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 $(e)es-t > \text{IE } \tilde{e}st > \text{Skt (Vd)} \tilde{a}s (< *\tilde{a}st)/(\text{classical}) \tilde{a}s\tilde{i}\tilde{t} (< \text{Aorist } *\tilde{a}sist), \text{ Gk (Dor)} \tilde{e}s/(\text{Att}) \tilde{e}n, \text{ Ht } esta, nais (< *naist); \text{IE } (e)bhere-t > \text{Skt } abharat, \text{ Gk } \epsilon\phi\eta\epsilon\rho\epsilon, \text{ Ht } tarnesta$.

Plural

1st Person IE $-me > \text{Skt } -ma, \text{ Gk } -men$ (Primary), Ht $-men$ (Primary)/ $-wen (< \text{Dual})$, e.g. IE $(e)es-me > \text{Skt } \tilde{a}ma, \text{ Gk } \tilde{e}men, \text{ Ht } eswen; \text{IE } (e)bhero-me > \text{Skt } abharāma, \text{ Gk } \epsilon\phi\eta\epsilon\rho\eta\mu\epsilon\alpha\iota, \text{ cp Ht } tarnumen (< *tarnamen \text{ on analogy of } arnumeni)$.

2nd Person IE $-te > \text{Skt } -ta, \text{ Gk } -te, \text{ Ht } -ten (< \text{IE Dual } -tem)$ e.g. IE $(e)es-te > \text{IE } \tilde{e}ste > \text{Skt } \tilde{a}sta, \text{ Gk } \tilde{e}ste, \text{ Ht } esten; \text{IE } (e)bhere-te > \text{Skt } abharata, \text{ Gk } \epsilon\phi\eta\epsilon\rho\epsilon\tau\epsilon, \text{ Ht } tarnaten/tarnasten (< -s \text{ (Aorist)} + ten)$.

3rd Person There were two alternative endings.

(i) IE $-ent/-ont/-nt/-nt > \text{Skt } -an (< *-ant)/-n (< *nt)/-at (*-nt), \text{ Gk } -on (< *-ont)/-n (< *nt), \text{ LOST in Ht}$.

(ii) IE $er/r/rr > \text{Skt } ur(< *rr)$, Ht er , lost in Gk (but found in Lat etc.) e.g. IE $(e)es-ont/-er/-rr > \text{Skt } \bar{a}san/(\text{Perfect}) \bar{a}sur$, Gk (Dor) $\bar{e}n/(\text{Att}) \bar{e}san$, Ht $eser$; IE $(e)bhero-nt > \text{Skt } abharan$, Gk $\acute{e}pheron$; IE $(e)did-nt > \text{Skt } adadat$, cp Gk $\acute{e}didon$ (for $*edida$ analogical formation after $\acute{e}pheron$).

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 $-we > \text{Skt } -va$, Gk $-men (< \text{pl})$, cp Ht (pl) $-wen (< \text{Primary})$ e.g. IE $(e)es-we > \text{Skt } \bar{a}sva$, Gk $\bar{e}men$ (cp Ht (pl) $eswen$); IE $(e)bherewe > \text{Skt } abhar\bar{a}va$, Gk $\acute{e}pheromen$.

2nd Person IE $-tem/-tom > \text{Skt } -tam$, Gk $-ton$ (cp Ht (pl) $-ten$) e.g., IE $(e)es-tem/-tom > \text{Skt } \bar{a}stam$, Gk $\bar{e}ston$ (Ht (pl) $esten$); $(e)bhere-tem/-tom > \text{Skt } abharatam$, Gk $\acute{e}ph\acute{e}reton$.

3rd Person IE $t\bar{a}m > \text{Skt } t\bar{a}m$, Gk $t\bar{a}n/t\bar{e}n$ e.g., IE $(e)es-t\bar{a}m > \text{Skt } \bar{a}st\bar{a}m$, Gk $\bar{e}st\bar{e}n$; IE $(e)bhere-t\bar{a}m > \text{Skt } abharat\bar{a}m$, Gk $\acute{e}ph\acute{e}ret\bar{e}n$.

§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 $-re$) $< \text{IE } -rai$, used for distinguishing the Present tense. One verb has $-ni$ (e.g. $warani$) 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. $waranu$) by dissimilation of $-r$.

(3) $-t$ (Secondary 3rd Person sg ending $-t$) and $-di$ (written $-ti$) ($< \text{Impv } -dhi$) are generally used to distinguish the Preterite and sometimes for the Impv.

Skt *-sma* (as in *gacchati-sma* '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

Roots : IE *ēs*, *bher*, *kei*, Skt *ās* 'sit', *bhar* 'bear', *ṣi* 'lie', Gk *ēs* 'sit', *pher* 'bear', Ht *es* 'sit'.

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 *hēmai*, *phēromai*.

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

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

Plural

1st Person IE *-medhai* > Skt *-mahe*, Gk *-metha* (< Secondary) IE *ēsmédhai*, *bheromedhai* > Skt *āsamahe*, *bharāmahe*, Gk *hēmetha*, *phérómetha*.

2nd Person IE *-dhwai* > Skt *-dhve*, Gk *-sthe* (< Secondary). e.g. IE *ēz-dhwai* (< *ēs-dhwai*), *bheredhwai* > Skt *āddhve*, *bharadhve*, Gk *hēsthe*, *phéresthe*.

3rd Person

(i) IE *-ontai*/*-ntai*/*-ntai* > Skt *-ante*/*-nte*/*-ate*, Gk *-ontai*/*-ntai*/*-atai*.

(ii) *-rntai* > (found in) Skt *-rate*.

(iii) *-rai* > Skt *-re* (cp Ht *-ri* §150).

e.g. IE *ēs-ntai*, *bherontai*, *kei-rntai*, *kei-rai* > Skt *āsate*, *bharante*, *śerate*, *śere*, Gk *heíatai* (Hom), *phérontai*.

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*tai*), 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 *-ṇha* (originally *thēs* may be athematic and *-so* thematic). e.g. IE *ēs-thēs*, *ebhere-so* > Skt *ās-thās*, *abharathās* (but Av *baraṇha*), Gk *hēso*, *ephéreo* (< **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* (*aduh-a*) (< IE *e-dhugh-o*), Gk *hēsto*, *ephéreto*, Ht *esta/esa* (< IE *ēs-to*, *ēs-o*).

Plural

1st Person IE *medhə* > Skt *mahi*, Gk *metha*/(Homeric also) *mettha* (< contamination of *mes+metha*), Ht *wasta* (contamination of IE Dual *wes+IE Dual wedhə*) e.g. IE *ēs-medhə*, *ebheromedhə* > Skt *āsmahi*, *abharāmahi*, Gk *hēmetha*, *epherómetha*, Ht *eswasta-* (in *eswasta-di* for *-di* §150).

2nd Person IE *dhwe*/*dhwem*/*dhwom*/*dhum* > Skt *-dhva* (once in RV)/*-dhvam*, Gk *-sthe* (< *-dhwe*, with initial *-s-* by metanalysis of forms like *ēsthe* 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) *hēiato* (< **ēato*), *ephéronto*, Ht *estanta*.

Dual

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

1st Person Skt *vahi* (< IE *wedhə*), 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 *ezdhi*), *bheredhi*, *idhi* > Skt *edhi* (< IIR *azdhi* cp Av *zāi*), **bharahi* (cp MIA *hohi* < Skt **bhavahi*), *idhi/ihi* Gk *ísthi* (< **sthi* < 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 **lad* (< 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).

§151. 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 *NIL* 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 *phére*, 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 *astī*) 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-me* > 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)/*i̯* (for thematic bases). This is retained in Skt & Gk and lost in Ht, e.g. 3rd Person sg, IE (*e*)*s-yēt* > Skt *syāt*, Gk *eiē* cp Lat *siet*; IE *bher-o-i̯-t* > Skt *bharet*, Gk *phéroi* Gothic *batrāi*.

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 *dédorke*) and occasionally with other vowels (§144), which might have also been analogical creations sometimes (e.g. Skt *mumoca* for **mamoca* beside regular *babhūva*). There are also some Perfect forms without reduplication e.g., IE *woida* > Skt *veda*, Gk *oida*. 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 *oida*.

2nd Person -tha e.g., IE *woid-(s)-tha* > Skt *vettha*, Gk *oīstha*.

3rd Person -e e.g., IE *woid-a* > Skt *veda*, Gk *oīde*.

Plural

1st Person -me (< Secondary ending) e.g. IE *wid-me* > Skt *vidma*, Gk *idmen*.

2nd Person ? Skt -a (e.g. *veda*), Gk -te (e.g. *iste*).

3rd Person ? Skt -ur(<rr) (e.g. *vidur*), Gk -āsi(<*anti) (e.g. *isāsi*)

Dual

1st Person ? Skt -va (< Secondary -we) (e.g. *vidva*), Gk -men (e.g. *idmen*).

2nd Person ? Skt -athur (e.g. *vidathur*), Gk -ton (e.g. *iston*).

3rd Person ? -atur (e.g. *vidatur*), Gk -ton (e.g. *iston*).

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 *sasāda* and *papāta* 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-* > IIr *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 $\sqrt{as}/\sqrt{kr}/\sqrt{bhū}$ (e.g. *vidām āsa/cakāra/babhūva*) and in Ht an inflected form of \sqrt{harg} (written *hark*) (cp Skt \sqrt{arh} (§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 *epēpithmen*.

§160. The Skt -au Perfects

Mono-syllabic roots ending in *-ā* (< IE *ā/ē/ō*) ended in *-au* in 1st and 3rd sg Perfect, in Skt e.g., *dadhau*, *dadau* and *tasthau* < $\sqrt{dhā}$, $\sqrt{dā}$ & $\sqrt{sthā}$ 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 *wlq^wō*) : *vrkau* (< IE *wlq^wōu*) 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 *téthēka*, *dédōka*, and *hésiāka* etc., where *tethe-* 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 *dédorka* (< IE *d-e-dork-a*) into *de-dor-ka*. This *-ka* has been analogically extended to *téthēka* etc., which would otherwise appear as bare stems, e.g., **tethē* (< *tethē+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 (sigmat) 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 *éste* (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-ug^w-om* > Skt *avocam*, Gk *éipon* (< **eeupon*) IE (*e*)-*ĝ-i-ĝen-e-t* > Skt *ajījanat*.

The Sigmatic Aorist was of four types in Skt : (i) -s- Aorist (e.g., *a-nai-ṣ-am* < IE *e-nēi-s-mm*) (ii) -sa- (< IE -so) Aorist (e.g., *a-dik-ṣa-t* < IE *e-dik-so-t*) (iii) -iṣ- Aorist (e.g., *a-tār-iṣ-am* < IE *e-tēr-is-mm*) and (iv) -siṣ- Aorist (e.g., *ajñā-siṣ-am* < IE *e-ĝnō-sis-mm*) ; but it was of only one type in Gk e.g., *édeiksa* (< 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-srāv-i*), Gk has a Passive Aorist with -thē- as formative (e.g., *é-do-thē-n*) and another with -ē- as formative (e.g., *é-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).

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 *deiwo-ye-ti* < IE *deiwo-* > Skt *devayati* (< *deva-*), Gk *philōō* (< *phīlo-*), Ht *irmaleyatat* (< *irmala-*) (b) with *-nu*, IE *esr-nu-ti* (< *esr-*) > Ht *esharnutsi* (< *eshar-*) (c) with bare substantive, IE *putleti* (< *putlo-*) > Skt *putrati* (< *putra-*).

Ht has a denominative in *-a/-ae-* (§146(14c)). Ht has another denominative where inflected forms of \sqrt{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 *pātayati*, Gk *potéomai*; Ht has, however, causatives with stem-affix *-nu* (e.g., *asnutsi* < IE *as-nu-ti* < \sqrt{es} 'to sit') and *-ne* (*hark-ne-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-se-ti* > IE *ditseti* > Skt *ditsati* (< Skt $\sqrt{dā}$ < IE $\sqrt{dō}$).

(b) The Frequentative is formed in Skt with the full root reduplicated, taking the base-affix **-ye-* and middle endings. e.g. IE *g^wem-g^wom-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 *pēpsō* < IE *peq^ws(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 \sqrt{es} as

auxiliary. e.g., Skt *gacchann asti* (< IE *g^wmskonts 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 *gantārau*, pl *gantāras* (< IE *g^wom-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 *phéront-*, Ht *adant-* (< IE *(e)dont-* for Ht *a* < IE *e* §17).

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

(iii) IE *-meno/-mēno/-mno* (with Present-Aorist-Perfect middle) e.g., IE *bheromeno-* > Skt *bharamāṇa-*, Gk *phérómeno-*, Av *baramna-*, cp Skt *kurvāṇa-* (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 *klu-tos* > Skt *krutās*, 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 *viprccham* 'to ask', Dat *dr̥še* 'to see', Loc *dr̥si* '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 *-dhyai* e.g., *gamadhyai* '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/ein/ēn* (< **esen* Loc Infinitive, from Loc without ending) was formed from thematic stems e.g., *pherein* '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 *-dhyai* above) e.g. *eidesthai*.

(3) Ht : (a) *-mantsi/-wantsi* (< IE *-monti/-wonti*), Loc Infinitives from stems in *-mont/-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 *apana* (< IE *aponōi*, 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. Upasargas & Prefixes

IE *au/awo/wo/wi* > Skt *ava/va* '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 *aná* '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) (*t-* in *hanti* has remained on analogy of *anta*).

IE *apo* > Skt *apa* 'away', Gk *apo* '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 *ek* > Skt **ās* (in *ās-car-ya*), Gk *ek/eks* 'out of'.

IE *eti/ti* > Skt *ati* 'beyond' (Av *aiti*), Gk *ēti* 'also', Ht *tsi* (also written *tse*) (< IE **ti*).

IE *edhi* > Skt *adhi* 'upon' (Av *aidi*).

IE *en* > Gk *en* 'in', Ht *en* 'in' (in *emeyatsi* 'mixes' < **en-meyati*).

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' (< IE *bhe/bhi*).

IE *ud* > Skt *ud* 'up', Gk *hūd* (*hūs-* as in *hūsteros*).

IE *upo* > Skt *upa* 'near', Gk *hūpo* 'under'.

IE *kata* > Gk *kāta* 'down', Ht *kata/katan* 'down'.

IE *dus* > Skt *duṣ* 'bad', Gk *dūs-* 'bad'.

IE *ni* > Skt *ni* 'down' (Av *ni* OP *niy*).

IE *nis* > Skt *niṣ* 'out' (Av *niṣ*).

IE *perā* > Skt *parā* 'away', Ht *peran* 'forth'.

IE *peri* > Skt *pari* 'around', Gk *perí* 'around'.

IE *pro* > Skt *pra* 'forth', Gk *pró* 'before', Ht *pra* 'forth' (written *p^ara*).

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

IE *sem/sm* > Skt *sam/sa* 'together', Gk *hen/ha/a* 'together, one', Ht *sa* 'together' (for **san* §35).

IE *su* > Skt *sui* 'good' (cp Gk *eu-*, *hu-* 'good' & Ht *asu* 'good').

ABBREVIATIONS

Acc	Accusative
AD	anno Domini
Adv (adv)	adverb
Alb	Albanian
Aor	aorist
Arc	Arcadian (Greek)
Arm	Armenian
Att	Attic (Greek)
Av	Avestan (<i>or</i> Avesta)
BC	before Christ
c	circa
cp	compare
Dat	Dative
dlct	dialectal
Dor	Doric (Greek)
e.g.	exempli gratia
etc (etc.)	etcetera
fem (Fem)	feminine
Gen	Genitive
Gk	Greek
Goth	Gothic
HG ¹	(Sturtevant's) A Comparative Grammar Of The Hittite Language (First Edition)
HG ²	(Sturtevant's) A Comparative Grammar Of The Hittite Language (Revised Edition)
Hom	Homeric (Greek)
Ht	Hittite
i.e.	id est
IE	Indo-European
Impv	imperative
Inst	Instrumental
Ion	Ionic (Greek)
Lat	Latin

Lesb	Lesbian (Greek)
Lith	Lithuanian
Loc	Locative
Mc (masc)	masculine
MIA	Middle Indo-Aryan
Nom	Nominative
Nt (neut)	neuter
NE	New English
OBulg	Old Bulgarian
OE	Old English
OHG	Old High German
OIcel	Old Icelandic
OIrish	Old Irish
OLat	Old Latin
OP	Old Persian
OPruss	Old Prussian
Osc	Oscan
Pl (pl)	plural
RV	Rig Veda
Skt	Sanskrit
Sg (sg)	singular
Thess	Thessalian (Greek)
Tokh (A & B)	Tokharian (dialect A and dialect B)
Umb	Umbrian
Vd	Vedic
VS	Vājasaneyī Saṃhitā
>	becomes (<i>or</i> becoming)
<	comes from (<i>or</i> from)
*	hypothetical (* is not used with IE and IIr forms which are obviously hypothetical)

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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.

Indo-European (Reconstructed)

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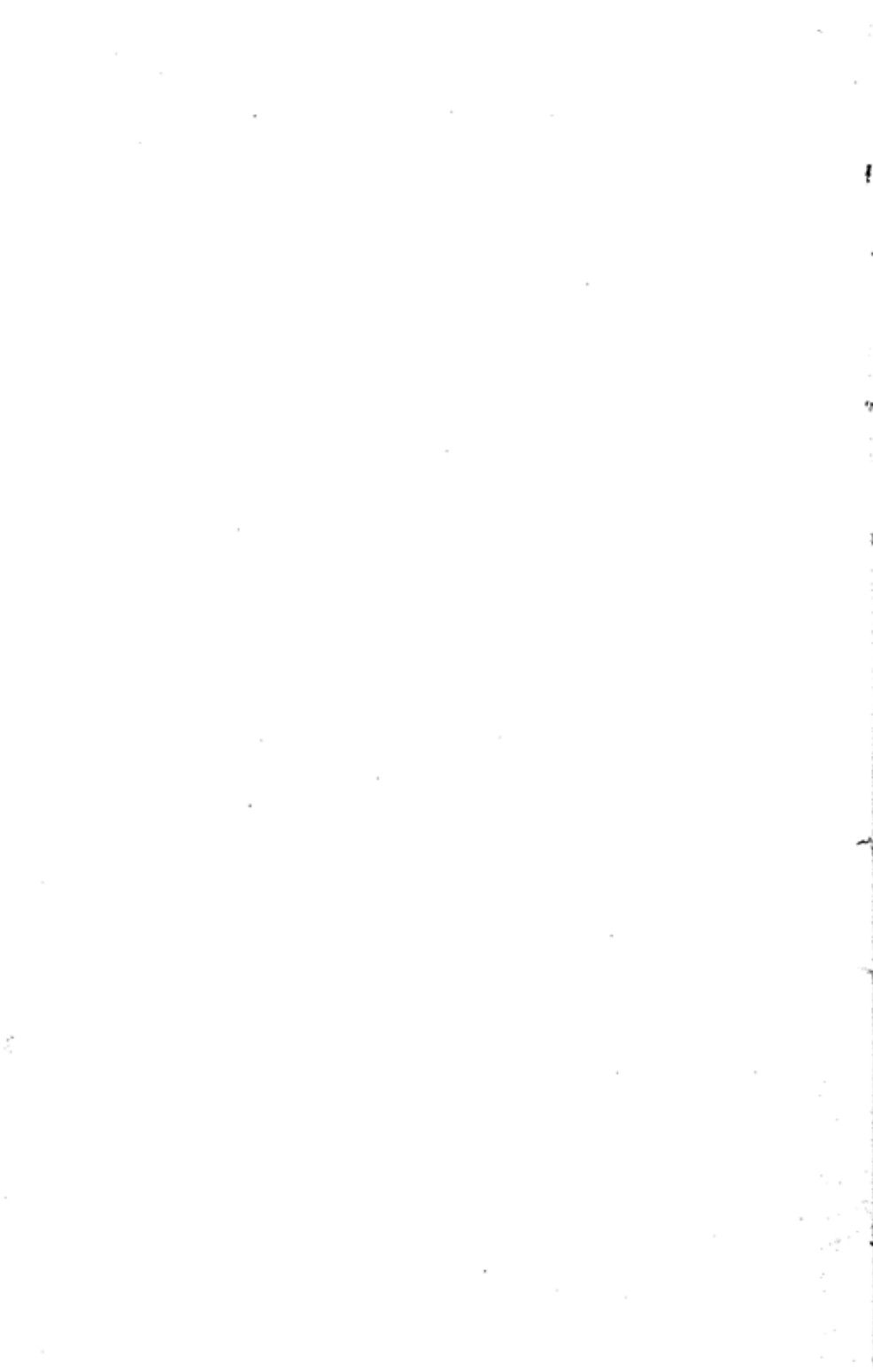
gaem 60*pimp* 64*pwȳ* 64

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CORRIGENDUM

PAGE	LINE	FOR	READ
11	4 (from bottom)	IE <i>a/o</i>	IE ^u <i>a/o</i>
11	4 („)	Ht <i>ē</i>	Ht <i>e</i>
12	3 („)	Snt	Skt
12	2 („)	<i>ēstai</i>	<i>hēstai</i>
16	11 (from top)	<i>virus</i>	<i>virus</i>
20	3 („)	<i>l</i>	<i>l̄</i>
24	3 („)	<	>
24	2 (from bottom)	<i>vrkāu</i>	<i>vrkau</i>
28	10 („)	<i>ēstai</i>	<i>hēstai</i>
30	3 (from top)	<i>qh</i>	<i>g</i>
32	13 (from bottom)	(§7)	(§57)
37	12 („)	<i>hó</i>	<i>ho</i>
38	11 („)	<	>
39	1 („)	<i>tisthāmi</i>	<i>tiṣṭhāmi</i>
39	1 („)	<i>ṣtisthāmi</i>	<i>stiṣṭhāmi</i>
42	2 („)	<i>atsetsi</i>	<i>etsatsi</i>
48	5 (from top)	IE <i>*dalgas</i>	<i>*dalgas</i>
63	11 („)	Let	Lat
72	17 („)	<i>rajñas</i>	<i>rājñas</i>
84	7 (from bottom)	IE <i>toibhis</i> Skt <i>tebhiṣ</i>	IE <i>toibhis</i> , <i>tōis</i> Skt <i>tebhiṣ</i> , <i>laiṣ</i>
142	11 (from top)	‘smoke’	‘soul’



Carl
14.374

"A book that is shut is but a block"

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