Sanskrit: The Indo-European Perspective

Harald Wiese

January 27, 2020
Preface

Students of Sanskrit can choose among several good manuals, for example those by Deshpande [2007], Egenes [2011, 2012], Goldman and Goldman [2011], Harding Maurer [2009], Otter [2017], Rupel [2017], or Stiehl [2011]. Whichever they may choose, learning Sanskrit is a daunting task. Indeed, the author of one of those text books, Robert Goldman, mentions “the intricacies and frustrations of sandhi and the other terrors of Sanskrit” inflicted on successive student generations (Goldman and Goldman [2011, p. xix]). This book has been written in order to reduce these terrors of Sanskrit.

This book is not an alternative textbook for learning Sanskrit. Instead, it is to accompany these textbooks and written in the hope to make Sanskrit learning easier by explaining words and grammatical forms from an Indo-European point of view. Consider, for example Old Indian *ad* which means “to eat”, but is also historically related to both English *eat* and New High German *essen*. There was an Indo-European word *ed* that branched out into all these words over some millennia. Even e. *tooth* and nhg. *Zahn* stem from *ed* (or, taking the laryngeal perspective, *Hed*).

I may well fail in my endeavour to bring Sanskrit and Indo-European studies closer to each other once again. After all, Jakob Wackernagel [1896, p. LXXIV], who wrote “Altindische Grammatik” more than hundred years ago, had a similar aim in mind:

“... der Verfasser würde sich freuen, wenn es ihm gelänge ... die in den letzten Jahrzehnten gelockerten Bande zwischen Sprachwissenschaft und Sanskritphilologie wieder fester zu knüpfen”

While Wackernagel did put together the (in his time) state-of-the-art Indo-European outlook on Old Indian, he did not manage to influence language teaching, at least when judged from modern textbooks of Sanskrit. A case in point is Deshpande [2007 back cover], who hopes to simplify “the process of learning Sanscrit, by dissociating this language-learning process from the heavy burdens imposed, both by the tradition of Indo-European linguistics and the tradition of indigenous Sanskrit grammarians in India.” In my mind, the Indo-European perspective should be seen as helpful, rather than an extra burden. In this vein, this manual has a clear didactic purpose. It has been written to help the author and his fellow students to make the best didactic use of the Indo-European perspective on Sanskrit.

By the didactic purpose of this book, the knowledge of other Indo-European languages is not important. In particular, knowledge of Latin and Greek is not vital. We often use the Latin or Greek words found in modern English or German. We focus on Sanskrit, but briefly also mention Middle Indian languages. While Vedic grammar is ignored, Vedic vocabulary is occasionally mentioned. Accents (important in Vedic) are regularly
ignored. German words, and more rarely und unsystematically, French, Italian or Irish words are adduced. The reasons for including words are often rather subjective.

Fortunately, new Wackernagels (of sorts) have been written by Kobayashi [2004], Kümmerel [2014], and Goto [2013]. Readers interested in current state-of-the-art Indo-Aryan or Indo-European phonology and morphology had better turn elsewhere. Thanks and apologies for not citing appropriately are due to all the above-mentioned authors and also to many other authors of textbooks/grammars/dictionaries/articles: I copy Brugmann [2009, p. V]'s excuse: “Bei jeder Einzelheit anzugeben, wer über dieselbe gehandelt habe und wer der erste Urheber der von mir vorgetragenen Auffassung sei, schien mir einerseits durch den Zweck des Buches nicht geboten, andererseits aber wiederum durch die Raumverhältnisse ausgeschlossen.” I sometimes divert from this general practice and would be grateful if I am not asked for the general rule underlying these exceptions.

Heartfelt thanks are due, of course, to Sadananda Das, my Leipzig Sanskrit teacher and friend whose perfect command of Sanskrit is well beyond reach even after studying 10 Sanskrit textbooks and 5 manuals on Sanskrit as an Indo-European language.

This manual surely contains many mistakes. The author would be most grateful if some of these were pointed out to him. Also, additional material and other suggestions to present the subject matters in a different manner are most welcome. I like to thank Kerstin Szwedek for many helpful hints. Katharina Lotzen undertook the laborious work of producing the index. Maria Näther and Alexander Singer proved very efficient with LaTeX and Lyx. Jan Warzok carefully read a later version.

Ideally, and borrowing from Kobayashi [2004, p. 1], the current author enjoys, and hopes that other learners of Sanskrit may also enjoy, “a conspiracy-like tendency behind apparently unrelated phenomena”.

Leipzig, December 2019

Harald Wiese

---

Contents

D.1.2. Characteristics of thematic and atematic nouns ............................................. 203
D.1.3. A thematic nouns ......................................................................................... 203
D.1.4. Thematic nouns ......................................................................................... 205
D.1.5. In-between nouns ....................................................................................... 205

D.2. Nouns: endings ............................................................................................... 205
D.2.1. A few general remarks ............................................................................... 205
D.2.2. Locative singular ....................................................................................... 207
D.2.3. Locative pl. with su ................................................................................... 208
D.2.4. Genitive plural .......................................................................................... 209
D.2.5. Accusatives with m ................................................................................... 210

D.3. Nouns: weak and strong forms ..................................................................... 210
D.3.1. Introductory remark and overview ............................................................. 210
D.3.2. One stem, only ............................................................................................ 211
D.3.3. Stems on mant, vant, ant, ans .................................................................... 217
D.3.4. an- and m- stems like raj-an and yôg-in .................................................... 225
D.3.5. Agent and kinship nouns like nê-tar and pìtar ......................................... 231
D.3.6. Stems in long diphthongs ......................................................................... 234
D.3.7. Feminine ÷- and ù- stems ......................................................................... 235
D.3.8. ÷- and ù- stems ......................................................................................... 239

D.4. Adverbs from fossilized case endings ............................................................ 244
D.4.1. Accusative .................................................................................................. 245
D.4.2. Instrumental ................................................................................................ 245
D.4.3. Ablative ...................................................................................................... 245
D.4.4. Locative ...................................................................................................... 246
D.4.5. tas-suffix .................................................................................................... 246
D.4.6. sas-suffix ................................................................................................... 246
D.4.7. vat-suffix .................................................................................................... 246
D.4.8. dhà-suffix ................................................................................................... 246

D.5. Miscellanea ...................................................................................................... 247
D.5.1. Derivatives .................................................................................................. 247
D.5.2. Atmanépada present-tense particliles ............................................................ 248

E. Etymological dictionary ....................................................................................... 249
E.1. Introductory remarks ....................................................................................... 249
E.2. Vowels ............................................................................................................ 249
  E.2.1. a ................................................................................................................ 249
  E.2.2. ã ............................................................................................................... 267
  E.2.3. i ................................................................................................................. 269
  E.2.4. ì ............................................................................................................... 271
  E.2.5. u ................................................................................................................. 272
  E.2.6. ù ................................................................................................................. 275
  E.2.7. é, ài ............................................................................................................ 276
  E.2.8. o, òu .......................................................................................................... 277
  E.2.9. ê, âi .......................................................................................................... 278

VI
Contents

E.3. Velar stops ........................................ 278
   E.3.1. k ........................................ 278
   E.3.2. kh ...................................... 287
   E.3.3. g ........................................ 287
   E.3.4. gh ...................................... 294
E.4. Palatal stops ....................................... 295
   E.4.1. c ........................................ 295
   E.4.2. ch ...................................... 297
   E.4.3. j ........................................ 298
E.5. Dental stops and nasal ................................ 303
   E.5.1. t ........................................ 303
   E.5.2. d ........................................ 309
   E.5.3. dh ...................................... 320
   E.5.4. n ........................................ 324
E.6. Labial stops and nasal ................................ 330
   E.6.1. p ........................................ 330
   E.6.2. ph ....................................... 341
   E.6.3. b ........................................ 341
   E.6.4. bh ...................................... 344
   E.6.5. m ........................................ 349
E.7. Half vowels ......................................... 355
   E.7.1. y ........................................ 355
   E.7.2. r ........................................ 357
   E.7.3. i ........................................ 360
   E.7.4. u ........................................ 363
E.8. Sibilants ............................................ 370
   E.8.1. ± ......................................... 370
   E.8.2. s ........................................ 376
   E.8.3. š ......................................... 376
E.9. Aspirant h .......................................... 387

Index ...................................................... 393

Bibliography ............................................. 451
A. Introduction

A.1. Historical highlights

The idea of this manual is to make Sanskrit easier to learn by taking the Indo-European perspective. This allows to link Sanskrit to other languages possibly known to students and also to improve the understanding of Sanskrit peculiarities. In taking the Indo-European point of view, we are not undertaking anything new or innovative, of course. Indeed, Indo-European and Sanskrit studies were very close in the beginning of these subjects in the western world. Here is a short history.

Sir William Jones

Perhaps, both western Indology and Indo-European studies have been initiated by Sir William Jones (1746-1794) who learnt many different languages even before going to India (which was under British colonial rule) as a judge. It was only there that he came into contact with Sanskrit, relevant to him as the language of ancient law texts. In 1786, Jones gave a presentation at the Royal Asiatic Society in Calcutta. He notes that Sanskrit is very similar to Latin and Greek. These similarities cannot be explained by mere chance. Jones’ conclusion: All three languages stem from a common language which may not be in existence any more. Apart from these languages, Jones conjectures that Gothic and Celtic languages are also related.

Friedrich von Schlegel

In 1808, Friedrich von Schlegel publishes the monograph “Über die Sprache und Weisheit der Indier” (On the language and wisdom of Indians). Von Schlegel’s 300 pages strong book draws German and European attention to Sanskrit and also to the hypothesis put forward by William Jones whom Schlegel mentions in the very first sentence of the introduction. Von Schlegel (1808) then expresses the hope to kindle the love for Indian language and philosophy in Germany. He suggests a new renaissance. In the 15th and 16th century, the study of Greek language and culture grew prominent. Similarly, the Indian cultural heritage should be made fruitful for the presence. The new renaissance (with Yoga, Hare Krishna and Bollywood) might not have resonated well with Schlegel’s aspirations. However, indology as a university subject gathered momentum and Indo-European linguistics was exercised in several (predominantly German) universities, in particular in Berlin, Jena, Halle, and Leipzig.
Franz Bopp

Within Schlegel’s monography, the third chapter of the second book argues that “die innere Structur der Grammatik oder die vergleichende Grammatik” would be best suited to clarify Jones’ idea. Here, “vergleichend” means “comparative”—the focus is on juxtaposing words in different languages. It is Franz Bopp who takes up Schlegel’s suggestion in a systematic manner. In 1816, he publishes “Über das Conjugationssystem der Sanskritsprache in Vergleichung mit jenem der griechischen, lateinischen, persischen und germanischen Sprache”. In 1821, Bopp is offered the chair of “Orientalische Litteratur und allgemeine Sprachkunde” in Berlin. The range of languages accepted as Indo-European is steadily increasing. Bopp’s major work is called

Vergleichende Grammatik des Sanskrit, Zend, Griechischen, Lateinischen, Litauischen, Altslawischen, Gotischen und Deutschen

While Bopp is considered the founder of Indo-European studies, he focused on comparative work. He did not express sound laws.

August Schleicher

While Bopp can be credited with the successful application of the comparative method, sound laws and reconstruction of the Indo-European language were pursued by August Schleicher (1821 - 1868), professor in Prag and Jena, and August Friedrich Pott (1802 - 1887), professor in Halle. Schleicher’s approach is still relevant today. He introduced the convention to indicate reconstructed forms by an asterisk. Also, he was the first to use family trees (language trees) to visualize how languages can be traced back. The title of Schleicher’s main work is

Compendium der vergleichenden Grammatik der indogermanischen Sprachen.
Kurzer Abriß einer Lautere der indogermanischen Ursprache, des Altindischen (Sanskrit), Alteranischen (Altbaktrischen), Altgriechischen, Alttalischen (Lateinischen, Umbrischen, Oskischen), Altkeltischen (Altirischen), Altslawischen (Altbulgarischen), Litauischen, und Altdeutschen (Gotischen)

Thus, an Indo-European “Ursprache” (proto-language) was to be reconstructed. Schleicher was optimistic about the possibility of this project and even composed an Indo-European fable.

Karl Brugmann

Building on the work done by Schleicher and Bopp, the next major steps were done by the Leipzig school. It consisted of a group of scholar grouped around Schleicher’s pupil August Leskien (1840 – 1916), a renowned slavicist, and the younger philologist Karl Brugmann (1849 – 1919). They made Leipzig the world-wide center of Indo-European studies from about 1890 to 1920. Fortson IV [2004, p. 9] acknowledges: “By the dawn of the twentieth century, a picture of reconstructed [Indo-European] had emerged that was quite similar to the one that is presented” in that author’s textbook.
The researchers from the Leipzig school are also known as the “Junggrammatiker” (neogrammarians). They earned this slightly derogative term in their quarrel with Friedrich Pott from Halle and Brugmann’s teacher Georg Curius. The bone of contention: The older researchers distinguished between regular and irregular sound changes. In contrast, the younger generation insisted on the “Ausnahmslosigkeit der Lautgesetze” (sound laws valid without exception).

Ferdinand de Saussure

An important chapter for both indology and Indo-European studies was written by Ferdinand de Saussure (1857-1913). The young Swiss went to Leipzig from 1876 to 1880. Being 21 years of age, he published the “Mémoire sur le système primitif des voyelles dans les langues indo-européennes”. De Saussure claimed the existence of so-called laryngeals for Indo-European. His arguments build on some peculiarities of the Old Indian verbal classes. While his revolutionary ideas took quite a while to gain acceptance, laryngeal theory is accepted today and will play a very important role in this book. It is a pity that de Saussure did not live to learn about Hittite, a language discovered in Anatolia, some 150 kilometers east of Ankara. After being deciphered in 1917, the Polish linguist Jerzy Kuryłowicz (1895-1978) discovered Indo-European words in Hittite that have a *h*-sound at the very place where de Saussure expected a laryngeal! After leaving Leipzig, de Saussure went to Paris and finally became professor in Geneva. Nowadays, de Saussure, who made a ground-breaking discovery in Indo-European linguistics, is known to many as the founder of modern linguistics.

A.2. Language trees

The language family whose existence has been shown by Franz Bopp is called Indo-European and “Indogermanisch”, the latter term being used in German speaking countries. Both terms make sense. “Indogermanisch” refers to languages between India (Sanskrit) and Iceland (old Icelandic as a Germanic language) while “Indo-European” makes clear that nearly all European languages (in fact, without Finnish, Estonian, and Basque) together with Indo-Iranian languages are cognate. However, both terms are not quite correct because Tocharian has been identified as an Indo-European language which was spoken in (what is nowadays) China.

It is helpful to follow August Schleicher and think in terms of languages trees. The Indo-European language tree is shown in fig. A.1 It shows the most important language families that stem from Indo-European. We can zoom in on any specific branch. For example, the Germanic language tree is depicted in fig. A.2

Of special relevance for this manual, is, of course, the Indo-Iranian subtree. Old Indian (Sanskrit) can be Vedic or Classical Sanskrit. There are several Middle Indian languages,
A. Introduction

Figure A.1.: The Indo-European Language Tree

the oldest one being Pali which was primarily used in Buddhist scriptures. Other Middle Indian languages are Śaurasenī, Māghadhi, or Māhārāṣṭrī. These languages are normally addressed as Prakrit or Prakrits. The sound laws that differentiate Middle Indian (mi.) from Old Indian (oi.) are complicated and differ between the Middle Indian languages. We mostly use Pali (pa.) when we look for Middle Indian examples, but sometimes also Prakrit (pkt.). While Classical Sanskrit (in the sense of Pāṇini) is not a mother tongue of Pali or of (a) Prakrit, it is surely more conservative than these Middle Indian languages in most respects. However, one can find examples where Pali is more conservative than Vedic. Neither Vedic nor Sanskrit are mother tongues of Pali. But they are close to a mother tongue one tries to reconstruct. Many new Indian languages exist, such as Hindi, Bengali, Marathi, Gujarati, and others.

A.3. Sound laws

The Junggrammatiker’s dictum was the “Ausnahmslosigkeit der Lautgesetze” (regularity principle). In their own words:

Aller lautwandel, soweit er mechanisch vor sich geht, vollzieht sich nach ausnahmslosen gesetzten, d.h. die richtung der lautbewegung ist bei allen angehörigen einer sprachgenossenschaft, außer dem fall, daß dialektspaltung eintritt, stets dieselbe ...
Sound changes that are not mechanical come under two headings. First, levelling means that a pattern gets transferred from one occurrence to another one. Second, foreign words or loan words travel from another language.

The Junggrammatiker also had a different view on the Indo-European vowel system. Following Franz Bopp, August Pott and Georg Curtius assumed that the Indo-European language knew three short vowels, \( a \), \( i \), and \( u \), also found in Sanskrit. The youngsters contradicted. They opined that the Indo-European vowels \( a \), \( e \), and \( o \) collapsed into Indo-Iranian \( a \), while Old Greek preserved the Indo-European vowels particularly well. Their argument was based on the Ausnahmslosigkeit. If Sanskrit \( a \) were to reflect the Indo-European state of affairs, sound laws should tell under which conditions Indo-European \( a \) turned into Greek \( a \), \( e \), and \( o \). However, such sound laws are not to be found. Hence, the Leipzig-school researchers claimed

\[
\text{ie. } a/e/o \rightarrow \text{oi. } a
\]

where ie. means Indo-European and oi. refers to Old Indian (or Sanskrit).

As in the above example, we consistently use arrows to indicate that one word goes back to, or develops into, another one. For example,

\[
io. \, \tilde{\text{udhar}} \leftarrow \text{ie. } ^*\tilde{\text{udher}} \rightarrow \text{e. } \text{udder} \sim \text{nhg. } \text{Euter}
\]

is to be understood in the following manner:

\[
\diamond \quad \text{There was once an Indo-European word that we reconstruct as } \tilde{\text{udher}} \text{ (the asterix } ^* \text{ signals a reconstructed form).}
\]
A. Introduction

- It developed into Sanskrit (or Vedic) \( \tilde{a}dhar \).
- In a parallel fashion (see fig. A.1), the Indo-European word is also present in Germanic languages, such as New High German (nhg.) \( \text{Euter} \) or English (e.) \( \text{udder} \).

The symbol \( \sim \) is used for cognate words where we have neither nhg. \( \text{Euter} \rightarrow \text{e. udder} \) nor the other way around. This is clear from fig. A.2 above.

All the sound laws assumed in this book are of the above diachronic sort. Specific “rules” get applied in a determined sequence. The use of language trees and the neogrammarian regularity principle have been under attack from different perspectives. Criticism against the simple neogrammarian viewpoint has been raised from dialectology, sociolinguistics, and/or constraint-based approaches. While dialectology (see [Hock 1991, chapter 15]) and sociolinguistics (see [Hock 1991, chapter 20]) have their respective merits, I think that they are best left aside in a book like this one. As [Hock 1991 p. 660] summarizes, “the neogrammamian regularity principle still remains a heuristically useful and important criterion for historical linguistic research.” Similarly, the current author does not negate the importance of constraint-based approaches where one would rule out certain changes rather than letting them happen and providing an “antidote”. Oftentimes, these approaches may be both simpler and closer to the historical facts. However, it is not easy to decide which description is more accurate and, more to the point for my endeavour, which descriptions are easier to grasp and to memorize.

A.4. Analogy and levelling

Sound laws consist of regularly applied rules of change. Often, they lead to irregular forms in comparison to some dominant paradigm. Then, “analogical change” (short: “analogy”) or “levelling” is applied against the sound laws to restore a paradigmatic regularity. We quote from Sihler [2000, p. 73]:

- By analogy, one can understand “the influence of one form or class of forms on the pronunciation of another”.
- Levelling is “the elimination (or reduction) of functionless alternation”.

We will often use the word “analogy” to refer to these kind of changes. Sometimes, we apply (what is also called proportional) analogy according to the following pattern:

<table>
<thead>
<tr>
<th>( a ) with property ( X ): ( b )</th>
</tr>
</thead>
<tbody>
<tr>
<td>just as ( A ) with property ( X ): ( ? )</td>
</tr>
</tbody>
</table>

where \( ? = B \) is the “solution”. Alternatively, we use this pattern (most suitably for levelling):

<table>
<thead>
<tr>
<th>( a ) influenced by ( B ) with property ( X )</th>
</tr>
</thead>
<tbody>
<tr>
<td>turns into ( ? ) with property ( X )</td>
</tr>
</tbody>
</table>
with $A$ as the expected answer.

### A.5. Back-formation

Sanskrit is full of words composed from other words. Sometimes, the speakers misunderstood a word as a specific compound and falsely reconstructed constituents of that word. A related example from English is the tongue-in-cheek advice: “Be alert, the world needs lerts.” Here, alert has been “misunderstood” as a lert.

This phenomenon is called back-formation. In our example, the formation consists of adding the indefinite article $a$ to a noun like monkey yielding a monkey. Of course, from a monkey, we can safely assume a noun monkey. This is called back-formation. If we apply the same procedure (leaving out the indefinite article) to a lert, we obtain the noun lert. Indeed, back-formation is mostly used for wrong applications of these procedures. In our example, we may depict this procedure by

<table>
<thead>
<tr>
<th>$a$ monkey</th>
<th>with noun: monkey</th>
</tr>
</thead>
<tbody>
<tr>
<td>just as</td>
<td></td>
</tr>
<tr>
<td>$a$-lert</td>
<td>with noun lert</td>
</tr>
</tbody>
</table>

A prominent example for back-formation in Sanskrit concerns the negating particle $a$ (which is cognate with English $un$ as in unbelievable). We have

- **sums**, m. (“god”) and
- **asuras**, m. (“demon”)

However, the second does not originate from the first but the other way around, by back-formation:

<table>
<thead>
<tr>
<th>$a$-dêvas, m. (“demon”)</th>
<th>with negating $a$ from: dêvas, m. (“god”)</th>
</tr>
</thead>
<tbody>
<tr>
<td>just as</td>
<td></td>
</tr>
<tr>
<td>$a$-sums, m. (“demon”), falsely</td>
<td>with negating $a$ from: suras, m. (“god”)</td>
</tr>
</tbody>
</table>

### A.6. Conventions

The convention to quote nouns depends on the type of noun:

- **Nouns where the stem and the nom. sg. coincide:**
  - feminine nouns like dêvā (“goddess”)
  - feminine nouns like nadi
  - athematic neuter nouns like tapas (“heat”) or havis (“offering”)
- **Thematic nouns other than the dêvā or nadi type:**
  - masculine nouns like dhūrta (“rogue”)
A. Introduction

- masculine nouns like *mani* (“sage”)
- feminine nouns like *mati* (“mind”)
- feminine nouns like *camā* (“army”)
- feminine monosyllabic nouns like *dhī* (“intellect”)
- feminine monosyllabic nouns like *bhū* (“earth”)

but add the nom. sg. marker *s* whenever appropriate

◊ Neuter *a*-noun: *phalam* (“fruit”) with the ending *m*

◊ Thematic *a*-adjectives on like *dhūṛta* (“cunning”) without the ending

◊ A thematic *an*-nouns:
  - masculine *rāj-an* (“king”)
  - neuter *karm-an* (“act”)

◊ A thematic *in*-nouns like masculine *yāg-in* (“devotee, yogī”)

◊ In-between *tor*-nouns like masculine *nē-tar* (“leader”)

◊ In-between kinship nouns:
  - masculine *pīt-ar* (“father”)
  - feminine *māt-ar* (“mother”)

◊ A thematic nouns ending in long diphthong:
  - *rāy*, m./f. (“wealth”)
  - *glāv*, m. (“moon”)

With these conventions in place, genders need not always be indicated.

The meaning is indicated by inverted commas. In order to economize on inverted commas, I will use the notation

◊ “not going → tree” rather than

◊ “not going” → “tree”

and similar with commas between between words.

A.7. Overview

This is our plan for the book:
A.8. Abbreviations

Chapter “sound laws”

The next chapter deals with the most important sound laws for Sanskrit and also, to a minor degree, for other languages such as Latin, Greek, English, and High German. The reader is not expected to memorize all laws. Often, some telling examples may be as helpful. Also, we later repeat the sound laws when needed or refer to them.

Chapter “grammar: verbal system”

The chapters on grammar tries to make sense of an otherwise bewildering multitude of forms. In these chapter, we will focus on Sanskrit forms and will leave examples from other languages aside. The grammar chapter on the verbal system focuses on the ten verbal classes and on the forms that are derived from ablaut.

Chapter “grammar: nouns and adverbs”

The second grammar chapter focuses on nouns and adverbs.

Chapter “etymological dictionary”

The last chapter presents those Sanskrit words which have interesting cognates in other languages the typical reader may be expected to know. Thus, the focus is not on defending this or that reconstructed form but to build a net of words from different Indo-European languages.

A.8. Abbreviations

Cases

◊ abl. = ablative
◊ acc. = accusative
◊ dat. = dative
◊ gen. = genitive
◊ instr. = instrumental
◊ loc. = locative
◊ nom. = nominative
◊ voc. = vocative
◊ NVA = nom., voc., or acc.
A. Introduction

Numbers
◇ sg. = singular
◇ pl. = plural

A.8.1. Genders
◇ f. = feminine
◇ m. = masculine
◇ n. = neuter

A.8.2. Languages
Germanic
◇ e. = English
◇ germ. = Germanic
◇ nhg. = New High German
◇ nlg. = New Low German
◇ oe. = Old English
◇ ohg. = Old High German

Indo-Aryan
◇ hi. = Hindi
◇ mi. = Middle Indian
◇ oi. = Old Indian
◇ pa. = Pali
◇ pkt. = Prakrit
◇ skt. = Sanskrit (used for mi. words)
◇ ved. = Vedic
A.8. Abbreviations

Others

◇ ie. = Indo-European
◇ it. = Italian
◇ fr. = French
◇ gr. = Greek
◇ lat. = Latin
◇ nir. = New Irish
◇ ogr. = Old Greek
◇ oir. = Old Irish
◇ olat. = Old Latin

A.8.3. Sounds

◇ asp. = aspirated
◇ $C =$ consonants
  ◦ $C^{\text{lab}} =$ labial consonants
  ◦ $C^{\text{unlab}} =$ consonants other than labial ones
  ◦ $C^{\text{v}} =$ voiced consonants
  ◦ $C^{\text{u}} =$ voiceless consonants
  ◦ $C^{\text{asp}} =$ aspirated consonants
  ◦ $C^{\text{unas}p} =$ unaspirated consonants
◇ $D =$ dentals
  ◦ $D^{\text{v}} =$ voiced dentals
  ◦ $D^{\text{u}} =$ voiceless dentals
◇ $Di =$ diphthongs, also oi. such as ê/ay/âi/ây
◇ $Fg =$ full-grade (vowel)
◇ $hV =$ halfvowels
◇ $H =$ laryngeals $h_1$, $h_2$, $h_3$
◇ $L =$ liquids $r$, $l$
◇ $Lg =$ lenghtened-grade (vowel)
A. Introduction

- $N =$ nasals $\eta, \dot{n}, \ddot{n}, \mathring{n}, n, m$
- $P =$ plosives (stops)
  - $p_{\text{pal}} =$ palatal plosives
  - $p_{\text{unpal}} =$ plosives except palatal plosives
  - $p_{\text{vd}} =$ voiced plosives
  - $p_{\text{vd,unasp}} =$ voiced, unaspirated plosives
  - $p_{\text{vl}} =$ voiceless plosives
- $R =$ resonants ($L, N, hV$)
- $S =$ sibilants:
  - voiceless: $\mathring{s}, \ddot{s}, s$ (palatal, cerebral, and dental, respectively)
  - voiced: $\dot{z}, \underline{z}, z$
- unasp. = unaspirated
- $V =$ vowels
- $\ddot{V} =$ long vowels
- $\dot{V} =$ short vowels
- $\text{vd.} =$ voiced
- $\text{vl.} =$ voiceless
- $Zg =$ zero-grade (vowel)
- $\dot{b} =$ voiceless interdental spirant

A.8.4. Sound laws

- $a\ddot{a} =$ ie. to oi. vowel changes (p. 19)
- $\text{AFP} =$ consonants in Absolute Final Position (p. 45)
- $\text{ASH} =$ (Bartholomae’s) Aspiration Shift (p. 37)
- $\text{BA} =$ Backward Assimilation (p. 39)
- $\text{CCl} =$ simplification of Consonant Clusters (p. 44)
- $\text{Cer}n =$ Cerabralization of $n$ (p. 42)
- $\text{Cer}D =$ Cerabralization of Dentsals (p. 41)
- $\text{CpL} =$ Compensatory Lengthening, in particular
A.8. Abbreviations

- CpL\(d k\) for clusters \(d k\) (p. 51)
- CpL\(r\) for \(r\) (p. 50)
- CpL\(s\) for \(s\) (p. 50)
- CpL\(z\) for \(z\) (p. 47)
- DA = (Grassmann’s) De\(A\)spiration (p. 38)
- DIPH = DIPH\(thong\) before vowel and before consonant (p. 22)
- DzD = \(z\) sprouting or vanishing between \(D\)entals (p. 47)
- GER = first consonant shift (from ie. to GER\(m\)anic) (p. 70)
- hV = half\(v\)owel before vowel, vowel before consonant (p. 20)
- IE\_SY\_N = SY\(ll\)abic Nasals, representation in some ie. languages (p. 66)
- IE\_SY\_L = SY\(ll\)abic Liquids, representation in some ie. languages (p. 67)
- Lar = Laryngeal sound laws (p. 52), in particular
  - Lar\_CH, relating to laryngeals after a consonant and before a vowel (p. 52)
  - Lar\_V, lengthening or producing vowels in the absence of syllabic nasals or liquids (p. 27)
  - Lar\_SY, relating to laryngeals after syllabic nasals and liquids (p. 28)
  - Lar\_MT h about a metathesis of a laryngeal and a half\(v\)owel (p. 28)
- LAT\_DD = LAT\(in\) dental-plus-dental sequence (p. 70)
- LAT\_f = LAT\(in\) \(f\) (p. 69)
- LAT\_sr = LAT\(in\) \(r\) from ie. \(s\) (p. 70)
- LAT\_V = LAT\(in\) sound laws concerning vowels and diphthongs (p. 65)
- LAT\_u = LAT\(in\) \(u\) from ie. labio\(v\)elar \(g^w\) (p. 69)
- LawOfMorae = Middle Indian Law of Morae (p. 55)
- Lo = (Brugmann) Lengthening of ie. \(\theta\) in open syllable (p. 33)
- MET\_rSP methathesis of a vowel with \(r\) in order to prevent the indicated sequence (p. 46)
- MVS = More Vowel Sandhi (p. 50)
- NHG = New High German sound laws, in particular
  - NHG\_V, concerning vowels (p. 65)
A. Introduction

- NHG_C, concerning consonants (p. 71)
- NHG_E, where New High German proves more conservative than English (p. 73)

- OGR = Old Greek sound laws (p. 68)
- OGR_DA = Old Greek (Grassmann) DeAspiration (p. 69)
- PPal = Primary Palatalization (p. 35)
- RUKI = cerebralization of s (p. 41)
- rl = dialectal confusion of r and l (p. 46)
- SI = Syllabic Initial assimilations (p. 42)
- SIB = SIBilant clusters and palatal-sibilant clusters (p. 43)
- SPal = Secondary Palatalization (p. 36)
- sP(h) = Possible aspiration of Plosive after root-initial s (p. 46)
- SY_Conf = SYllabic Conflict (p. 27)
- SY_N = SYllabic Nasals, representation in oi. (p. 25)
- sz = voiceless s and voiced z before plosives (p. 39)
- VER = VERner’s law (p. 75)
- Vis = Visarga rules (p. 51)
- V+hV = emergence of vowel before the corresponding halfvowel (p. 21)

A.8.5. Grammatical terms

- ac./ag. noun = action/agent noun
- adj. = adjective
- athem. = athematic
- ātm. = ātmanēpada
- augm. = augment
- f.g. = full grade
- fut. = future tense
- B = borrowing, i.e., foreign or loan word
A.8. Abbreviations

- impf. = imperfect
- impv. = imperative
- lev. = levelling
- l.g. = lengthened grade
- n.at. = not attested
- PAP = past active participle (gatavant)
- par. = parasmâipada
- pers. = person, personal
- pf. = perfect (cakâra)
- pf.P = perfect participle (cakrvans)
- PN = proper name
- PPP = past perfect participle (gata)
- pres.P = present participle
- pres. tense = present tense
- PRII = present tense, imperfect, or imperative
- prim. end. = primary ending
- pron. = pronoun
- redup. = reduplicated
- sec. end. = secondary ending
- s.v. = sub verbo (i.e., dealt with in the dictionary)
- them. = thematic
- v. = verb
- w.-i. = word-initial
- w.-f. = word-final
- z.g. = zero grade
- √ = oi. root
- ∅ = no ending, no phoneme
A. Introduction

◊ $\rightarrow = \text{“develops into”}$

◊ $\leftarrow = \text{“originates from”}$

◊ $\sim = \text{“cognate with”}$
B. Sound laws

B.1. Indo-European phonemes

B.1.1. Vowels

It is assumed that Indo-European had short and long vowels, five each:

<table>
<thead>
<tr>
<th>short vowels</th>
<th>a</th>
<th>e</th>
<th>i</th>
<th>o</th>
<th>u</th>
</tr>
</thead>
<tbody>
<tr>
<td>long vowels</td>
<td>ă</td>
<td>ă</td>
<td>ă</td>
<td>ă</td>
<td>ă</td>
</tr>
</tbody>
</table>

While a, e, and o are always addressed as “vowels”, i and u are often called halfvowels (see below). They are consonantic before vowels, written ă and ă, respectively. We abbreviate:

- $V$ = vowels
- $\tilde{V}$ = long vowels
- $\breve{V}$ = short vowels
- $hV$ = halfvowels

I often use ie. ĕ and ie. ĥ interchangeably.

B.1.2. Consonants

Ie. consonants (abbreviated by $C$) might be:

- $P$ = plosives like $t$, țh, or $k^w$
- $L$ = liquids $r$, $l$
- $N$ = nasals $n$, $m$
- $R$ = resonants ($L$, $N$, $hV$)
- $S$ = sibilants: voiceless $s$
- $hV$ = halfvowels $y$, $v$

The Indo-European plosives ($P$) can be tabled in this manner:
B. Sound laws

<table>
<thead>
<tr>
<th>Sounds</th>
<th>vel., un.</th>
<th>vel., un.</th>
<th>vel., as.</th>
</tr>
</thead>
<tbody>
<tr>
<td>velars</td>
<td>k</td>
<td>g</td>
<td>gh</td>
</tr>
<tr>
<td>palatals</td>
<td>k'</td>
<td>g'</td>
<td>gh</td>
</tr>
<tr>
<td>dentals</td>
<td>t</td>
<td>d</td>
<td>dh</td>
</tr>
<tr>
<td>labials</td>
<td>p</td>
<td>b</td>
<td>bh</td>
</tr>
<tr>
<td>labio-velars</td>
<td>kw</td>
<td>gw</td>
<td>gw'h</td>
</tr>
</tbody>
</table>

◊ The table exhibits five rows, according to the place in the mouth where the sudden release of the stream of air originates.

◊ Note the labio-velar sounds. They are written as velars with w, for example gw or gw'h. k'w might have been pronounced similar to e. queen.

◊ The ie. palatal sounds were pronounced as k together with a y-sound. We write them as k etc.

◊ It is not quite clear whether the voiceless aspirated sounds (not present in the above table) existed in Indo-European. In any case, they were rather uncommon. Occurances of voiceless aspirated plosives are mostly explained by laryngeals (Lar CH) or by preceding s as in the oi. root chid or in oi. sphira.

Resonants comprise liquids, nasals, and halfvowels.

B.1.3. Halfvowels and syllabic nasals and liquids

i and u are vowels. But they are often called halfvowels because they turn into consonants before vowels, written y and v, respectively.

Inversely, nasals and liquids are consonant. However, between vowels they become syllabic, already in Indo-European times. These syllabic versions of nasals and liquids are denoted by circle below. The interplay of sounds that can become syllabic or consonantal is summarized in the following table:

<table>
<thead>
<tr>
<th>Sounds</th>
<th>consonants</th>
<th>vowels</th>
</tr>
</thead>
<tbody>
<tr>
<td>nasals</td>
<td>n</td>
<td>n</td>
</tr>
<tr>
<td></td>
<td>m</td>
<td>m</td>
</tr>
<tr>
<td>liquids</td>
<td>r</td>
<td>r</td>
</tr>
<tr>
<td></td>
<td>i</td>
<td>i</td>
</tr>
<tr>
<td>(half)vowels</td>
<td>y</td>
<td>i</td>
</tr>
<tr>
<td></td>
<td>v</td>
<td>u</td>
</tr>
</tbody>
</table>

B.1.4. Laryngeals

We now turn to the so-called laryngeals. Since laryngeal theory is very helpful for understanding and learning Sanskrit, we will (most of the time) apply it. Laryngeals are not
B.2. Vowel sound laws, laryngeal sound laws, and vowel gradation

covered above under the headings of “vowels” or “consonants” for two reasons. First, one does not really know how these sounds were pronounced. Second, the laryngeal development belongs to an early stage of Indo-European. It is assumed that in that early state, Indo-European did not know the vowels a or o. Instead, these vowels developed from e under the influence of an appropriate laryngeal. Most scientists assume three laryngeals:

- $h_1$ (which would leave e unaffected),
- $h_2$ (which has an $a$-quality) and
- $h_3$ (under whose influence $e$ turns into $o$).

German speakers may enjoy the only Indo-European joke on offer:

- $h_1$ is called the “Kehlkopflaut” (which is what laryngeal means),
- $h_2$ the “Kahlkopflaut”, and
- $h_3$ the “Kohlkopflaut”.

These developments will be summarized below by the sound laws beginning with Lar.

If we just write $H$ without any index, the specific laryngeal is of no importance or not known.

Laryngeal theory needed a long time to get accepted. Nowadays, a great majority of Indo-European scholars accepts the laryngeal theory in one form or another. The most convincing argument for claiming laryngeals in Indo-European is due to Ferdinand de Saussure and deals with the verbal classes in Sanskrit.

B.2. Vowel sound laws, laryngeal sound laws, and vowel gradation

B.2.1. Old Indian $a$ and $\ddot{a}$

Nowadays, Sanskrit is mostly written in the devanagari writing or in the Latin transcription. Devanagari is based on consonant-plus-vowel signs where each consonant ends in $a$ unless a marker tells otherwise. Why $a$ and not $e$ or $o$? Simply because $a$ is much more frequent than any other sound. The reason for the preponderance of $a$ is this: Indo-European $a$, $e$, or $o$ (short or long) turn into old Indian $a$, short and long, respectively:

$$
\text{aā} \quad \text{ie. } a/e/o \rightarrow \text{oi. } a \\
\text{ā/ē/ō} \rightarrow \text{oi. } \ddot{a}
$$

Examples for ie. $e$ abound:

- The Indo-European word for “honey” is
  
  $$
  \text{ie. } *\text{medhu} \rightarrow \begin{cases} 
  \text{oi. } \text{madhu} \\
  \text{ogrv. } \text{methu} \rightarrow \text{FW methane}
  \end{cases}
  $$
B. Sound laws

◊ The “middle one” is expressed by

\[ \text{ie. } *\text{medhu} \rightarrow \begin{cases} \text{oi. madhya} \\ \text{ogr. FW } \text{Meso-potamia} \\ \text{lat. medius} \end{cases} \]

For ie. o, let us point to

\[ \text{ie. } *\text{owi/h}_3\text{evi} \rightarrow \begin{cases} \text{oi. av} \\ \text{lat. ovi} \end{cases} \]

As an example for long vowels, consider

\[ \text{ie. } *\text{rēj} \rightarrow \begin{cases} \text{oi. rājan} \\ \text{lat. rēx} \end{cases} \]

B.2.2. Half vowels

Along with the vowels a, e, and o, the Indo-European language as well as Sanskrit know the half vowels i and u that turn into consonants before vowels, written y and v, respectively. That is, we have

\[ \text{hV } \]

\[ \text{ie. } i \rightarrow \text{oi. } \begin{cases} i, \text{ bef. consonant} \\ y, \text{ bef. vowel} \end{cases} \]

\[ \text{ie. } u \rightarrow \text{oi. } \begin{cases} u, \text{ bef. consonant} \\ v, \text{ bef. vowel} \end{cases} \]

In fact, the rules are a bit more complicated (see below), but hV in the present formulation is already very helpful. The hybrid nature of half vowels clearly shows in the sandhi rules:

◊ with i:
  • phalāni, but phalāny akhādat
  • gacchāmi, but gacchāmy aham

◊ with u:
  • bhavatu, but evam bhavatv iti (“so let it be”) where iti stands for ’end of quote’
  • jayatu, but jayatv āryaputraḥ (“may my lord be victorious”)

hV also clearly shows up in these examples:

◊ anvarttha (“appropriate”) \( \leftarrow \) anu (“along”) + artha (“purpose, sense, wealth”)

◊ vyartham (“in vain”) \( \leftarrow \) vi (“apart, away”) + artha (“purpose, sense, wealth”)
B.2. Vowel sound laws, laryngeal sound laws, and vowel gradation

◊ āśveśa ("to have fast horses") ← āśu ("fast") + āśva ("horse")

The "same" happens with long ī and long ū, for example

◊ narī āiśkṣata → naryāiśkṣata ("the woman saw")

◊ bhvādiṇa ("gāṇa consisting of bhū etc.") ← bhū ("to be") + ādi ("beginning") + gāṇa ("cohort, flock, word group", see pp. 79)

Thus, we have the rules

\[
\begin{align*}
i/\ddot{i} & \rightarrow oi. \quad \{ i/\ddot{i}, \text{ bef. consonant} \\
y & \rightarrow y, \text{ bef. vowel}
\end{align*}
\]

\[
\begin{align*}
u/\ddot{u} & \rightarrow ui. \quad \{ u/\ddot{u}, \text{ bef. consonant} \\
v & \rightarrow v, \text{ bef. vowel}
\end{align*}
\]

Sometimes (the rules are not quite clear), ie. ī and ū appear as a sequence of iy or uv, respectively. Examples are

◊ dhī, f, ("intellect") has acc. sg. dhīy-a-m (compare with u.at. alternative dhyam).

◊ bhū, f, ("earth") has acc. sg. bhūv-a-m (compare with u.at. bhvam).

This change (see the first two lines) prevents awkward vowel clusters:

\[
\begin{align*}
V+hV & \quad \rightarrow \\
PiV & \rightarrow PiyV \quad \text{dhiy-a-m} \\
PūV & \rightarrow PuvV \quad \text{bhūv-a-m} \\
CRyV & \rightarrow CRiyV \quad \text{mr-iy-a-tē} \\
CRvV & \rightarrow CRuvV \quad \text{āp-nuv-an-ti}
\end{align*}
\]

The last two lines may have a similar motivation. An example for the third line is mr-iy-a-tē ("he dies") which is a 4. class verb with root mr in contrast to the 4. class verb kup-y-a-ti ("he is angry") with oi. root kup). Passive forms provide further examples:

◊ hr-iy-a-tē ("he is taken") ← 1. class verb hr, har-a-ti

◊ sr-iy-a-tē ("it is moved (by)") ← 1. class verb sr, sar-a-ti

in contrast to budh-y-a-tē or paty-a-tē.

An example for the fourth line is given by āp-nuv-an-ti, where u cannot stand directly before a vowel and needs the halfvowel v to stand in between. The comparison of su-nuv-an-ti or kur-v-an-ti with āp-nuv-an-ti prompts us to revisit the sound laws hV and V+h:

\[
\begin{align*}
hV & \quad \rightarrow \\
VRiV & \rightarrow VRyV \quad \text{vy-artha} \\
VRuV & \rightarrow VRuvV \quad \text{anv-artha, kur-v-an-ti}
\end{align*}
\]

\[
\begin{align*}
V+hV & \quad \rightarrow \\
CRyV & \rightarrow CRiyV \quad \text{mr-iy-a-tē} \\
CRuV & \rightarrow CRuvV \quad \text{āp-nuv-an-ti}
\end{align*}
\]
B. Sound laws

In the examples of gacchāmy ahām and su-nv-an-ti or kur-v-an-ti the clusters RyV or RuV are preceded by a (fat) vowel so that one obtains the corresponding halfvowel. In contrast, mr-iy-a-tē and āp-nu-v-an-ti exhibit the same clusters RyV or RuV, but they follow a (fat) consonant. Therefore, one does not obtain sound law hV but V+hV. Finally, note that V+hV is also applied if RuV occurs word-initial as in nuv-a-n-ti (p. 164).

B.2.3. Diphthongs

We have noted above that ie. a, e, and o coalesce into oi. a. Nevertheless, you can find e and o in Sanskrit, also, but they go back to Indo-European diphthongs:

\[
a/e/o \text{ (short or long)}
\]
\[
\text{plus}
\]
\[
i/u
\]

We obtain the short diphthongs

\[
\text{DIPH} \quad \text{ie. } ai/ei/oi \rightarrow oi. \begin{cases} e, & \text{bef. consonant} \\ ay, & \text{bef. vowel} \end{cases}
\]
\[
\text{ie. } au/eu/ou \rightarrow oi. \begin{cases} o, & \text{bef. consonant} \\ av, & \text{bef. vowel} \end{cases}
\]
\[
\text{ie. } āi/ēi/ōi \rightarrow oi. \begin{cases} ā, & \text{bef. consonant} \\ āy, & \text{bef. vowel} \end{cases}
\]
\[
\text{ie. } āu/ēu/ōu \rightarrow oi. \begin{cases} āu, & \text{bef. consonant} \\ āv, & \text{bef. vowel} \end{cases}
\]

The reader notes that I use the hat to indicate that my transliteration of Sanskrit words does not always conform with the usual one. In particular, we have

<table>
<thead>
<tr>
<th>normal writing</th>
<th>my writing</th>
</tr>
</thead>
<tbody>
<tr>
<td>e</td>
<td>è</td>
</tr>
<tr>
<td>o</td>
<td>ô</td>
</tr>
<tr>
<td>ai</td>
<td>āi</td>
</tr>
<tr>
<td>au</td>
<td>āu</td>
</tr>
</tbody>
</table>

I do this for three reasons. First, è and ô are long vowels. Second, oi. è can be distinguished from ie. e. Third, āi and āu go back to ie. long diphthongs which helps to understand some sandhi rules.

Turning to the short diphthongs, DIPH (the first two lines) is helpful to distinguish between nēṭṛ (“leader”) and nayati (“he leads”). Similarly, for the stem gō (“cow”) compare instr. pl. gōbhis with instr. sg. ga-vā. Consider also

22
B.2. Vowel sound laws, laryngeal sound laws, and vowel gradation

\[ \text{sarvē iti (without sandhi)} \]
\[ \rightarrow \text{sarvay iti (DIPH)} \]
\[ \text{and then sometimes} \]
\[ \rightarrow \text{sarva iti (y is weak and drops here between words)} \]

With respect to long diphthongs, DIPH (the last two lines) explains why we obtain a long \( \tilde{a} \) from the diphthongs \( ai \) and \( au \) that we write as \( âi \) and \( âu \), respectively. Consider

\[ \text{tasmai adad\text{ā}t (usual spelling without sandhi)} \]
\[ \rightarrow \text{tasmā\text{ā} adad\text{ā}t (our spelling without sandhi)} \]
\[ \rightarrow \text{tasmā\text{y} adad\text{ā}t (DIPH)} \]
\[ \text{and then sometimes} \]
\[ \rightarrow \text{tasmā adad\text{ā}t (y is weak and drops here between words)} \]

and

\[ \text{ubhau ēva (usual without sandhi)} \]
\[ \rightarrow \text{ubhāu ēva (our spelling without sandhi)} \]
\[ \rightarrow \text{ubhāv ēva (DIPH)} \]

B.2.4. Vowel gradation (ablaut)

**Indo-European vowel gradation**

Many Sanskrit peculiarities turn out to be regular developments when seen from the point of view of Indo-European vowel gradation. Ablaut is the German word for vowel gradation, often used also in English texts.

First of all, the typical Indo-European vowel is \( e \) (that will become \( a \) in Sanskrit). Within Indo-European (!), this \( e \) can undergo two types of gradation (see also fig. B.1):

- **quantitative ablaut:**
  - \( e \) may be lost (zero grade).
  - \( e \) itself is the normal grade (full grade).
  - \( e \) may become \( ê \) (lenghtened \( e \)-grade).

- **qualitative ablaut:**
  - \( e \) may be become \( o \) (\( o \)-grade).
  - Finally, the lengthened \( o \)-grade \( ë \) (which may also be considered a quantitative ablaut) sometimes occurs.
Vowel gradation in Sanskrit

In Sanskrit, e/o and ē/ō coalesce into a or ā, depending on whether they are short or long (aa, p. 19). Therefore, the traditional Indian grammarians did not consider the qualitative ablaut. Instead, they taught the three-fold distinctions:

◇ svara (this is our zero grade)
◇ guna (normal grade e or o-grade)
◇ vṛddhi (lengthened e-grade, leading to ē) or the lengthened o-grade, yielding ō)

Roughly speaking, svara (zero grade) and guna (full grade e or o-grade) tend to go back to Indo-European, whereas many instances of the lengthened grades have developed within Old Indian, only.

Beautifully, vowel gradation is pretty transparent in Sanskrit. That is why we need to have a firm grasp of its workings. Important (and true cum grano salis):

◇ Strong forms (in the nominal declension as well as in the verbal conjugation, in particular classes 2 and 3) involve the full grade.
◇ The weak forms are based on the zero grade.

However, in contrast to the Sanskrit grammarians, it is best to begin with the normal or full grade. Let us consider a few examples. *budh, bōdhati* is Sankrit for “to know”. In Indo-European times, ō went back to eu before consonants (DIPH, p. 22). When,
B.2. Vowel sound laws, laryngeal sound laws, and vowel gradation

In Indo-European times, the e was dropped to obtain the zero grade, we were left with budh (in fact, we had ie. *bhudh but that is another story). Certainly not budh because syllables need a vowel (p. 18).

A second example: “remember” in Sankrit is

\[\text{smṛ} \quad \text{the oi. root in zero grade}\]
\[\text{smar-a-ti} \quad \text{the 3. sg. present tense in full grade}\]

In the zero grade, without a (representing ie. e), you do not have smar but smṛ. For example, the past perfect participle (PPP) is normally formed from the zero grade, here smṛ-ta (“remembered”). If you have been doing Sanskrit for a while, a lot of verbs will come to your mind where matters are not that simple. Hold on for a while or fastforward to section [C.4] pp. [108]. Did you notice the funny circle under the r? It means that r is syllabic, i.e., it has vowel quality (p. 18). In Indo-European syllabic r is denoted by a larger circle: ie. $r_\circ$.

A last example concerns the nasals. Oi. nam (“to bow”) is in the full grade. The PPP is nata which goes back to ie. n$\eta$to. This points to an important sound law:

\[
\text{SY}_N \quad \begin{array}{ll}
\text{ie. } n \circ C & \rightarrow \text{oi. } a C \\
\text{ie. } m \circ C & \rightarrow \text{oi. } a \\
\text{ie. } n \circ V & \rightarrow \text{oi. } a n V \\
\text{ie. } m \circ V & \rightarrow \text{oi. } a m V
\end{array}
\]

The vowel-gradation table

We are now in a position to summarize ie. vowel gradation and the oi. version in one table. I hope you see that it is very systematically constructed:

\[
\begin{array}{|c|c|c|}
\hline
\text{just } e & \text{half vowel } y & \text{half vowel } u \\
\hline
\text{zero gr.} & \text{ie. } e \rightarrow \text{oi. } y & \text{ie. } u \rightarrow \text{oi. } u \\
\text{full gr.} & \text{ie. } e \rightarrow \text{oi. } a (a\tilde{a}) & \text{ie. } eu \rightarrow \text{oi. } a/av \text{ (DIPH)} \\
\text{length. gr.} & \text{ie. } \tilde{e} \rightarrow \text{oi. } \tilde{a} (a\tilde{a}) & \text{ie. } \tilde{e}u \rightarrow \text{oi. } \tilde{a}/\tilde{a}v \text{ (DIPH)} \\
\hline
\text{r} & \text{ie. } r \rightarrow \text{oi. } r & \text{ie. } n \rightarrow \text{oi. } a (\text{SY}_N) \\
\text{full gr.} & \text{ie. } er \rightarrow \text{oi. } ar (a\tilde{a}) & \text{ie. } en \rightarrow \text{oi. } an (a\tilde{a}) \\
\text{length. gr.} & \text{ie. } \tilde{e}r \rightarrow \text{oi. } \tilde{a}r (a\tilde{a}) & \text{ie. } \tilde{e}n \rightarrow \text{oi. } \tilde{a}n (a\tilde{a}) \\
\hline
\end{array}
\]

Let us look at a few other examples about ablaut laws:

$\Diamond$ ie. *es “to be” clearly shows in the full grade as-ti (“he is”, compare Latin est) and zero grade s-anti (“they are”, compare Latin sunt).
B. Sound laws

- oi. i “to go” has full grade ęti (“he goes”, with ę before consonant according to DIPH) and zero grade y-anti (“they go”, with consonant y before vowel).
- The vṛddhi form (lengthened form) of buddh appears in bavud-dha (“concerning understanding, Buddhist”).
- The Sanskrit term for lengthened grade vṛddhi goes back to vṛdh, vardhatè (“to grow”). Unusually, vṛddhi it is an example of the zero grade.
- Latin menti (known to you from B mental) is cognate with Sanskrit zero grades māti (“thought, idea”) and the past participle mata where you have a for syllabic ṅ (SY _N). The full grade is represented by the neuter noun manas, while māna (“opinion, intent”) shows the lengthened grade.
- English and German examples of ablaut are presented at pp. 67 below.

B.2.5. Sanskrit representation of ie. syllabic nasals and liquids, without laryngeals

Indo-European knew syllabic nasals and liquids, probably both short and long. Here, we concentrate on the development of short syllabic nasals and liquids into Sanskrit. Below, in subsection B.5.2 we also look at other languages. Thus, for syllabic nasals, we find

\[
\text{IE}_\text{SY}_\text{N} \quad \text{ie. } n/m \rightarrow \text{oi.} \quad \begin{cases} 
\text{an/am} & \text{bef. vowel} \\
\text{a/a} & \text{between consonants}
\end{cases}
\]

with Sanskrit examples an-anta (“without end”) and a-gatika (“without way out”), respectively. For syllabic liquids, we observe these sound laws:

\[
\text{IE}_\text{SY}_\text{L} \quad \text{ie. } r/l \rightarrow \text{oi.} \quad \begin{cases} 
\text{r or l (!)} & \text{between cons.} \\
\text{ur/ur} & \text{before vowels, after labials} \\
\text{ir/ir (?)} & \text{before vowels, not after labials}
\end{cases}
\]

Examples are presented in subsection B.5.2 Laryngeals affected these developments in particular manners as can be seen in subsection B.2.7.

B.2.6. Resolution of syllabic conflicts

Sometimes, it may be unclear which sound is to become syllabic. For example, 3. pers. pl. (!) pres. tense bi-bhy-a-ti might be explained by

ie. *bhī-bhīH-ṇ-ti (reduplication, zero grade)

bhī-bhī-ṇ-ti

and then

\[ \rightarrow \text{ } bi-bhī-ṇ-ti \] (second to last syllabifiable sound syllabic)

or

\[ \rightarrow \text{ } bi-bhy-a-ti \] (last syllabifiable sound syllabic)
B.2. Vowel sound laws, laryngeal sound laws, and vowel gradation

Apparently, the following rule applies:

\[ \text{SY\_Conf} \quad \text{Make the last syllabifiable sound syllabic!} \]

A second example is \textit{karm-a-bhis} rather than \textit{n.at. karanbhis}.

This rule can be applied several times. Consider \textit{yuv-a-ti} from (something like) \textit{ie. yuv-}\_\text{ti} where, from right to left, we obtain

\[
\begin{align*}
\text{ie.} & \quad *yuv-\eta-ti \\
\rightarrow & \quad yuv-a-ti \quad (\text{SY\_Conf with respect to } \eta) \\
\rightarrow & \quad yu-v-ati \quad (\text{hV with respect to } v) \\
\rightarrow & \quad y-u-vati \quad (\text{SY\_Conf with respect to } u) \\
\rightarrow & \quad y-u-vati \quad (\text{hV with respect to } y)
\end{align*}
\]

B.2.7. Laryngeal sound laws

The sound laws

Finally, laryngeals were lost. But they left specific traces in three groups (a fourth one is covered under consonant sound laws). First, consider these laryngeal laws with respect to vowels and diphthongs:

\[
\begin{align*}
\text{Lar\_V} & \quad \text{ie. } h_1e/h_2e/h_3e \quad \rightarrow \quad \text{ie. } e/a/o \\
& \quad \text{ie. } iH/uH/eH/oH \quad \rightarrow \quad i/\ddot{u}/\ddot{a}/\ddot{a} \\
& \quad \text{ie. } eiH/euH/\ddot{e}iH/\ddot{e}uH \quad \rightarrow \quad \text{ie. } e\dddot{i}/e\dddot{u}/\dddot{e}\dddot{i}/\dddot{e}\dddot{u} \rightarrow \text{DIPH} \\
& \quad \text{ie. } \text{CHC} \quad \rightarrow \quad \text{CiC or } CC \text{ (unclear conditions)}
\end{align*}
\]

The first line is understandable from subsection B.1.4. The second line says that laryngeals were lost under compensatory lengthening. The same may hold for the third line, but the diphthongs are long already.

Consider the instructive example of \textit{ie. } *bheuH \text{ (“to be”). One finds}

\checkmark zero grade oi. \textit{bhu-}ta (long \(\ddot{u}\) is an instance of compensatory lengthening for the dropped laryngeal, \text{Lar\_V second line})

\checkmark full grade \textit{bhav-a-ti} (the laryngeal is lost without effect between consonant and vowel, \text{Lar\_CH})

\checkmark full grade \textit{bhavitum} (the laryngeal becomes \(i\) between consonants, \text{Lar\_V fourth line})

In contrast to the sound law \textit{ie. CHC \rightarrow CiC}, laryngeals are sometimes dropped without apparent trace, as in \textit{da-dh-mah} \text{(“we set”) from ie. } *\textit{de-dhh}_1\text{-mes}. The conditioning
B. Sound laws

Factors are difficult to discern. Compare s.v. dā (“to bind”) ← ie. *deH with the two zero grades

\( \diamond \) d-yati ← ie. *dH-ye-ti and

\( \diamond \) a-di-ti ← ie. *ν-dH-ti

Second, when laryngeals follow syllabic nasals or liquids, one finds:

\[
\begin{array}{c|c}
\text{Lar\_SY} & \text{ie.} C^nHC & \rightarrow \ C\dd C \\
& \text{ie.} C^mHC & \rightarrow \ C\dd mC \text{ (or } C\dd C) \\
& \text{ie.} C^mHV & \rightarrow \ Cam \\
& \text{ie.} C^{\text{labial}_r}H & \rightarrow \ C\dd r \\
& \text{ie.} C^{\text{nst\ labial}_r}H & \rightarrow \ C\dd r
\end{array}
\]

\( \diamond \) long \( a \) in zero grade (4. class verb with \( ya \), PPP) and

\( \diamond \) short \( a \) in full grade (agent noun).

Shouldn’t it be the other way around? No. The Indo-European full grade of this verb is (to be reconstructed as) *\( \dd genH \) so that we obtain

\( \diamond \) zero grade oï. PPP jāta ← \( \dd g^nH\)-to according to sound law ie. \( C^nH \rightarrow C\dd a \),

\( \diamond \) zero grade oï. jā-ya-tē ← \( \dd g^nH\)-ye/o-tei,

\( \diamond \) full grade jānity where the laryngeal turns into \( i \) between the consonants \( n \) and \( t \).

The only “problem” may be the root jān itself. However, roots are grammatical fictions and which root should one postulate instead? Writing jā, jāyatē rather than jān, jāyatē is certainly not helpful.

Third, a laryngeal metathesis apparently took place in some examples:

\[
\begin{array}{c|c}
\text{Lar\_MTh} & \text{ie.} CHiC & \rightarrow \ CiHC \\
& \text{ie.} CHuC & \rightarrow \ CuHC
\end{array}
\]
B.2. Vowel sound laws, laryngeal sound laws, and vowel gradation

The laryngeal vowel-gradation table

In line with the above sound laws, we can rewrite the table from section B.2.4 (pp. 23) with laryngeals:

<table>
<thead>
<tr>
<th></th>
<th>just e+H</th>
<th>half vowel y+H</th>
<th>half vowel u+H</th>
</tr>
</thead>
<tbody>
<tr>
<td>zero gr.</td>
<td>ie. CHC → oi. CiC (also CC)</td>
<td>ie. iH → oi. ī</td>
<td>ie. uH → oi. ā</td>
</tr>
<tr>
<td>full gr.</td>
<td>ie. eH → oi. ā</td>
<td>ie. eiH → oi. ē/āy</td>
<td>ie. euH → oi. ā/āv</td>
</tr>
<tr>
<td>length. gr.</td>
<td>ie. ēH → oi. ā</td>
<td>ie. ēiH → oi. āi/āy</td>
<td>ie. ēuH → oi. āu/āv</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>r+H</th>
<th>n+H</th>
</tr>
</thead>
<tbody>
<tr>
<td>zero gr.</td>
<td>ie. C\textsubscript{labial} H → oi. C\textsubscript{ā}</td>
<td>ie. C\textsubscript{ṇ}H → oi. ā</td>
</tr>
<tr>
<td>full gr.</td>
<td>ie. erH → oi. ār</td>
<td>ie. enH → oi. ān</td>
</tr>
<tr>
<td>length. gr.</td>
<td>ie. ērH → oi. ār</td>
<td>ie. ēnH → oi. ān</td>
</tr>
</tbody>
</table>

In Sanskrit grammar books, you will often encounter “set roots”. The word set derives from

\begin{itemize}
  \item oi. sa (“with”) and
  \item iṭ (which is the usual manner in which traditional Indian grammarians refer to the ī)
\end{itemize}

together with a sandhi rule to be explained in the following subsection.

Many of these are roots that ended in a laryngeal, like oi. bhū or jan. In some grammatical forms, we have i as a reflex of the laryngeal (see the infinitives bhavītam or janītum). Roots without i are “anīt roots” where anīt ← an + iṭ uses the negating particle a or an (see a in the etymological dictionary). Some roots only sometimes exhibit the i. These are the “vēṭ roots”, with vā (“or”).

B.2.8. More vowel sandhi rules

Really different sandhi rules

In the previous subsections, a few sandhi rules could already be illuminated by referring to ie.-oi. sound laws. Some sandhi rules refer to developments within Old Indian. For these, the advantage of our modified transliteration will again be obvious. We find:
B. Sound laws

MVS

oi. \( V/\bar{V} + V/\bar{V}/hV \) → oi. \( \bar{V} \)
oi. \( a/\bar{a} + i/i \) → oi. \( \bar{e} \)
oi. \( a/\bar{a} + u/\bar{u} \) → oi. \( \bar{o} \)
oi. \( a/\bar{a} + \bar{e} \) → oi. \( \bar{a}i \)
oi. \( a/\bar{a} + \bar{o} \) → oi. \( \bar{a}u \)

impf. augment \( a/\bar{a} + i/i \) → oi. \( \bar{a}i \)

impf. augment \( a/\bar{a} + u/\bar{u} \) → oi. \( \bar{a}u \)

MVS rules partly contradict the ie.-oi. sound laws DIPH (p. 22). This is no problem because the latter refer to the development from Indo-European to Old Indian, while the former describe inner-Indian sound changes.

The differences concern only some of these sound laws. Consider the fourth line of MVS and \textit{atraiva} (as you would find it in usual textbooks):

\begin{align*}
\text{atra } & \text{éva (without sandhi)} \\
\rightarrow & \text{atra } \text{ai} \text{va} (\text{ai as short diphthong with } i) \\
\rightarrow & \text{atro} \text{āiva} (\text{two short } a \text{ have become one long } \bar{a}) \\
= & \text{atraiva} (\text{usual spelling})
\end{align*}

or the fifth line of MVS and \textit{saudanam pacati} (again with the standard transliteration):

\begin{align*}
\text{sā } & \text{ōdanam } \text{pacati} (\text{without sandhi}) \\
\rightarrow & \text{sā } \text{audanam } \text{pacati} (\text{au as short diphthong with } u) \\
\rightarrow & \text{săudanam } \text{pacati} (\text{by } \bar{a} + a = \bar{a}) \\
= & \text{saudanam } \text{pacati} (\text{usual spelling})
\end{align*}

In a similar, fashion, the second and third lines of MVS are unsurprising. Consider

\begin{align*}
\text{ēvam bhava } & \text{iti vadati (without sandhi)} \\
\rightarrow & \text{ēvam bhavēti } \text{vadati} (a + i = \bar{e})
\end{align*}

or

\begin{align*}
\text{ca } & \text{iti (without sandhi)} \\
\rightarrow & \text{cēti} (a + i = \bar{e})
\end{align*}

or

\begin{align*}
\text{dēva } & \text{iśvaras (compound, without sandhi)} \\
\rightarrow & \text{dēvēśvaras} (a + \bar{i} = \bar{e})
\end{align*}

or

\begin{align*}
\text{mē } & \text{gha } \text{udakam (compound “cloud water→ rain”, without sandhi)} \\
\rightarrow & \text{mē } \text{ghōdakam} (a + u = \bar{o})
\end{align*}
or
\[
\text{a-vā-uc-a-t (aorist “he spoke”, without sandhi)} \\
\rightarrow \text{a-vōc-a-t (a + u = ā)}
\]

Just to mock learners of Sanskrit, if the imperfect augment short (!) \( \text{a} \) precedes \( i/\tilde{u}/u/\tilde{a} \), we do not obtain \( \text{ē} \) or \( \text{ā} \), but \( \text{âi} \) and \( \text{āu} \), respectively (see the last two lines of MVS). Examples:

- \( \text{na īkṣatē (“he does not see”, without sandhi)} \rightarrow \text{nēkṣat (MVS, 2. line)} \)
- \( \text{a-īkṣat (“he did not see”, without sandhi)} \rightarrow \text{āikṣat (MVS, 6. line)} \)

or
\[
\text{tena uktam (“it has been said by him”, without sandhi)} \rightarrow \text{tenôktam (MVS, 3. line)}
\]

but \( \text{a-us-ma (“we wished”, without sandhi)} \rightarrow \text{āus-ma (MVS, 7. line)} \)

**Additional MVS examples**

\( a/\tilde{a} + a/\tilde{a} \rightarrow \tilde{a} \) (MVS 1. line)

- \( \text{jalā-śaya (“stay of water → lake”) \leftarrow jala (“water”) + ā-śaya (“stay, sojourn”)} \)
- \( \text{vēdānta (“end of Vedic literature”) \leftarrow vēda (“theological knowledge, Veda”) + anta (“end”)} \)
- \( \text{vātāyānam (“window”) \leftarrow vāta (“wind”) + ayanam (“going, motion, hallway”) \leftarrow i} \)
- \( \text{rāmāyana (name of an Indian epic) \leftarrow rāma (“name of Indian hero”) + ayanam (“going, motion, hallway”)} \)
- \( \text{sārtha (“caravan”) \leftarrow sa (“together with”) + artha (“wealth”)} \)
- \( \text{sānanda (“he with delight”) \leftarrow sa (“together with”) + ānanda (“delight”)} \)
- \( \text{bhūṭartha (“fact, issue”) \leftarrow bhūta (PPP of bhū) + artha (“meaning, purpose”)} \)
- \( \text{ēkāgra ("one-pointed, focussed") \leftarrow ēka (“one, single”) + agra (“top, summit, beginning”)} \)
- \( \text{gatāsu (“with life gone away, dead”) \leftarrow gata (PPP of gam) + asu (“life”)} \)

\( i/\tilde{i} + i/\tilde{i} \rightarrow \tilde{i} \) (MVS 1. line)

- \( \text{atīta (“gone by”) \leftarrow ati + i-ta (PPP of i)} \)
- \( \text{atīva ("exceedingly, very") \leftarrow ati + iva} \)
- \( \text{vi-parīta ("perverse, false") \leftarrow vi + pari + ita (PPP of i)} \)
B. Sound laws

\( u/u \rightarrow ū \) (MVS 1. line)

- \( sūkta \) (“well said”) ← \( su \) (“good”) + \( ukta \) (PPP of \( vac \), “to say”)
- \( bahūtksēpam \) (“having thrown up ones arms”) ← \( bahu \) (“arm”) + \( ud \) (preposition, “up”) + full grade of \( kṣip \) (“to throw”) + gerund ending \( am \) (pp. 107)
- from \( yuv-an \) m. (“youngster”) instr. sg. \( yūn-ā \) ← \( yuv-n-ā \)

\( a/ā + i/ī \rightarrow ē \) (MVS 2. line)

- \( sam-upāta \) (“provided with”) ← \( sam \) + \( upa \) + \( i-ta \) (PPP of \( i \))
- \( sēt \) (“with \( i \)”) ← \( sa \) (“together with”) + \( it \) (traditional expression for \( oi.i \))
- \( vēt \) (“with or without \( i \)”) ← \( vā \) (“or”) + \( it \) (traditional expression for \( oi.i \))
- \( prētyēha \) (“in the hereafter and here”) ← \( pra-ī \) (“to go forward, to die”) + \( tya \) (gerundive suffix) + \( iha \) (“here”)

\( a/ā + u/ū \rightarrow ō \) (MVS 3. line)

- \( ēkōna viṁśati \) (“20-1, 19”) ← \( ēka \) (“one, single”) + \( āna \) (“incomplete”)
- \( hitōpadēśa \) (“20-1, 19”) ← \( hita \) (“well-being”, see PPP of \( dhā \)) + \( upa-dēśa \) (“teaching”, see \( diś \))
- \( a-vōc-a-t \) (aorist, 3. pers. sg. of \( vac \), “he said”) ← \( *a-va-uc-a-t \)

\( a/ā + ē \rightarrow āi \) (MVS 4. line)

- \( ēkāikaśas \), adv. (“one by one”) ← \( ēka \) (“one”) + \( ēka \) + \( śas \) (“adverbial suffix”)

\( a/ā + ō \rightarrow āu \) (MVS 5. line)

- \( vanāukas \), m. (“living in the forest, ascetic”) ← \( vana \) (“forest”) + \( ōkas \), n. (“living place, homeland”)
- \( divāukas \), m. (“living in heaven, god”) ← \( diva \) (“heaven”) + \( ōkas \), n. (“living place, homeland”)
- \( uttamāujas \) (“being of superior strength”) ← \( uttama \) (“highest, best”) + \( ōjas \) (“strength”)

32
B.2.9. Lengthening of Indo-European o in open syllables (according to Brugmann)

A somewhat special law is due to the famous Leipzig scholar Karl Brugmann. It says

\[ \text{Lo} \quad \text{ie. } oCV \rightarrow \text{oi. } \tilde{a}CV \]

This law is rather complex:

- First, it is only ie. o, but not ie. e or a that are lengthened. From a purely Sanskrit point of view, it is difficult to know whether the law applies because all three ie. vowels turn into oi. a.

- Second, while one often speaks of an open syllable as a prerequisite, it is more to the point to say that ie. o is followed by only one consonant plus a vowel:
  - Sometimes, a second consonant in the form of a laryngeal may not be visible any more. Then, the law does not apply. See janayati below.
  - If the word finishes with ie. o, the syllable is open, but Brugmann does not apply. See pm below.
  - If ie. o goes back to h3e, the law is also not applied. See avi in the dictionary.

Differently put, one obtains ie. o → oi. ā unless the syllable is heavy already, i.e., heavy by the existence of two consonants after o. We point to four classes of examples: First, 1. pers. pl. verbs like bhar-ā-mas ← ie. *bher-o-mes show the long ā before m in an open syllable. (However, 1. pers. sg. verbs like bharāmi does not fall under this heading because of Greek pherō and Latin ferō. Apparently, mī was added in Sanskrit after long ā which already indicates the 1. pers. sg.)

Second, verbs of the tenth class do also sometimes show long ā, this time before the liquid r. In particular, we have

\[
\begin{align*}
\text{mor-ey-e-ti} \quad (\text{"he makes die, he kills"}) & \rightarrow \text{mār-ay-a-ti} \\
\text{but jonH-ey-e-ti} \quad (\text{"she begets"}) & \rightarrow \text{jan-ay-a-ti}
\end{align*}
\]

In the second example, the laryngeal makes the syllable a closed one so that Brugmann’s law does not apply.

Third, in the perfect tense, we find

<table>
<thead>
<tr>
<th></th>
<th>1. pers. sg.</th>
<th>3. pers. sg.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ie.</td>
<td>oi.</td>
</tr>
<tr>
<td>(\sqrt{kr}) (\text{(&quot;to make&quot;)})</td>
<td>ke-kor-(h2e)</td>
<td>ca-kar-a</td>
</tr>
<tr>
<td>gam</td>
<td>(g^w)-e-g^w-om-(h2e)</td>
<td>ja-gam-a</td>
</tr>
<tr>
<td>tan</td>
<td>te-ton-(h2e)</td>
<td>ta-tan-a</td>
</tr>
</tbody>
</table>

In the 1. pers. sg., the syllable is not open because of the laryngeal. In the 3. pers. sg., the syllable is open and hence, Brugmann’s law applies. The 1. pers. sg. also has
B. Sound laws

the Sanskrit alternatives ja-gām-a, ta-tān-a, or ca-kār-a, respectively. However, these
Lo-violating variants do not show up in the older Vedic language.

Fourth and finally, Brugmann does not apply in open syllables in absolute auslaut: oi.
pra ← ie. *pro and oi. sa ← ie. *so.

B.3. Consonants

B.3.1. Old Indian consonants

Most Old-Indian stops or plosives can be put into a matrix with five rows and four
columns:

<table>
<thead>
<tr>
<th></th>
<th>vl./unasp.</th>
<th>vl./asp.</th>
<th>vd./unasp.</th>
<th>vd./asp.</th>
<th>nasals</th>
<th>sibilants</th>
</tr>
</thead>
<tbody>
<tr>
<td>velars</td>
<td>k</td>
<td>kh</td>
<td>g</td>
<td>gh</td>
<td>n</td>
<td></td>
</tr>
<tr>
<td>palatals</td>
<td>c</td>
<td>ch</td>
<td>j</td>
<td>jh</td>
<td>ñ</td>
<td>ī</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>cerebrals</td>
<td>t</td>
<td>th</td>
<td>d</td>
<td>dh</td>
<td>ŋ</td>
<td>s</td>
</tr>
<tr>
<td>dentals</td>
<td>t</td>
<td>th</td>
<td>d</td>
<td>dh</td>
<td>n</td>
<td>s</td>
</tr>
<tr>
<td>labials</td>
<td>p</td>
<td>ph</td>
<td>b</td>
<td>bh</td>
<td>m</td>
<td></td>
</tr>
</tbody>
</table>

In each of these rows, we find voiceless (abbreviation: vl.) and voiced (vd.) representatives, both in aspirated (asp.) and unaspirated (unasp.) form. These sounds are stops or plosives because the air is stopped before it is finally released in an explosive manner. The fifth columns hosts the corresponding nasals and the sixth column the sibilants.

B.3.2. Primary and secondary palatalization

Reconsider the oi. table of plosives:

<table>
<thead>
<tr>
<th></th>
<th>vl./unasp.</th>
<th>vd./unasp.</th>
<th>vd./asp.</th>
</tr>
</thead>
<tbody>
<tr>
<td>velars</td>
<td>k (SPal?)</td>
<td>g (SPal?)</td>
<td>gh (SPal?)</td>
</tr>
<tr>
<td>palatals</td>
<td>k → oi. ś (PPal)</td>
<td>ĝ → oi. j (PPal)</td>
<td>ĝh → oi. h (PPal)</td>
</tr>
<tr>
<td>dentals</td>
<td>t</td>
<td>d</td>
<td>dh</td>
</tr>
<tr>
<td>labials</td>
<td>p</td>
<td>b</td>
<td>bh</td>
</tr>
<tr>
<td>labio-velars</td>
<td>kʷ (SPal?)</td>
<td>gʷ (SPal?)</td>
<td>gʷh (SPal?)</td>
</tr>
</tbody>
</table>

Dentals and labials are basically unaffected by sound ie.-oi. sound changes. Both the ie.
table and the oi. table of plosives have palatals in their second rows. The development
from ie. to oi. palatals is called primary palatalization:
B.3. Consonants

**PPal**

ie. ʰkV → oi. ʰV

ie. ʰjV → oi. jV

ie. ʰhV → oi. hV

but **SIB** (p. 43)

ie. ʰk/s/ie. ʰgV → oi. ʰks → ʰkS (RUKI)

ie. ʰk → oi. ʰcch

but **BA**

ie. ʰDv1 → oi. ʰDv1

but **sz**

ie. ʰPv1 → oi. zPv1

ie. ʰPv1 → oi. sPv1

As examples for primary palatalization, consider the word for “hundred”

ie. ʰmtóm → oi. \[
\begin{align*}
\text{oi. } & \text{šatäm} \\
\text{ogr. } & \text{he-katon} \\
\text{lat. } & \text{centum} \\
\text{gth. } & \text{hund}
\end{align*}
\]

or the one for “knee”:

oi. ʰjánú ← ie. *ţenu/ţenu → lat. genu ~ e. knee

Three verbs confirm the fifth line: oi. ʰc (with ʰc within words after short vowels) goes back to ie. *sk’ as in

◇ is, icchati (“to wish”) ~ e. ask ~ ohg. eiscōn → nhg. heischen

◇ gam, gaccati (“to go”) ~ ogr. baskō ← ie. *gʷm⁻sk’

◇ pračch, prxchati ~ nhg. forschen ~ lat. pōscere, pōscō (“to claim, to demand”) ← ie. *prk⁻sk

Later on, within the Indo-Iranian language group, secondary palatalization (**SPal**) set in. While **PPal** invariably occurs, **SPal** depends on whether an ie. (!) front vowel (ie. e or i) follows. Fig. B.2 on p. 36 summarizes the most important palatalization laws. Secondary palatalization is most clearly seen in reduplicated forms, for example in the reduplicated perfect:

<table>
<thead>
<tr>
<th></th>
<th>3. pers. sg.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ie.</td>
<td>oi.</td>
</tr>
<tr>
<td>ʰkr (“to make”)</td>
<td>ke-kor-e ca-kār-a</td>
</tr>
<tr>
<td>gam</td>
<td>gʷ-e-gʷom-e ja-gām-a</td>
</tr>
</tbody>
</table>

Additional examples for secondary palatalization are provided by

◇ oi. ca ← ie. *kʷ-e which shows very nicely in lat. que, and

◇ oi. ţúa ← ie. *gʷ-twō (“living”) which is also cognate with lat. vīvus

◇ oi. jahi ← ie. *gʷ-hŋ⁻hi which is difficult (see p. 162)
B. Sound laws

Figure B.2.: Primary and secondary palatalization
B.3. Consonants

B.3.3. Aspiration laws (due to Bartholomae, due to Grassmann)

Aspiration shift (ASH)

There exist two aspiration laws that explain changes from Indo-European to Indo-Iranian.

- Aspiration shift (Bartholomae’s law):
  In consonant clusters, the aspiration shifts to the last consonant (if possible!).

- Aspiration dissimilation or deaspiration (Grassmann’s law):
  If aspirated consonants occur in the beginning of two subsequent syllables, the first aspirated consonant loses its aspiration.

Let us consider the shift of aspiration due to Christian Bartholomae (who got his Dr. phil. in Leipzig in 1877). The most frequent occurrences are

\[
\begin{align*}
\text{ASH} & \quad \text{ie. } gh-t & \rightarrow & \text{oi. } g-dh \\
& \quad \text{ie. } dh-t & \rightarrow & \text{oi. } d-dh \\
& \quad \text{ie. } bh-t & \rightarrow & \text{oi. } b-dh \\
\text{but} & \quad \text{ie. } gh-s/\ddot{g}h-s & \rightarrow & g-s \rightarrow k-s \text{ (BA)} \rightarrow \text{ RUKI} \\
& \quad \text{ie. } dh-s & \rightarrow & d-s \rightarrow \text{oi. } t-s \text{ (BA)} \\
& \quad \text{ie. } bh-s & \rightarrow & b-s \rightarrow \text{oi. } p-s \text{ (BA)}
\end{align*}
\]

For example, we have both aspiration shift and forward assimilation (voiceless \( t \) becoming voiced \( d \) which is then aspirated) in PPPs such as

- \( \text{bud-dha} \leftarrow \text{budh-ta} \)
- \( \text{lab-dha} \leftarrow \text{labh-ta} \)

The main rule seems to be that aspirated consonants are not admitted within consonant clusters. Assume, now, that \( bh \) is followed by the consonant \( s \) which is voiceless and unaspirated. Indeed, voiced or aspirated spirants do not exist in Sanskrit. Therefore, we encounter two problems:

- While aspiration can shift away from \( b, s \) cannot assume the aspiration.
- Voice cannot be forwarded to \( s \).

As a consequence, backward assimilation (from voiceless \( s \) to voiced \( b \) sets in) and one obtains a form like future

\[
\begin{align*}
\text{ie. } & ^*\text{lebh-sy-e-toi} \text{ (f.g. with future sign sy)} \\
\rightarrow & \text{ labh-sy-a-tê} \\
\rightarrow & \text{ lap-sy-a-tê (ASH)}
\end{align*}
\]
B. Sound laws

Deaspiration (DA)

The second aspiration law is named after Hermann Grassmann, a German mathematician and Indologist. (He was not the inventor, however. See the article by Romaschenko [2000].) Imagine having two aspirated sounds. One should probably add that these aspirated sounds occur syllable-initial (see dhehi on p. 172). However, leveling may have done its work in many cases where the second aspirated sound is not found at the beginning of a syllable. In any case, the first one becomes deaspirated:

$$\text{DA} \quad \text{ie. } C^{\text{asp}} VC^{\text{asp}} (V) \rightarrow \text{oi. } C^{\text{ unas p}} VC^{\text{asp}} (V)$$

Reduplicated forms provide examples.

- From oi. bhū (“to be”), we have the perfect ba-bhūva (“he was”).

- The present tense for “to stand” is reduplicated: sthā, ti-ṣṭha-ti (RUki after i).

- Verbs of class 3 are reduplicated and provide the examples such as dhā, da-dhā-ti (“to put”).

Consider oi. budh, bōdhati which goes back to ie. *bheudh. Interestingly, the word initial bh appears in the future form bhōt-sy-ati. Think about it this way:

- ASh is applied:
  
  dh lost its aspiration in the consonant cluster and became voiceless before voiceless s. sy could not assume the aspiration.

- DA is not applied:
  
  Deaspiration did not take place. The second (originally aspirated) consonant dh is not aspirated any more.

Finally, compare

- nom. kāma-dhuk, f. (“wish fulfillment”) with

- acc. kāma-dhuh-am

Ie. *dheugh means “to milk”. In accusative, h is followed by a vowel (apply DA). In nominative, k (AFP) is in word-final position (do not apply DA) so that there is no need to deaspirate the word-initial dh.

B.3.4. Assimilations

Introductory remark

All languages have assimilation rules. In the context of the Old Indian language, many assimilations are called sandhi rules. Most assimilations work backward, where a sound influences the preceding one. Forward assimilation is also present, in particular with respect to cerebralization. Interestingly, when a cerebral plosive (that would be inclined to make the following sound cerebral) is followed by a palatal or dental plosive (that would be inclined to palatalize or dentalize the preceding sound), some sort of stalemate results: no assimilation takes place in śaṭ-cakra (“six chakras”) or śaṭ-trimśa (“thirty-six”).
### Backward assimilations

Let us begin with some important and rather obvious cases of backward induction:

<table>
<thead>
<tr>
<th>BA</th>
<th>motivation</th>
<th>example</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>voicelessness</td>
<td>$\text{yuk}-\text{ta} \leftrightarrow \text{ie. } \star\text{yug}-\text{to}$</td>
</tr>
<tr>
<td></td>
<td></td>
<td>$\text{tat kamalam} \leftrightarrow \text{tad} + \text{kamalam}$</td>
</tr>
<tr>
<td></td>
<td>voice</td>
<td>$\text{gram\dagger vanam} \leftrightarrow \text{gram\dagger} + \text{vanam}$</td>
</tr>
<tr>
<td></td>
<td>nasalizing of dentals</td>
<td>$\text{tan mitram} \leftrightarrow \text{tad} + \text{mitram}$</td>
</tr>
<tr>
<td></td>
<td></td>
<td>$\text{un-mārgas}, \text{m. } (\text{“a wrong or evil way”}) \leftrightarrow \text{ud-mārgas}$</td>
</tr>
<tr>
<td></td>
<td></td>
<td>$\text{anna} \leftrightarrow \text{ad-na} \ (\text{oi. root ad})$</td>
</tr>
<tr>
<td></td>
<td></td>
<td>$\text{šat-māsas}, \text{m. } (\text{“period of six months”}) \leftrightarrow \text{sat-māsas}$</td>
</tr>
<tr>
<td></td>
<td>palatalization</td>
<td>$\text{tac chrutvā} \leftrightarrow \text{tad} + \text{šrutvā}$</td>
</tr>
<tr>
<td></td>
<td></td>
<td>$\text{uccaratī} \leftrightarrow \text{ud-caratī}$</td>
</tr>
<tr>
<td></td>
<td>depalatalization</td>
<td>$\text{yuk-ta} \leftrightarrow \text{ie. } \star\text{yug-ta}$</td>
</tr>
<tr>
<td></td>
<td>dentalization</td>
<td>$\text{PPP śrānta} \leftrightarrow \star\text{śrānta} \leftrightarrow \text{ie. } \star\text{krm.H-to}$</td>
</tr>
</tbody>
</table>

Less obvious sorts of backward assimilation are covered in the following subsections and sections.

#### Backward assimilation: sz soundlaw

For intermediate steps, we need three so-called sz laws. $z$ is a voiced sibilant. It can originate from voiceless $s$ before voiced consonant. Alternatively, it can go back to ie. $\dot{g}$, again before voiced consonants. These are the sound laws:

- $sz$ (ie. $s$ before vowel or voiced stop) → $\star z$
- $sz$ (ie. $\dot{g}$ before voiced stop) → $\star z$
- $sz$ (ie. $\dot{g}$ before voiceless stop) → $\star s$

For examples concerning the first two sound laws, please, wait until pp. [47]. An example for the third law, is provided by PPP $\text{iš-}tā$ of oi. $\text{yaj}$ ("to sacrifice"):

- $\text{ie. } \star\text{iš}-\text{to} \ (\text{z.g. with to PPP marker})$
- $\rightarrow \text{iš-}tā \ (sz \text{before voiceless cons.})$
- $\rightarrow \text{iš-}tā \ (\text{RUKI})$
- $\rightarrow \text{iš-}tā \ (\text{CerD})$

#### Backward assimilation: insertion of sibilant after word-final $n$

If a word-final $n$ stands before certain voiceless consonants, it is changed into anusvāra and an additional sibilant is inserted. This rule is best seen from a few examples:
B. Sound laws

\[
\begin{align*}
a-bhar-an\ ca & \rightarrow a-bhar-am-s\ ca \\
has-an\ \text{tikatê} & \rightarrow has-am-s\ \text{tikatê} \\
dévän\ \text{tatra} & \rightarrow dève-m-s\ \text{tatra}
\end{align*}
\]

This change might seem odd at first sight. Its explanation goes back to the acc. pl. (and maybe other forms) which is believed to have been ie. *-\text{o}-n\text{s} and hence oi. \text{ān} in line with \text{CpLs} (p. 50). Apparently, the final consonant \text{s} was not dropped if standing right before the above consonants. Instead it was joined with, and assimilated to, these consonants.

**Forward assimilations: overview**

Forward assimilations are rarer than backward ones. We have these main classes:

1. **Aspiration shift ASh** (p. 37):
   
   A prominent example is the PPP \text{bud-dha} \leftarrow \text{budh-ta}. Both aspiration and voice go forward.

2. **Cerebralization:**
   
   \begin{itemize}
   \item \text{of} \text{s} after \text{i} and other sounds (\text{RUKI}, p. 41) as in loc. pl. \text{na\text{di}š\text{u}} of \text{na\text{di}} (“river”)
   \item \text{of} \text{dentals} after \text{ ś}, \text{s}, or \text{ z} (\text{CerD}, p. 41), for example, PPP \text{dr\text{s}-\text{t}a} of oi. root \text{\text{dr\text{s}}} \text{, pa\text{\text{ṣ}y\text{a}t\text{i}}} (“to see”)
   \item \text{of} \text{n} after \text{r} (\text{Cern}, p. 42) as in \text{ma\text{r\text{a}n\text{a}}} (“death”)
   \end{itemize}

3. **Palatalization of \text{n} after \text{j}:**
   
   \begin{itemize}
   \item The stem for “king” is \text{râ\text{j-an}} and the instr. sg. is \text{râ\text{j-\text{n}-\text{ā}}}.
   \item From ie. *\text{\text{ gó\text{h}}\text{3}} (“to know”), we have oi. root \text{\text{jn\text{ā}}}.
   \end{itemize}

**Forward cerebralization: RUKI**

One famous cerebralization law is called after the sounds that precede oi. \text{s}, leading to cerebralization. These sounds are

\begin{itemize}
\itemoi. \text{r}-\text{sounds}, such as \text{r} and \text{ r} with examples
  \begin{itemize}
  \item \text{ka\text{r\text{s}}} (“ploughing”) and
  \item \text{kr\text{\text{ṣ}n\text{a}}} (“black, dark”)
  \end{itemize}
\itemoi. \text{u}-\text{sounds} such as \text{u} and \text{ o} (see \text{DIPH}, p. 22) with example \text{\text{gô-\text{s\text{t}h\text{a}m}} (“cowshed”) \leftarrow \text{stem} \text{\text{gô}} (“cow”) \text{, st\text{h\text{a}}} (“to stand”)
\itemoi. \text{k} with example loc. pl. \text{vâ\text{k\text{s}}} \leftarrow \text{vâ\text{c}} (“word”)
\itemoi. \text{i}-\text{sounds} such as \text{i} and \text{ e} with examples
\end{itemize}
B.3. Consonants

- sthā, ti-ṣṭhati ("to stand") with i-reduplication
- dēva ("god") with loc. pl. dēvēsu
- sad, ni-śidati

Summarizing, we obtain the first line of the RUKI sound law:

\[
\text{RUKI} \quad \begin{align*}
\text{oi. } & r/y/u/o/k/i/e + s/z \text{ not w.f., not before } P^{\text{red}} \quad \rightarrow \quad \text{oi. } r/y/u/o/k/i/e + s/z \\
\text{ie. } & k\acute{s} \quad \rightarrow \quad \text{oi. } k\acute{s} \\
\text{oi. } & \text{us/is before voiced stop} \quad \rightarrow \quad \text{oi. } ur/ir \\
\text{oi. } & \text{is-r} \quad \rightarrow \quad \text{oi. } \text{is-r} \text{ ("no RUKI")}
\end{align*}
\]

The RUKI sound laws are not clearcut: The example of duh-kham ("misfortune") does not fit the first line.

The second line seems clear from an example like va± ("to wish") with 2. pers. sg. present tense vak-ṣi ← ie. *vek-ṣi.

The third line is necessitated by the neuter noun havis ("oblation") with

- with instr. pl. haviir-bhis before voiced consonant
- but loc. pl. havih-ṣu before unvoiced consonant

The fourth line is exemplified by tamisram ("darkness").

**Forward cerebralization: CerD**

Not only the dental sibilant, but also the dental plosives can undergo cerebralization:

\[
\text{CerD} \quad \begin{align*}
\text{oi. } & s/\acute{s} + t \quad \rightarrow \quad \text{oi. } \hat{s}t \\
\text{z} + d/dh \quad \rightarrow \quad \hat{z} + d/dh
\end{align*}
\]

The first line shows up in these examples:

- PPP drṣ-ta of oi. root drṣ, paśyatī ("to see")
- oi. aṣṭā ← ie. oktō ("eight"), but not in ie. *esti ("he is") → oi. asti, where we have s rather than \(\ddot{s}\) or \(\acute{s}\)

and in the PPP iš-ta of oi. gaj, yajatē ("to sacrifice"):

ie. *iś-to (z.g. with to PPP marker) 
→ iš-ta (sz before voiceless cons.)  
→ iš-ta (RUKI)  
→ iš-ta (CerD)
Forward cerebralization: Cern

The rules for the cerebralization of \( n \) are complex. Roughly speaking, we have

\[
\begin{align*}
\text{Cern} & \quad \text{oi. } n \text{ after } r / r / / \not{\text{not word-final (see below)}} \rightarrow \text{oi. } n \\
\end{align*}
\]

Compare

\( \diamond \) \( jīvanam \) ("life") without \( r \)-sounds or \( z \) before \( n \) versus

\( \diamond \) \( maraṇam \) ("death") where the \( r \) cerebralizes \( n \).

Apparently, \( r-z \) sounds force the tip of the tongue into a back-bending position. Then, by way of forward assimilation, \( n \) is also to be pronounced in a back-bending, i.e., cerebral manner. If other sounds intervene between the \( r-z \) sounds and the \( n \), cerebralization may still occur. This is the case when the other sounds involve the lips rather than the tip of the tongue. Compare

\( \diamond \) \( rathaṇa \) (instr. sg. of \( ratha \) ("carriage’’)) where the dental \( th \) forces the tip of the tongue forward very close to that position where dental \( n \) is to be pronounced, versus

\( \diamond \) \( brahmaṇa \) (instr. sg. of \( brahmaṇam \) ("the absolute’’)) where \( h \) and \( m \) do not involve the tip of the tongue

Assimilations for syllable-initials

Some assimilations and dissimilations do not concern immediately adjacent sounds, but syllable-initials in neighbouring syllables:

\[
\begin{align*}
\text{SI} & \quad \text{oi. } ġ.. ġ \rightarrow \text{oi. } ġ.. ġ \\
\text{oi. } ġ.. ġ & \rightarrow \text{oi. } ġ.. ġ
\end{align*}
\]

For the first line see \( ie. \) *kasō → n.at. ṣasa → ṣaṣa ("hare’’), by forward-assimilation example. Backward assimilation is involved in the second line where \( ie. \) *svekuro → n.at. svāṣūra → ṣvāṣūra ("father in law’’) provides an example.
Sibilant and palatal-sibilant clusters

A bewildering variety of sound laws concern sibilants and palatal-sibilants clusters. For reference purposes, all these sound laws are collected here:

\[
\begin{align*}
\text{SIB} & \quad \text{ie. } ss \rightarrow \text{oi. } ts \\
& \quad \text{šš} \rightarrow \text{oi. } kš \\
\text{PPal} & \quad \text{ie. } šk, \text{ie. } šs \rightarrow \text{oi. } kš \\
\text{SPal} & \quad \text{ie. } šw, \text{ie. } šwš \rightarrow \text{oi. } kš \\
\text{PPal, } šz & \quad \text{ie. } ǵš, \text{ie. } ǵšs \rightarrow \text{oi. } ks ĭ \\
& \quad \text{ie. } ťk \rightarrow \text{oi. } kš \\
& \quad \text{ie. } dohš \rightarrow \text{oi. } kš \\
& \quad \text{ie. } šwšk \rightarrow \text{oi. } kš \\
\text{PPal} & \quad \text{ie. } š, \text{ie. } Všk/Cšk \rightarrow \text{oi. } Voch/Cch \\
& \quad \text{šk w.-i./sk w.-i. } \rightarrow \text{ch w.-i.} \\
& \quad \text{ie. } šsr \rightarrow \text{oi. } ych \\
\end{align*}
\]

For the first five lines, refer to the following table:

<table>
<thead>
<tr>
<th>√</th>
<th>translation</th>
<th>infinitive</th>
<th>future, 3. sg.</th>
</tr>
</thead>
<tbody>
<tr>
<td>vas</td>
<td>to dwell</td>
<td>vas-tum</td>
<td>val-sy-a-ti</td>
</tr>
<tr>
<td>tuš</td>
<td>to enjoy</td>
<td>tōš-tum</td>
<td>tōk-sy-a-ti</td>
</tr>
<tr>
<td>sprš</td>
<td>to touch</td>
<td>spraš-tum, spraš-tum</td>
<td>sprak-sy-a-ti, spark-sy-a-ti</td>
</tr>
<tr>
<td>vac</td>
<td>to say</td>
<td>vak-tum</td>
<td>vak-sy-a-ti</td>
</tr>
<tr>
<td>yaj</td>
<td>to sacrifice</td>
<td>yav-tum</td>
<td>yav-sy-a-ti</td>
</tr>
</tbody>
</table>

Let us now turn to the dental-palatal clusters ie. ţk and ie. dohš. By a series of regular, but not obvious sound laws, one obtains the two sound laws in the above table:

\[
\begin{align*}
\text{ie. } *ţk & \rightarrow tš (\text{PPal}) \\
& \rightarrow tš (\text{a backward version of CerD}) \\
& \rightarrow ks \\
\end{align*}
\]

and

\[
\begin{align*}
\text{ie. } *dohš & \rightarrow dhěš (\text{some version of } sz) \\
& \rightarrow dz (\text{ASH, } z \text{ cannot be aspirated}) \\
& \rightarrow tš (\text{a backward version of } CerD, \text{ but unclear loss of voice}) \\
& \rightarrow ks \\
\end{align*}
\]

They justify the derivations.
B. Sound laws

\[ \text{ie. } *h₂rtkō \]
\[ \rightarrow \text{oi. } rksa \text{ ("bear")}, \]

and

\[ \text{ie. } *dhāhom \]
\[ \rightarrow \text{ved. } kṣam \text{ ("ground, earth")} \]

respectively.

For the fourth line from the bottom, refer to caķs. For the third last one, see

◊ \text{is, icchati ("to wish") \sim e. ask \sim ohg. eiscōn → nhg. heischen}

◊ \text{gam, gacchati ("to go") \sim ogr. baskō \leftarrow \text{ie. } *gʷm-skū}

◊ \text{pracch, prechati \sim nhg. forschen \sim lat. pōscere, pōscō ("to claim, to demand") \leftarrow ie. } *pṛk-skū

In these three examples, there is a vowel (i, m, or r) before ie. (k)sk. The case of a preceding consonant is covered by hūrchana in the dictionary. Chand and cand provide examples for application and non-application of word-initial occurrences (second-to-last line), respectively.

The last line is justified by the ra-adjective kṛcch-ra from the oi. root kṛṣ (see p. 121).

B.3.5. Consonant clusters and word-final consonants

Simplification of consonant clusters (CCI)

Old Indian admits only a limited number of consecutive consonants. At the end of a word, the first consonant in a cluster remains. Within a word, the last two consonants are allowed:

\[
\begin{array}{c|c|c}
\text{CCI} & \text{oi. } VC_1C_2 \text{ word-final} & \rightarrow \text{oi. } VC_1 \\
 & \text{oi. } VC_1C_2C_3V \text{ word-interior} & \rightarrow \text{oi. } VC_2C_3V \\
\end{array}
\]

Turning to word-final consonant clusters, consider these examples of cluster simplification:

◊ From an Indo-European perspective, s is often taken as the sign of nom. sg., both masculine and feminine, for example, in the thematic noun dev-a-s, m. ("god"). In athematic nouns, s is directly attached to the stem so that we might expect *marut-s, but find nom. sg. marut ("wind") instead.

◊ Parasmāipaṭa imperfect sg. of athematic verbs also present suitable examples, for example

\[
\begin{array}{c|c|c|c}
\text{1. pers. sg.} & \text{2. pers. sg.} & \text{3. pers. sg.} \\
\text{a-han-am} & \text{a-han} & \text{a-han-s} & \text{a-han} & \text{a-han-t} \\
\end{array}
\]
B.3. Consonants

For simplification of word-interior clusters, consider the desiderative bhik-s-u (“beggar”) which derives from

\[ \ast bhī-bhj-s-u \]
\[ \rightarrow bhī-bj-s-u \] (s cannot be aspirated)
\[ \rightarrow bhī-pk-s-u \] (BA twice)
\[ \rightarrow bhī-k-s-u \] (CCI)

**Admissible consonants in absolute final position (AFP)**

In absolute final positions (at the end of sentences), palatals, voiced, or aspirated stops are not allowed. The following table shows how they are substituted in absolute final position:

<table>
<thead>
<tr>
<th></th>
<th>vl./unasp.</th>
<th>vl./asp.</th>
<th>vd./unasp.</th>
<th>vd./asp.</th>
<th>sibilants</th>
</tr>
</thead>
<tbody>
<tr>
<td>velars</td>
<td>k</td>
<td>kh → k</td>
<td>g → k</td>
<td>gh → k</td>
<td></td>
</tr>
<tr>
<td>palatals</td>
<td>c → k/t</td>
<td>ch → k/t</td>
<td>j → k/t</td>
<td>jh → k/t</td>
<td>s → k/t</td>
</tr>
<tr>
<td>cerebrals</td>
<td>t</td>
<td>th → t</td>
<td>d → t</td>
<td>dh → t</td>
<td>kṣ → t, ṭ → t</td>
</tr>
<tr>
<td>dentals</td>
<td>t</td>
<td>th → t</td>
<td>d → t</td>
<td>dh → t</td>
<td>s → ṭ</td>
</tr>
<tr>
<td>labials</td>
<td>p</td>
<td>ph → p</td>
<td>b → p</td>
<td>bh → p</td>
<td></td>
</tr>
</tbody>
</table>

Root nouns (subsection C.4.1) provide examples:

<table>
<thead>
<tr>
<th>oi. stem</th>
<th>nom. sg.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>drṣ ← ie. *derk</td>
<td>drk ← ie. *drk-s</td>
<td>sight</td>
</tr>
<tr>
<td>bhuj</td>
<td>bhuk</td>
<td>enjoyment, utility</td>
</tr>
<tr>
<td>mṛd</td>
<td>mṛt</td>
<td>clay</td>
</tr>
<tr>
<td>viṣ ← ie. *veik</td>
<td>viṭ ← ie. *veik-s</td>
<td>settlement</td>
</tr>
<tr>
<td>yudh</td>
<td>yut</td>
<td>battle</td>
</tr>
<tr>
<td>sam-rāj</td>
<td>sam-rāṭ</td>
<td>ruler</td>
</tr>
</tbody>
</table>

The loss of voice and aspiration may not be surprising. However, the palatals may turn into k or t. From the point of view of PP\text{al} and SP\text{al} (see pp. 35), the change into k is the expected one because these palatal orginate from ie. velar or ie. palatals. Indeed, the palatalization has probably not occurred at all in absolute final position.

It seems that cerebral t shows up if cerebrals are involved in the first place or after RUKI. Indeed, in view of viṭ and madhu-liṭ, we can postulate the development
B. Sound laws

\[
\begin{align*}
\text{ie. } & *k-s/\acute{g}h-s \\
\rightarrow & \ k-s/\acute{g}-s \ (\text{ASH}) \\
\rightarrow & \ k-s \ (\text{BA}) \\
\rightarrow & \ k-s \ (\text{RUKI}) \\
\rightarrow & \ \dot{t} \ (\text{AFP})
\end{align*}
\]

Avoidance of consonant clusters with resonant

Beside the diachronic rules as given in the previous sections, a few constrained-based rules are applied. They do not contain an arrow. Instead, they prohibit certain sound combinations and bring about “obvious” alternatives.

\[
\text{MET}_r^{\text{rSP}} \quad \text{oi. } arSP \rightarrow \text{oi. } raSP
\]

For example, the infinitive of \textit{dr}š is not \\textit{dars}tum, but \\textit{dra}šṭum. In this manner, the cluster \textit{ršt} is avoided.

B.3.6. Minor sound laws

Dialectal confusion of \(r\) and \(l\)

Ie. \(r\) may lead to \textit{oi. }\(r\) or \(l\) and the same is true for ie. \(l\). Thus, when we have \textit{oi. }\(r\) or \(l\), we cannot know without other evidence whether they go back to ie. \(r\) or to ie. \(l\). This confusion results in pairs of Sanskrit words, one with \(r\), the other with \(l\):

\[
\begin{align*}
\diamond & \ \text{car-a-ti (“he wanders”) versus cal-a-ti (“he moves, he swings”)} \\
\diamond & \ \text{rēkh-ā (“line, strip, picture”) versus lēkh-ā (“line, strip, picture”), both of which are related to likh-a-ti (“he writes”)}
\end{align*}
\]

This fact (although not a sound law) is indicated by \(rl\).

Roots with and without word-initial \(s\)

A number of ie. roots come in two version, with and without word-initial \(s\) which is than called \(s\)-mobile. See the dictionary chapter at \textit{oi. }\textit{stan}, (s)\textit{tHeg}, \textit{kṛt}, \textit{carmān}, \textit{paśyati}, and \textit{lih}.

Root-initial \(s\) before a plosive may drop, but lead to aspiration of this plosive. This sound law will be addressed by \(sP(h)\). Examples are provided by \textit{chid}, \textit{chad}, or \textit{sphira} (see dictionary).

Sprouting or deletion of sibilants between dentals

We find two odd rules for sibilants between dentals. On the one hand, \(z\) (voiced sibilant) spontaneously emerges between voiced dentals (symbolized by \(D^\text{vol}\)). On the other hand, \(s\) (voiceless sibilant) is deleted before a voiceless dental:
The first sound law (sprouting of z between voiced dentals) is exemplified on p. 48. The second one is obvious from the gerund *ut-thāya* from *ud-sthā*. The third one has the support of the PPP *a-gdha* (“not eaten”) from the oi. root *ghas* or the ie. root *ghes*

\[ \text{DzD} \to \text{oi. } D^\text{vd} D^\text{vd} \]
\[ \text{ie. } Ds D^\text{vd} \to \text{oi. } D D^\text{vd} \]
\[ \text{ie. } Ps D^\text{vd} \to \text{oi. } P D^\text{vd} \]

This third sound law is also supported by *a-śap-dhvam* for u.at. *a-śap-s-dhvam* (p. 202).

### B.3.7. Compensatory lengthenings

#### B.3.7.1. Compensatory lengthening for suppression of z

DIPH shows how oi. ê and ô go back to ie. diphthongs. There is one other source for ê and ô, compensatory lengthening for the suppression of (voiced) z (in intermediate steps). The latter originates from (voiceless) s before vowels or voiced consonants by sz (39). We find:

\[
\begin{align*}
\text{CpLz} & \quad \text{oi. } as + C^\text{vd} \to \text{oi. } \{ \hat{o}, \text{w.-f.} \} \\
& \quad \text{oi. } is + C^\text{vd} \to \text{oi. } \{ \hat{e}, \text{not w.-f., bef. } i \} \\
& \quad \text{oi. } us + C^\text{vd} \to \text{oi. } \{ \hat{i}, \text{word formation} \} \\
& \quad \text{oi. } ās + C^\text{vd} / V \to \text{oi. } ā + C^\text{vd} / V \\
& \quad \text{oi. } as + a \to \text{oi. } \hat{o} + \emptyset \text{ (second w.-i. } a \text{ is deleted)} \\
\end{align*}
\]

but no lengthening! \[ \text{oi. } as + i/ī/u/ū/āi \text{ etc.} \to \text{oi. } a+i/ī/u/ū/āi \text{ etc.} \]

The first case (“at the end of words”) of the first line is a common sandhi rule. For example, “the man runs” is

\[
\begin{align*}
\text{naras dhavati} \text{ (without sandhi)} \to \text{naraz dhavati} \text{ (sz before voiced stop)} \to \text{narō dhavati} \text{ (CpLz)}
\end{align*}
\]

Similarly (but internal sandhi), the instr./dat./abl. dual of *mānas*, n.
B. Sound laws

*manas-bhyām → manā-bhyām

and the number 13:

*trayas-daśa → trayo-daśa

And here are two more complicated examples: First, śōḍaśa (‘16”) can be explained by

śaṣ-daśa (without sandhi)
→ śaṣ-daśa (sz before voiced stop)
→ śaṣ-daśa (CerD)
→ śō-śaśa (CpLz)

Second, the infinitive vōdhum of vah, vahati results as follows:

ie. *vegh-tum (full grade and infinitive marker tum)
→ vaḍh-tum (aā)
→ vaḍ-dhum (ASH)
→ vaś-dhum (sz)
→ vō-dhum (CpLz)
→ vō-dhum (leveling with PPP ūdha, p. 115)

Still within the first line, within a word before a consonant + i, one obtains the 2. sg.
impv. of “to be”

*as-dhi → ēdhi

Together with sound law DzD, we obtain the parasmāipada impv. 2. pers. sg. of dā (“to give”). It builds on the reduplicative form da-d:

ie. *da-dh3-dhi
→ da-dzdhi (DzD, p. 47)
→ da-zdhi (CCl, p. 44)
→ da-z-dhi
→ dē-dhi (CpLz)
→ dē-hi (analogy)

where the analogy produces the alternative ending hi rather than dhi, for example:

bhī | with imperative ending hi: | bi-bhī-hi

just as

dā | with imperative ending hi: | dē-hi

Turning to the second and third lines, we encounter sandhi rules that may also apply
within words, such as dur-qa, havir-bhis (see p. 214) or āyur-bhis (see p. 214). In
an earlier word-formation stage, we observe compensatory lengthening. Consider sīdāti
from the root sad (“to sit”)
B.3. Consonants

\[ \text{si-sd-ati} \] (reduplication with \( i \) and zero grade, without sandhi)

\[ \rightarrow \text{si-zd-ati} \] (\( sz \) law before voiced cons.)

\[ \rightarrow \text{si-zd-ati} \] (\text{RUKI})

\[ \rightarrow \text{si-zd-ati} \] (\text{CerD})

\[ \rightarrow \text{s\( \ddot{u}\)d-ati} \] (\text{CpLz})

\[ \rightarrow \text{s\( \ddot{u}\)d-ati} \] (leveling)

where leveling restores the dental:

<table>
<thead>
<tr>
<th>influenced by</th>
<th>turns into</th>
</tr>
</thead>
<tbody>
<tr>
<td>\text{sa-s( \ddot{u})d-a} \ (perf. 3. pers. sg.) or other forms from \text{sad}</td>
<td>\text{s( \ddot{u})d-ati} \ with dental</td>
</tr>
</tbody>
</table>

For similar examples, consult the etymological dictionary for \( n\ddot{u}d\)am or \( m\ddot{u}d\)ham.

Turning to the third line, consider this development that leads to the PPP of \text{vah} \leftarrow \text{ie.} \ *\text{vegh}:

\[ \text{ie.} \ *\text{vegh-to} \ (z.\, g. \ with \text{to}-marker of PPP) \]

\[ \rightarrow \text{u\( \ddot{g}\)h-la} \] (\text{hV})

\[ \rightarrow \text{u\( \ddot{g}\)h-dha} \] (\text{ASH})

\[ \rightarrow \text{u\( \ddot{g}\)h-dha} \] (\( sz \))

\[ \rightarrow \text{u\( \ddot{g}\)h-dha} \] (\text{RUKI})

\[ \rightarrow \text{u\( \ddot{g}\)h-dha} \] (\text{CerD})

\[ \rightarrow \text{\( \ddot{a}\)-dha} \] (\text{CpLz})

According to a well-known sandhi rule, \( s \) is dropped from \( \text{\( \ddot{a}\)s} \) before voiced sounds. This is the fourth line of \text{CpLz} above and best understood as the result of two steps:

\[ \text{nar\( \ddot{a}\)s gacchanti} \] (without sandhi)

\[ \rightarrow \text{nar\( \ddot{a}\)z gacchanti} \] (\( sz \))

\[ \rightarrow \text{nar\( \ddot{a}\) gacchanti} \] (\text{CpLz}, \( a \) is already long)

A second example is provided by the 2. pl. present tense of \( \text{\( \ddot{a}\)s} \) (“to sit”):

\[ \text{\( \ddot{a}\)s-dhv\( \acute{e}\)} \] (without sandhi)

\[ \rightarrow \text{\( \ddot{a}\)z-dhv\( \acute{e}\)} \] (\( sz \))

\[ \rightarrow \text{\( \ddot{a}\)-dhv\( \acute{e}\)} \] (\text{CpLz}, \( a \) is already long)

Remember that this particular rule holds for vowels also, not just for voiced stops:

\[ \text{nar\( \ddot{a}\)s \( \ddot{i}\)k\( \ddot{s}\)ant\( \acute{e}\)} \] (without sandhi)

\[ \rightarrow \text{nar\( \ddot{a}\)z \( \ddot{i}\)k\( \ddot{s}\)ant\( \acute{e}\)} \] (\( sz \))

\[ \rightarrow \text{nar\( \ddot{a}\) \( \ddot{i}\)k\( \ddot{s}\)ant\( \acute{e}\)} \] (\text{CpLz}, \( a \) is already long)
B. Sound laws

As in the first line, oi. as turns to o also before oi. a (fifth line), but the latter is then deleted as in

\[
\begin{align*}
&\text{rāmas atra (without sandhi)} \\
&\rightarrow \text{rāmaa atra (sz)} \\
&\rightarrow \text{narā atra (CpLz)} \\
&\rightarrow \text{narā tra (a of second word drops)}
\end{align*}
\]

In the sixth line (similar to the fourth one), before vowels other than a, s simply vanishes:

\[
\begin{align*}
&\text{rāmas śkatē (without sandhi)} \\
&\rightarrow \text{rāma śkatē (sz)} \\
&\rightarrow \text{rāma śkatē (z drops)}
\end{align*}
\]

B.3.7.2. Word-final compensatory lengthening

Apart from CpLz, other types of compensatory lengthening occur:

\[
\begin{align*}
\text{CpLr} & \quad \text{oi. Vr + r} \rightarrow \text{oi. } \tilde{V} + r \\
\text{CpLs} & \quad \text{oi. VCš} \rightarrow \text{oi. } \tilde{V} + C
\end{align*}
\]

The first line is exemplified by the sandhi rule

\[
*\text{punar rāmah } \rightarrow \text{oi. } \text{punā rāmah}
\]

but is not fulfilled in

\[
*nētar-s \rightarrow \text{oi. } nētā \quad \text{pp. 231}
\]

where additional information is given at the pages indicated.

The second line is present in

\[
\begin{align*}
*\text{bala-vant-s } & \rightarrow \text{oi. } \text{bala-vān} \quad \text{pp. 218} \\
*\text{su-manas-s } & \rightarrow \text{oi. } \text{su-manās} \quad \text{pp. 213} \\
*\text{gir-s } & \rightarrow \text{oi. } \text{gīr} \\
\text{acc. pl. ie. } *\text{deiv-o-ns } & \rightarrow \text{deiv-ān} \quad \text{pp. 210} \\
\text{acc. pl. ie. } *\text{nei-tr-ns } & \rightarrow \text{nei-tr-n} \quad \text{pp. 231}
\end{align*}
\]

Against CpLs, we find

\[
\begin{align*}
*\text{gach-ant-s } & \rightarrow \text{oi. } \text{gach-an (CC1)} \quad \text{pp. 220} \text{ for } \text{bhar-an} \\
*\text{rāj-an-s } & \rightarrow \text{oi. } \text{rājā} \quad \text{pp. 226} \\
*\text{yōg-in-s } & \rightarrow \text{oi. } \text{yōgī} \quad \text{pp. 230}
\end{align*}
\]
B.3.7.3. Compensatory lengthening s

A rather special rule can be described as

\[
\text{CpL}dk' \quad \text{oi. } Vd'k \rightarrow \text{oi. } \tilde{V} + \tilde{k} \rightarrow \text{SIB}
\]

For examples, see the dictionary entries for \textit{dāśva} (s.v. \textit{daṃś}), for \textit{oi. root dīkṣ} (s.v. \textit{dāś}), and for \textit{pañeśat}.

B.3.8. Visarga rules

Most visarga rules are of the backward-assimilation type. Before voiceless sounds, some obvious backward-assimilation rules apply. Before voiced sounds, voiceless \textit{s} turns into voiced \textit{z} and then some particular developments ensure.

Visarga rules regularly apply to word final \textit{s}, but sometimes also to \textit{s} within words, in particular before endings or in composita. Quite a few of the visarga rules have been dealt with before. The rules can easily be memorized by looking at examples (mostly provided by Goldman and Goldman [2011]):

- \textit{s} following any vowel but \textit{a} or \textit{ā}
  - absolute final position: \textit{agnis} → \textit{agniḥ}
  - before non-voiced initial that are
    - palatal stops: \textit{haris + calati} → \textit{hariś calati} (BA)
    - cerebral stops: \textit{haris + tīkāṃ karoti} → \textit{hariś tīkāṃ karoti} (BA)
    - dental stops: \textit{agnis + tīkṣṇah} → \textit{agnis tīkṣṇah} (\textit{s} is dental already)
    - any other:
      - \textit{haris + paśyati} → \textit{hariḥ paśyati}
      - \textit{haris + saṃharati} → \textit{hariḥ saṃharati}
      - loc. pl. \textit{manaḥ-sa} besides \textit{manas-su}
  - before voiced initial:
    - \textit{agnis + iva} → \textit{agni r iva}
    - \textit{gatir + nāsti} → \textit{gatir nāsti}

- \textit{s} following \textit{a}
  - absolute final position: \textit{rāmas} → \textit{rāmaḥ} (as after other vowels, see above)
  - before non-voiced initial (just after other vowels, see above)
  - before voiced sounds that are
    - consonants: \textit{rāmas + gacchati} → \textit{rāmo gacchati} (CpLz)
    - vowel \textit{a}: \textit{rāmas + ayaṃ} → \textit{rāmo 'yaṃ} (CpLz)
    - other vowels: \textit{rāmas + uvāca} → \textit{rāma uvāca} (CpLz)
B. Sound laws

◇ s following ā

- absolute final position: as after any other vowels
- before non-voiced initial (just after any other vowels)
- before voiced initial: hatās + vīrās → hatā vīrāh (CpLz)

These rules are addressed by Vis.

B.3.9. Laryngeal sound laws

Laryngeals were involved in modifying some consonants:

<table>
<thead>
<tr>
<th>Lar_\text{CH}</th>
<th>\text{ie. CHV}</th>
<th>\rightarrow \text{CV}</th>
</tr>
</thead>
<tbody>
<tr>
<td>in particular:</td>
<td>\text{ie. } p^{\text{vd, unasp}}h_2</td>
<td>\rightarrow p^{\text{vd, asp}}</td>
</tr>
<tr>
<td>\text{ie. } th_2/ k^w h_2</td>
<td>\rightarrow th/ kh</td>
<td></td>
</tr>
<tr>
<td>\text{ie. } ph_3</td>
<td>\rightarrow b</td>
<td></td>
</tr>
</tbody>
</table>

The laryngeal in the sequence CHV tends to be dropped without a trace. However, there are important exceptions, both before V and before C. First, after voiced unaspirated plosives, the laryngeal h_2 effected aspiration as in lat./ogr. egō

\[ \text{← ie. } *h_1\text{egoh}_2/h_1\text{egoh}_2m \]
\[ \rightarrow h_1\text{egoh}_2m \text{ (metathesis of o and } h_2, \text{ similar to Lar}_M \text{Th}) \]
\[ \rightarrow \text{e}ghom (\text{Lar}_V, \text{Lar}_\text{CH}) \]
\[ \rightarrow \text{ehom (PPal)} \]
\[ \rightarrow \text{aham (aā)} \]

and in the difficult cases of

\[ \text{ie. } *d\text{hug-h}_2\text{ter} \]
\[ \rightarrow d\text{hughter (Lar}_\text{CH, Lar}_V, \text{ with two effects from one laryngeal)} \]
\[ \rightarrow d\text{ughiter (DA)} \]
\[ \rightarrow d\text{ughitar (aā)} \]
\[ \rightarrow d\text{uhhtar (SPal)} \]

and

ogr. mega

\[ \text{← ie. } *\text{me}_2\text{h}_2-\text{os/me}_2\text{h}_2 \]
\[ \rightarrow \text{me}_2\text{hi (Lar}_\text{CH, Lar}_V, \text{ with two effects from one laryngeal)} \]
\[ \rightarrow \text{mehi (PPal)} \]
\[ \rightarrow \text{mahi (aā)} \]
B.4. Middle and New Indian

For the two remaining sound laws see *sthā, tiṣṭhāti* (“to stand”) on p. 80 and *pā, pi-ba-ti* (“to drink”) on p. 81.

B.3.10. Old Indian *h*

In contrast to the usual procedure (from ie. to oi.), we now observe where Old Indian *h* comes from. The following long list is somewhat disconcerting. Oi. *h* may regularly originate

- from ie. palatal *gh* (PPal)
- from ie. velar *gh* or from ie. labiovelar *gw* (SPal)

It may also be dialectal from

- ie. *dh* (see PPP *hita of dhā)* or
- ie. *bh* (see oi. *grh* besides oi. *grbh* “to grab”)

In a surprising manner (other ie. languages do not show aspiration), oi. *h* is seen in these examples:

- oi. *hṛd* (“heart”) versus lat. *cor, condis* where *h* represents an ie. (voiceless!) palatal (ie. *kerd*)

And, finally, see the previous laryngeal subsection for *aham, duhitār*, and *mahi*.

B.4. Middle and New Indian

B.4.1. Introductory remark

There are several Middle Indian languages, the oldest one being Pali which was primarily used in Buddhist scriptures. Other Middle Indian languages are Śārasenī, Māghādhi, or Māhārāṣṭrī. These languages are normally addressed by Prakrit or Prakrits. The sound laws that differentiate Middle Indian (mi.) from Old Indian (oi.) are complicated and differ between the Middle Indian languages. We mostly use Pali (pa.) when we look for Middle Indian examples, but sometimes also Prakrit (pkt.). While Classical Sanskrit (in the sense of Pāṇini) is not a mother tongue of Pali or of (a) Prakrit, it is surely more conservative than these Middle Indian languages in most respects. Counterexamples exist such as pa. *idha* (“here”) versus oi. (even ved.) *iha* which is “newer” (see pp. 53). Or consider the thematic present tense participle oi. and ved. *a-māṇa* (see p. 248). While acknowledging that Pali is sometimes more conservative than Sanskrit, we still feel justified to use the arrow → in

oi. *ava → mi. o*

or
B. Sound laws

oi. *dugdha → pa. *duddha*

Middle Indian features (as shown in Pali) are already present in Vedic scriptures. In contrast, Apabhramśa develops later, as of 500 A.D.

B.4.2. Vowels and diphthongs

Different sources of *o* and *e*

The vowels *oi. a, i, and u*, both short and long, are generally preserved as such. If, after loss of a consonant, *i* or *u* come to stand after another vowel, they are written as *ī* or *ū*, respectively.

Oi. *ē* and *ū* are also preserved. Remember that these oi. vowels are long. In Middle Indian, we have both short and long *e* and *o* that we distinguish in writing by *ē* or *ē*, and *ū* or *ū*, respectively.

Now, mi. *ē* and *ū* basically have three origins:

- *oi. ē/āi/aya → mi. ē*
- *oi. ū/āu/ava → mi. ū*

They may be shortened due to the law of morae (see below). Consider the example of

*oi. tāla ("oil") → pa. tēla ~ pkt. tēlla*

Since *oi. p* may develop into mi. *v*, we obtain the following corollary to the above sound law

- *oi. apa → mi. ū → mi. ū*

Mi. *ē* has additional sources:

- *oi. āyi/ayi/avi → mi. ē*

Thus, *oi. long diphthongs āi or āu* are not preserved in Middle Indian.

The law of morae

The law of morae states that a syllable with a long vowel cannot be closed. If we have an *oi. word with a long vowel followed by two consonants*, in Middle Indian, either the long vowel has to be shortened or the double consonant simplified. This can be seen in *oi. upēkṣā* which corresponds to both

- pa. *upēkkhā* (short vowel and double consonant) and
- pa. *upēkha* (long vowel and single consonant)

A variant of this law can be seen in the doubling of consonants:

- *oi. ēka ("one") → pkt. ēkka*
B.4. Middle and New Indian

- oi. ēvam (“thus”) → pkt. ēvam
- oi. tāilam (“oil”) → pkt. tēlla
- oi. nakha (“finger nail”) → pkt. nakka
- oi. gāwanam (“youth”) → pkt. jōvaṇa

We summarize:

LawOfMorae

\[ \text{oi. } \tilde{V}CC \rightarrow \text{mi. } \tilde{V}CC/\tilde{V}C \]
\[ \text{oi. } \tilde{V}C \rightarrow \text{mi. } \tilde{V}CC \]

Anaptyxis or svarabhakti:

An “inserted vowel” is regularly found between two consonants, one of which is a resonant (R), i.e., a nasal (N), a liquid (L), or a halfvowel (hV). The inserted vowel is often i:

- oi. RC → mi. RiC
- oi. CR → mi. CiR

However, u can serve in this position in two cases:
- near half vowel v or
- near labials

This phenomenon is called anaptyxis or, in Sanskrit, svarabhakti. Here, we have some examples:

- oi. klinna (PPP of klid, “to get wet”) → pkt. kiliṇṇa (see also p. 57)
- oi. varṣa (“rain”) → pkt. varis(a) (together with oi. ś/s/s → mi. s)
- oi. padma (“lotus”) → pa. paduma ∼ pkt. paũma
- oi. āsas (“tomorrow”) → pkt. suvo (near half vowel v)
- oi. smarati (“he remembers”) → pa. sarati ∼ pkt. sumaradi (near labial m)
- oi. harṣa (“joy, delight”) → pkt. haris(a)

Vocalic ř

Oi. ř turns into i, a, or u:

\[ \text{oi. } ř \rightarrow \text{mi. } \begin{cases} i, & \text{after or before light vowel} \\ u, & \text{after labial} \\ i/a, & \text{otherwise} \end{cases} \]

as can be seen in these examples. We have


B. Sound laws

◇ oi. r → mi. i after or before front vowel
   • oi. ṛsi (“seer”) → pa. isi
   • oi. krmi (“worm”) → pa. kimi (see also pp. 62)
   • u.at. *śṛthra (“loose”, ra-adjective of śrath (“to loosen, to resolve”)) → pkt. śīthira (in the Ṛgveda!), also a svarabhakti example

◇ oi. r → mi. u after labial
   • oi. prochati (“he asks”) → pa. pacchati

◇ oi. r → mi. i/a otherwise
   • oi. rṇa (“debt”) → pa. ṯṇa
   • oi. kṛta (PPP of kṛ) → pkt. kida (see subsection B.4.3 pp. 58)
   • oi. gṛha (“house”) → pa. gaha
   • oi. bhṛta (“servant”) → pa. bhata

B.4.3. Consonants

General rules

We now turn to consonants. The development is often complicated and differs between Middle Indian languages. We give a rough outline of phonetic changes first, before turning to examples. You need to remember:

◇ n is typically cerebralized, d and t are often cerebralized near r or ṛ.

◇ The three sibilants are reduced to one, normally s.

◇ s before p or k may aspirate the plosive and vanish.

◇ Unvoiced plosives tend to become voiced.

◇ Final plosives are dropped.

◇ Intervocal non-aspirated gutturals, palatals and dentals, both unvoiced and voiced, often disappear.

◇ In clusters,
   • when two plosives meet, we have backward assimilation;
   • when different types of sounds meet, assimilation (backward or forward) occurs according to some hierarchy given below.

We now turn to the individual rules, roughly in the above order.
Cerebralization

- Dentals often become cerebral, in particular near r or r:
  - oi. *patita* (PPP of *pat*, “to fall”) → pkt. *paḍida*
  - oi. *prathama* (“first, prior, principal”) → pkt. *paḍhama*

- n is often cerebralized as in
  - oi. *nayana* (“driving, eye”) → pkt. *ṇaṇa*
  - oi. *bhōjana* (“eating, nutrition”) → pkt. *bhoṇa*

Other cerebral peculiarities

We sometimes see lenition, as in

\[
\begin{align*}
m_i. \ t/\text{th}/\text{th} & \rightarrow \ m_i. \ d/\text{dh}/\text{dh} 
\end{align*}
\]

This development is best seen as one occurring within Middle Indian:

- skt./pkt. *kuṭumba* (“family”) → pkt. *kuḍumba*
- skt./pkt. *vaṭa* (“fig tree”) → pkt. *vaḍa*

\(d\) is then sometimes changed into \(l\) as in

- oi. *kṛḍā* (“game”) → pkt. *kṛḷā*

Convergence of the three sibilants

The sound law according to which the three sibilants converge can be written as

\[
\begin{align*}
oi. \ s/s/s & \rightarrow \ m_i. \ s 
\end{align*}
\]

Examples are

- oi. *pra-vis-a-ti* (“he enters”) → pa. *pa-vis-a-ti*
- oi. *bhāṣati* (“he speaks”) → pa. *bhaṣati*
- oi. *sása* (“hare”) → pa. *sasa*
- oi. *śiṣya* (“pupil”) → pa. *sissa* (see also pp. \textcolor{red}{62})
B. Sound laws

Aspiration, compensatory and otherwise

In some cases, s is dropped, but aspirates the accompanied plosive:

\[
\begin{align*}
\text{oi. } sp & \rightarrow \text{mi. } ph \\
\text{oi. } kṣ & \rightarrow \text{mi. } kh
\end{align*}
\]

Thus, \(sP(h)\) is best seen as a Middle Indian development. Here are some examples:

\(\Diamond\) \text{oi. } kṣatriya ("warrior") \(\rightarrow\) pkt. khattia

\(\Diamond\) \text{oi. } kṣipta (PPP of oi. kṣip) \(\rightarrow\) pkt. kḥṭṭa

\(\Diamond\) \text{oi. } spṛṣati ("touches") \(\rightarrow\) pa. phusati \~ pkt. phusaï

Alternatively, we may find \(ch\) rather than \(kh\), as in

\(\Diamond\) \text{oi. } kṣatta ("wounded") \(\rightarrow\) pa. kḥatta \(\rightarrow\) pkt. chaya/khaya

\(\Diamond\) \text{oi. } kṣetra ("field") \(\rightarrow\) pa. kḥēṭṭa \(\rightarrow\) pkt. chēṭṭa/kḥēṭṭa

After a vowel, we have both compensatory aspiration for deleted \(s\) and compensatory doubling:

\(\Diamond\) \text{oi. } aksi, n. ("eye") \(\rightarrow\) pkt. akkhī

\(\Diamond\) \text{oi. } asti ("he is") \(\rightarrow\) pkt. athī

\(\Diamond\) \text{oi. } hasta ("hand") \(\rightarrow\) pkt. hattṭha

Aspiration of both \(k\) and \(p\) may sometimes occur without the presence of \(s\):

\(\Diamond\) \text{oi. } kṣubja ("crooked, bent") \(\rightarrow\) pkt. khujja

\(\Diamond\) skt./pkt. vata ("fig tree") \(\rightarrow\) u.at. *vathha \(\rightarrow\) pkt. *vadhha

Intervocalic lenition or loss of non-aspirated plosives

Between vowels, we may find

\[
\begin{align*}
\text{oi. } g/j/d & \rightarrow \text{mi. } \emptyset \\
\text{oi. } k/c/t & \rightarrow \text{mi. } \emptyset
\end{align*}
\]

Note that these plosives sometimes remain or that the unvoiced ones are voiced:

\[
\text{oi. } t \rightarrow \text{mi. } d
\]

Examples:

\(\Diamond\) \text{oi. } avalokita ("looked at") \(\rightarrow\) pkt. ṛloīa

\(\Diamond\) \text{oi. } ētī ("he goes") \(\rightarrow\)
• Śaurasenī pkt. ēdi
• Māhārāṣṭrī pkt. ēi

◇ oi. *nakula* (“mongoose”) → pkt. *naula*
◇ oi. *nagaraṇa* (“town”) → pkt. *nalayara* (where *y* occurs to avoid hiatus)
◇ oi. *bhōjanam* (“eating, nutrition”) → pkt. *bhaoṣaṇa*
◇ oi. *latā* (“creepers”) →
  • Śaurasenī pkt. *lādā*
  • Māhārāṣṭrī pkt. *lāuṃ*
◇ oi. *loka* (“world”) →
  • Śaurasenī pkt. *loga*
  • Māhārāṣṭrī pkt. *loṇa*
◇ oi. *śauca* (“cleanness”) → pkt. *sōna*
◇ oi. *sakala* (“total, complete”) → pkt. *sāla*
◇ oi. *hita* (PPP of *dhā*) →
  • Śaurasenī pkt. *hida*
  • Māhārāṣṭrī pkt. *hīṇa*

Note that these plosives sometimes remain or that the unvoiced ones are voiced. Examples for voiced consonants for unvoiced ones are

◇ oi. *athiti* (“guest”) → pkt. *adhidi*
◇ oi. *kṛta* (PPP of *kṛ*) → pkt. *kīda*
◇ oi. *gata* (PPP of *gam*) → pkt. *gīda*

**Intervocalic lenition or loss of aspirated plosives**

In line with the above sound laws

\[
\begin{align*}
\text{oi. } k/c/t & \rightarrow \text{ mi. } \emptyset \\
\text{oi. } g/j/d & \rightarrow \text{ mi. } \emptyset 
\end{align*}
\]

we find

\[
\begin{align*}
\text{oi. } kh/gh & \rightarrow \text{ mi. } h \\
\text{oi. } th/dh & \rightarrow \text{ mi. } h \\
\text{oi. } ph/bh & \rightarrow \text{ mi. } h 
\end{align*}
\]
B. Sound laws

Consider these examples:

- oi. *atha* (“and, now”) →
  - Śaurasenī pkt. *adha*
  - Māhārāṣṭrī pkt. *aha*

- oi. *katham* (“how? in what manner?”) →
  - Śaurasenī pkt. *kadham*
  - Māhārāṣṭrī pkt. *kaham*

- oi. *nakha* (“finger nail”) → pkt. *ṇaha*

- oi. *mukha* (“mouth”) → pkt. *muha*

- oi. *mēgha* (“cloud”) → pkt. *mēha*

- oi. *vadhū* (“bride”) → pkt. *vahū*

But *ph* is often retained at the beginning of a second member of a compound:

- oi. *citra-phalakam* (“painting”) → pkt. *citta-phala*

**Consonants: initial palatalization**

Word-initially, palatal sounds evolve in Middle Indian through different avenues. The sound law

\[ \text{oi. } y \rightarrow \text{mi. } j \]

can readily be witnessed in

- oi. *yathā* → pkt. *jathā*

- oi. *yuddha* (“battle”) → pkt. *juddha*

- oi. *yōg* → pkt. *jōg*

but see also (in non-initial position): oi. *āryaputra* → pkt. *ajjaīṭṭa*

Dentals together with *y* may also produce palatals:

- oi. *ty* → mi. *c*
- oi. *dy* → mi. *j*
- oi. *dhy* → mi. *jh*

We have these examples:

- oi. *tyāga* (“abandonment”) → pa. *cāga*
- oi. *dyūta* (“gambling”) → pa. *jūta*
- oi. *dhyānam* (“meditation”) → pa. *jhāna*
**Consonants: initial peculiarities**

We can note some further initial peculiarities. Word-initial aspiration of \( k \) and \( p \) sometimes occurs without \( s \) before them:

\[ \text{oi. } k/p \rightarrow \text{mi. } kh/ph \]

In the oi. root \( bhu\), we often have mi. \( h \) for \( bh \) and find:

- \( \text{oi. and pa. } bhav-a-ti ("he is") \) versus pkt. \( ho-ti \) or even hoī
- \( \text{oi. } bhav-i-sy-a-ti ("he will be") \) \( \rightarrow \) pkt. havissadi (see subsection 4.B.3)

**Consonants: other peculiarities**

Oi. \( p \) may develop into \( v \) or may be dropped: Since the loss of \( p \) occurred via \( b \) and \( v \), \( b \) and \( v \) are also sometimes dropped:

- \( \text{oi. } rūpam ("form, beauty") \) \( \rightarrow \) pkt. rūa
- Oi. \( y \) tends to be dropped:
- \( \text{oi. } priya ("dear, pleasant") \) \( \rightarrow \) pkt. pia (see subsection 4.B.3)
- \( \text{oi. } vi-yoga ("disjunction, separation") \) \( \rightarrow \) pkt. vioa

**Clusters: Backward assimilation for non-palatal plosives**

If two non-palatal plosives meet, the first is assimilated to the second. I.e., we have sound laws like

\[ \text{oi. } pt \rightarrow \text{mi. } tt \]

It is easy to find examples

- \( \text{oi. } utkramati ("he ascends") \) \( \rightarrow \) pa. ukkamati
- \( \text{oi. } dugdha ("milk") \) \( \rightarrow \) pa. duddha
- \( \text{oi. } labdha (PPP labh, "to obtain") \) \( \rightarrow \) pa. laddha
- \( \text{oi. } vāk-pati-rāja ("king who is also a master of language") \) \( \rightarrow \) pkt. vap-pai-rūa
- \( \text{oi. } śabda ("sound") \) \( \rightarrow \) pa. sadda
- \( \text{oi. } sakta ("attached") \) \( \rightarrow \) pa. satta (as in oi. *bodhisakta ("who clings to enlight- ment") \( \rightarrow \) bodhisatta)
- \( \text{oi. } sapta ("seven") \) \( \rightarrow \) pa. satta
B. Sound laws

Clusters: hierarchical assimilation

The case of clusters involving two non-palatal plosives has been considered above. We now turn to many other possibilities. It turns out that a hierarchy of sounds provides a generalization of many different sound laws. This is the hierarchy:

\[
p<\text{pala}\rangle > S > N > p\text{pala} > l > v > y > r
\]

The hierarchy rule states that the stronger sound influences the weaker one. Here, assimilation can be backward or forward. This hierarchy can also be applied in word-initial positions, but then only one consonant can remain. Thus, we have simple consonants in word-initial positions and double consonants in medial positions.

Non-palatal plosives are strongest:

- \(\text{o}i.\ \text{agni} \) ("fire") \(\rightarrow\) \(\text{pa. aggi}\)
- \(\text{o}i.\ \text{ardha} \) ("half") \(\rightarrow\) \(\text{mi. addha/ad̄ha}\)
- \(\text{o}i.\ \text{alpa} \) ("small") \(\rightarrow\) \(\text{pa. appa}\)
- \(\text{o}i.\ \text{kalpa} \) ("eon, ritual, rule") \(\rightarrow\) \(\text{pa. kappa}\)
- \(\text{o}i.\ \text{triloka} \) ("three worlds") \(\rightarrow\) \(\text{pkt. tilōa}\)
- \(\text{o}i.\ \text{tvacam} \) ("skin") \(\rightarrow\) \(\text{pa. taco}\)
- \(\text{o}i.\ \text{durbala} \) ("weak") \(\rightarrow\) \(\text{pkt. dubbala}\)
- \(\text{o}i.\ \text{dr̥ṣṭi} \) ("sight") \(\rightarrow\) \(\text{pkt. diṭṭhi}\)
- \(\text{o}i.\ \text{dr̥ṣya} \) ("visible") \(\rightarrow\) \(\text{pkt. dassa}\)
- \(\text{o}i.\ \text{dvija} \) ("twice born") \(\rightarrow\) \(\text{pa. dija}\)
- \(\text{o}i.\ \text{pakva} \) ("cooked, ripe") \(\rightarrow\) \(\text{pa. pakka}\)
- \(\text{o}i.\ \text{bharta} \rightarrow\) \(\text{mi. bhatta}\)
- \(\text{o}i.\ \text{yogṛṇa} \) ("exercise") \(\rightarrow\) \(\text{pa. yoggṛṇa} \) (law of morae)
- \(\text{o}i.\ \text{ṛatrī} \) ("night") \(\rightarrow\) \(\text{pa. ratti} \) (law of morae)
- \(\text{o}i.\ \text{śak-no-ti} \) ("he is able") \(\rightarrow\) \(\text{pa. sak-kō-ti}\)

Palatals are weaker than nasals:

- \(\text{o}i.\ \text{ājñāpayati} \) ("he orders") \(\rightarrow\) \(\text{pkt. āṇāvēdi}\)
- \(\text{o}i.\ \text{yajñam} \) ("sacrifice") \(\rightarrow\) \(\text{pkt. jaṇṇa}\)

62
Sibilants occupy second position in hierarchy:

- oi. īśvara (“lord”) → pa. issara
- oi. drṣya (“visible”) → pa. dassa
- oi. varṣa (“rain”) → pa. vassa
- oi. ṣyāma (“dark”) → pa. sāma
- oi. sahasra (“thousand”) → pa. sahassa
- oi. sravati (“it flows”) → pa. savati

\textbf{r is weakest:}

- oi. argha (“price”) → pkt. aggha
- oi. ardha (“half”) → pkt. addha
- oi. ava-ṛṣṇa (“come down”, PPP of tṛ, see p. 118) → pkt. o-ṛṣṇa
- oi. karna (“ear”) → pa. kaṇṇa
- oi. priya (“dear, pleasant”) → pa. pia
- oi. grāma (“village”) → pa. gāma
- oi. cakram (“wheel”) → pa. cakka
- oi. durlabha (“difficult to obtain”) → pa. dūlabha
- oi. dharma (“religion, duty”) → pa. dhamma
- oi. putra (“son”) → pa. putta
- oi. mārga (“path”) → pkt. magga
- oi. vajra (“thunderbolt”) → pkt. vajja
- oi. varga (“class, tribe”) → pa. vagga
- oi. vipra (“Brahmin”) → pa. vippa
- oi. vyagra (“indifferent, undisturbed”) → pa. vagga
- oi. vṛhi (“rice”) → pa. vīhi

Exceptions to the above hierarchy concern three groups:

1. Dental + y yields new palatals (where voice and aspiration remains):
   - oi. tyāga (“abandonment”) → pa. cāga
B. Sound laws

○ oi. *dyāta* (“gambling”) → pa. *jūta*
○ oi. *dhyānām* (“meditation”) → pa. *jhāna*

2. Cluster *kṣ* may regularly yield *kh* as in oi. *kṣatriya* (“warrior”) → pkt. *khattia*

3. Nasals before plosives remain:
   ○ oi. *aṅka* (“mark, sign”) → pa. *aṅka*
   ○ oi. *kampa* (“tremble”) → pa. *kampa*
   ○ oi. *danta* (“tooth”) → pa. *danta*
   ○ oi. *paṅca* (“five”) → pa. *paṅca*
   ○ oi. *mantram* (“spell”) → pa. *manta*

B.4.4. A few New Indian developments

Building on mi. features, the modern Indian languages developed. With respect to Hindi (hi.), we find three major developments:

1. Middle Indian double consonants are simplified with two effects:
   a) The preceding vowel is lengthened (compensatory lengthening).
   b) In Hindi (more than in some other New Indian languages), this compensatory lengthening often (not always) occurs together with nasalisation.

2. A very similar development is witnessed for NP sequences:
   a) The consonant cluster is simplified and only the plosive remains.
   b) The preceding vowel is lengthened and nasalised. Of course, since the nasal is present, here, in the first place, this nasalisation is no surprise.

3. In Apabhramśa, Middle Indian final long vowels are shortened. In New Indian, final short vowels are lost.

Together, these three developments clearly show in these examples.

1. Double consonants simplified without nasalisation:
   ○ oi. *dugdha* (“milk”) → pa. *duddha* → hi. *dūdh*
   ○ oi. *rātrī* (“night”) → pa. *rattī* → hi. *rāt*
   ○ oi. *sapta* (“seven”) → pa. *satta* → hi. *sāt*

2. Double consonants simplified with nasalisation (where ā stands for nasalised ā):
   ○ oi. *akṣī*, n. (“eye”) → pkt. *akkhī* → hi. *ākh*
   ○ oi. *sarpa* (“serpent”) → pa. *sappa* → hi. *sāp*

3. Nasal lost under nasalisation and compensatory lengthening
B.5. Sound laws of other IE languages

Linking Sanskrit words to words in English or German, or to Latin and Greek foreign words is helpful in learning the abundant Sanskrit vocabulary. Therefore, we now give a summary of the important sound laws involving these languages. Many of the sound laws for Old Indian have already been considered in the previous sections. I apologize in advance for favouring High German which will take quite a lot of pages. Good for German speakers, mainly useless for others.

B.5.1. Vowels and diphthongs

The most dramatic vowel changes in the Indo-European language family concerns the Indo-Iranian shift towards a and ā. Sometimes one can reconstruct Indo-European words by taking the Sankrit consonants and the Greek vowels. For example,

\[
\text{ie. } *\text{bher } \rightarrow \begin{cases} 
\text{oi. } \text{bhar-} \\
\text{ogr. } \text{pher-} \\
\text{lat. } \text{fer-} \\
\text{e. } \text{bear}
\end{cases}
\]

We will deal with a few vowel changes, only. For Latin, we need to remember

\[
\text{LAT}_\text{V} \quad \text{ie. } e \text{ before } u \text{ or } v \rightarrow \text{ lat. } o
\]

\[
\text{olat. } \text{ei} \rightarrow \text{ lat. } i
\]

With respect to the first line, we have ie. *nevos ("new") → lat. novus whence many foreign words such as novice or re-novate. In contrast the Greek-based foreign words show e, as in neo-liberal or Neolithic.

For the second line, consider lat. dicere ("to say") that goes back to olat. deicere with PPP in zero grade dictum. See dis in the dictionary.

For the benefit of German speakers, we mention a few sound laws that will become important later on. Germanic unstressed syllables tend to be dropped or turned into the "schwa"-sound (which is nicely called "Murmelvokal" in German). Examples are e. seven and nhg. sieben and e. eat versus nhg. essen.

On top, consider these (selective!) developments for New High German:

\[
\text{NHG}_\text{V} \quad \begin{align*}
\text{ie. } a/o & \rightarrow \text{ nhg. } a \\
\text{ie. } \ddot{a}/\ddot{o} & \rightarrow \text{ nhg. } \ddot{u} \\
\text{ie. } e & \rightarrow \text{ nhg. } i
\end{align*}
\]
B. Sound laws

For the first line, consider

◊ ie. *oktō → lat. octō ~ nhg. acht
◊ lat. toga ~ nhg. Dach
◊ lat. monere ~ nhg. mahnen

The second line finds some confirmation the the pronounced, not the written, German:

◊ lat. cārus (“clear”, fr. cher) ~ e. where ~ nhg. Hure
◊ ie. *bhṛātēr → lat. frāter ~ nhg. Bruder

And here two examples for the third line:

◊ ie. *bhendh → oi. bandh ~ nhg. binden
◊ ie. *esti → lat. est ~ oi. asti ~ nhg. ist

B.5.2. Syllabic Indo-European nasals and liquids

Indo-European knew syllabic nasals and liquids, probably both short and long. Concentrating on the short ones, we have the following sound laws for syllabic nasals:

\[
\text{IE\_SY\_N} \quad \text{ie. n}/m \quad \rightarrow \quad \begin{cases} 
\text{oi.} & \begin{cases} 
an/am & \text{bef. vowel} 
a/a & \text{otherwise} 
\end{cases} 
\text{ogr.} & \begin{cases} 
an/am & \text{bef. vowel} 
a/a & \text{otherwise} 
\end{cases} 
\text{lat.} & \begin{cases} 
in/im & \text{word-initial} 
en/em & \text{otherwise} 
\end{cases} 
\text{e. un}/um \sim \text{nhg. un}/um
\end{cases}
\]

A very instructive example is the negating prefix ie. n.

◊ Sanskrit examples between consonants: a-gatika (“without way out”), a-kriya (“lazy”), a-kāla (“wrong time”), a-nāyaka (“without leader”), a-ratha (“without charriot”), a-putra (“without son”)

◊ Sanskrit examples before vowel: an-anta (“without end”), an-ātma-jña (“not knowing oneself”)

◊ Germanic examples: nhg. un-gläubig, e. un-happy, e. un-believable

◊ Greek-based B: a-theist, an-archy

◊ Latin-based B: in-effective, im-perfect

We sometimes have mixtures such as
B.5. Sound laws of other ie. languages

- *a-social* (the first part Greek, the second Latin)
- German *un-effektiv* (German-Latin)

The past participle is built with the zero grade. Compare nhg. *ge-bund-en* with oi. *bad-dha*, both from ie. *bhṛṇdh*.

Syllabic liquids follow these sound laws:

\[
\begin{array}{c|c|c}
\text{IE\_SY\_L} & \text{ie.} & r/l \\
\text{o/ō} & \rightarrow & \begin{cases} 
\text{r or l (!) between cons.} \\
\text{oi.} & \text{ur/ur} & \text{before vowels, after labials} \\
& \text{ir/ir (?) before vowels, not after labials} \\
\text{ogr.} & (ra,ar)/(la,al) & \text{bef. vowel} \\
& a/a & \text{otherwise} \\
\text{lat.} & (or,ur)/(ol,ul) & \text{betw. cons.} \\
& er/el & \text{otherwise} \\
\text{e. or/ol} & \sim & \text{nhg. or/ol}
\end{cases}
\end{array}
\]

Consider a few examples:

- ie. *wrkw* → oi. ṭṛka ~ e. *wolf* ~ nhg. Wolf
- ie. *drk* → oi. ṭṛś
- ie. *gwr* → oi. guru ~ ogr. baru as in the B baro-meter
- ie. *ph₁u* → oi. puru

Note the exception of word-initial ie. *m* before a resonant:

- oi. *mlāta* (“faded, tanned (said of leather)”)  
- oi. *mnā* (“to mention”).

### B.5.3. Ablaut in English and German

In English and German, we have weak and strong verbs. An example of a weak verb is

<table>
<thead>
<tr>
<th>Verb Form</th>
<th>English</th>
<th>German</th>
</tr>
</thead>
<tbody>
<tr>
<td>infinitive</td>
<td>to love</td>
<td>lieben</td>
</tr>
<tr>
<td>imperfect</td>
<td>I loved</td>
<td>ich liebte</td>
</tr>
<tr>
<td>perfect</td>
<td>I have loved</td>
<td>ich habe geliebt</td>
</tr>
</tbody>
</table>

where the root vowel does not change. In strong verbs, the root vowel changes due to vowel gradation (ablaut). Consider, for example, the German *werden* with
B. Sound laws

full grade er:  
  
werden ("to become")

 o-grade or:  
  
ward ("he became"), a as in ie. *aktō → nhg. acht

zero grade r:  
  
geworden (PPP "become"), as in Wolf, p. 67

According to this pattern, we also find (due to sound laws or due to analogy):

◇ werben, warb, geworben

◇ werfen, warf, geworfen

◇ bergen, barg, geborgen

◇ sterben, starb, gestorben

◇ helfen, half, geholfen

With n instead of r, we have

full grade en:  
  
finden ("to find")

 o-grade on:  
  
fand ("he found"), a as in ie. *aktō→ nhg. acht

zero grade n:  
  
gefunden (PPP "found")

The English language also shows this ablaut pattern:

<table>
<thead>
<tr>
<th>English</th>
<th>German</th>
</tr>
</thead>
<tbody>
<tr>
<td>full grade</td>
<td>sing singen</td>
</tr>
<tr>
<td>o-grade</td>
<td>sang sang</td>
</tr>
<tr>
<td>zero grade</td>
<td>sung gestungen</td>
</tr>
</tbody>
</table>

B.5.4. Consonants: From Indo-European to Greek, Latin, and Germanic

Non-aspirated consonants

ie. p/t/k  and  ie. b/d/g

remain the same in Greek and Latin as in Indo-European. That part is easy.

Voiced aspirated sound are more interesting.

OGR

ie. bh/dh/gh  →  ogr. ph/th/kh (written)

ie. kw/gw/gw h before cons., a, i, or o  →  ogr. p/b/ph (written)

ie. kw/gw/gw h before e  →  ogr. t/d/th (written)

ie. kw/gw/gw h before or after nasal  →  ogr. k/g/ch (written)

ie. v  →  ogr. ∅

ie. s  →  ogr. h
B.5. Sound laws of other ie. languages

You will not forget the first line. It is responsible for the fact that you can often recognize Greek foreign words by

- **ph**: *philosophy, phobia*
- **th**: *theology, theatre, mathematics*
- **ch**: *chlorine, Christopher*

Lines 2 through 4 are concerned with ie. labiovelars. While the velar element is lost, the result varies a lot depending on the environment. Aspirated voiced labiovelars undergo two changes. First, they turn into voiced labial, dental, or velar sounds, respectively. Second, they undergo the changes of the first line. Thus, $g^v h$ before $e$ finally turns into $th$ as in gr. B *thermic* (s.v. *gharma*).

For the fifth line of OGR compare

- lat. *vox* with gr. B *epic* (see dictionary at *vac*)
- lat. B *vicinity* with gr. B *economics*
- oi. *kravis* with ogr. *kreas* ← ie. *kreas*$_2$-

Turning to the sixth line, ie. *s* is voiceless and remains in most ie. languages. However, Greek is an interesting exception. The contrast of ie. *s*, preserved in Latin, with Greek *h* clearly shows up in these examples:

- lat. *sex* $\sim$ agr. *hex* (as in *hexagon*)
- lat. *septem* $\sim$ agr. *hepta* (as in *heptagon*)
- it. B *sal-to* $\sim$ agr. *hal-ma* (as in board game)
- e. *same* $\sim$ gr.-lat. B *homo-sexual*
- lat. B *semi-final* $\sim$ gr. B *hemi-sphere*
- lat. B *serpent* $\sim$ gr. B *herpes* (a skin disease, spreading like a snake)

Similar to Sanskrit, but in an independent development, Grassmann’s law applies also in Greek. The first of two aspirated sounds becomes deaspirated:

\[
\text{OGR\_DA} \quad \text{ie. } C^{\text{asp}} V C^{\text{asp}} \rightarrow \text{oi. } C^{\text{unasp}} V C^{\text{asp}}
\]

In Latin, the development ie. $b^h/d^h/g^h$ is complicated. It pays to remember

\[
\text{LAT\_f} \quad \text{ie. } b^h/d^h/g^h \text{ word-initial } \rightarrow \text{ lat. } f
\]

For example, ie. *$b^h$reg* leads to the lat. FWs *frag-ile* or *fraction*. Second, ie. *$g^v$* lost the velar element:

\[
\text{LAT\_v} \quad \text{ie. } g^v \text{ word-initial } \rightarrow \text{ lat. } v
\]

See lat. B *vital* (s.v. *jiv*).
B. Sound laws

An ie. s between vowels regularly turned into Latin r, a process sometimes called rhotazism:

\[ \text{LAT} \_ \text{sr} \quad \text{ie. s intervocalic} \rightarrow \text{lat. r} \]

See lat. B \text{vĭrus} (s.v. \text{viṣa}).

A final Latin sound law that is often applied concerns two dentals that come into contact. They are replaced by \text{ss}:

\[ \text{LAT} \_ \text{DD} \quad \text{ie. DD} \rightarrow \text{lat. ss} \]

The consonantal development from Indo-European to Germanic is often called the “first consonant shift”. Most Germanic consonants remain in English. The first consonant shift is governed by these sound laws:

\[ \begin{align*}
\text{GER} & \quad \text{ie.} \ p/t/k \quad \rightarrow \quad \text{germ.} \ f/h/h \\
& \quad \text{ie.} \ b/d/g \quad \rightarrow \quad \text{germ.} \ p/t/k \\
& \quad \text{ie.} \ b^h/d^h/g^h \quad \rightarrow \quad \text{germ.} \ b/d/g
\end{align*} \]

where \(b\) (first line) represents the voiceless interdental spirant. In words:

◊ Voiceless unaspirated \(p/t/k\) turn into fricatives. See
  • lat. \(\text{pecus}\) (\(\text{cow}\)) as in the B pecuniary \(\sim\) e. \(\text{fœ}\)
  • Latin based B pedal or pedicure \(\sim\) e. foot.

◊ Voiced unaspirated plosives turn voiceless. This can be seen from
  • lat. \(\text{ego}\) \(\sim\) Berlin low German icky
  • Ital. gelato (\(\text{icce}\)) \(\sim\) e. cold.

◊ Voiced aspirated sounds lose the aspiration. From ie. \(^*b^h\text{reg}\) one obtains lat. B frag-ile \(\sim\) e. break

B.5.5. Consonants: From Germanic and English to New High German

The second consonant shift (NHG\_ C)

The so-called first consonant shift refers to developments from ie. to germ. The second consonant shift concerns changes from germ. to High German. These changes are peculiar to German (and Swiss German), but do not occur in English, Danish, Swedish, low German etc.
B.5. Sound laws of other ie. languages

\[ \text{NHG}_C \]

<table>
<thead>
<tr>
<th>germ. ( t )</th>
<th>( \rightarrow )</th>
<th>nhg.</th>
<th>{ \vphantom{s/ss} }</th>
</tr>
</thead>
<tbody>
<tr>
<td>( s/ss ) after vowel</td>
<td>( ts ) otherwise</td>
<td></td>
<td></td>
</tr>
<tr>
<td>germ. ( k )</td>
<td>( \rightarrow )</td>
<td>nhg.</td>
<td>{ \vphantom{ch} }</td>
</tr>
<tr>
<td>( ch ) after vowel</td>
<td>( k ) otherwise</td>
<td></td>
<td></td>
</tr>
<tr>
<td>germ. ( p )</td>
<td>( \rightarrow )</td>
<td>nhg.</td>
<td>{ \vphantom{ch} }</td>
</tr>
<tr>
<td>( f/f ) after vowel</td>
<td>( pf ) otherwise</td>
<td></td>
<td></td>
</tr>
<tr>
<td>germ. ( þ )</td>
<td>( \rightarrow )</td>
<td>e. th ( \sim ) nhg. ( d )</td>
<td></td>
</tr>
<tr>
<td>germ. ( d )</td>
<td>( \rightarrow )</td>
<td>e. d ( \sim ) nhg. ( t )</td>
<td></td>
</tr>
</tbody>
</table>

where \( þ \) (fourth line) represents the voiceless interdental spirant. Since English often preserves the Germanic consonants, we compare English (rather than Germanic or Gothic) with New High German. For the first line of \( \text{NHG}_C \), consider these examples after a vowel:

- e. \( eat \sim \) nhg. \( essen \)
- e. \( what \sim \) nhg. \( was \)
- e. \( out \sim \) nhg. \( aus \)
- e. \( white \sim \) nhg. \( weiß \)
- e. \( hot \sim \) nhg. \( heiß \)

“Otherwise” in the above rule means “not after vowel” and hence word-initial or after consonants as in these examples:

- e. \( town \sim \) nhg. \( Zaun \)
- e. \( tide \sim \) nhg. \( Zeit \)
- e. \( tear \sim \) nhg. \( zerren \)
- e. \( till \sim \) nhg. \( Ziel \)

The second line of \( \text{NHG}_C \) concerns germ. \( k \). We observe a word-initial change in Switzerland. For other High German speakers, a change occurs only “otherwise”:

- e. \( weak \sim \) nhg. \( weich \)
- e. \( duck \sim \) nhg. \( tauchen \)
- e. \( lock \sim \) nhg. \( Loch \)

lat. \( coccus \) \( \rightarrow \) e. \( cook \sim \) nhg. \( Koch \)

A final interesting example is lat. \( sēcūrus \) (\( ← \) \( sē cūrā \), “without worry, carefree \( \rightarrow \) sicher”).

We now turn to the remaining unvoiced unaspirated sound, \( p \). Similar to \( t \), we have changes “after vowel” and “otherwise”:

- e. \( path \sim \) nhg. \( Pfad \)
- e. \( leap \sim \) nhg. \( laufen \)
- e. \( sleep \sim \) nhg. \( schlafen \)

71
B. Sound laws

If we have a clear Latin-Germanic equation without the second consonant shift, the solution is borrowing as in

- lat. *planta* → B in English *plant* ∼ B in German *Pflanze*
- lat. *piper* → B in English *pepper* ∼ B in German *Pfeffer*

The developments for Germanic *p/t/k* are considered in the first three lines of *NHG*C. Voiced labials and velars do not undergo any further changes. However, with respect to denticals, we observe the sound laws presented in the last two lines of *NHG*C. Examples for the fourth line are easy to find:

\[
\begin{align*}
e. \text{bath} & \sim \text{nhg. Bad} & e. \text{oath} & \sim \text{nhg. Eid} \\
e. \text{think} & \sim \text{nhg. dünken („mich dünkt“)} & e. \text{path} & \sim \text{nhg. Pfad} \\
e. \text{brother} & \sim \text{nhg. Bruder} & e. \text{smith} & \sim \text{nhg. Schmied} \\
e. \text{earth} & \sim \text{nhg. Erde} & e. \text{that} & \sim \text{nhg. das/dass} \\
e. \text{three} & \sim \text{nhg. drei} & e. \text{thief} & \sim \text{nhg. Dieb} \\
e. \text{through} & \sim \text{nhg. durch} & e. \text{thing} & \sim \text{nhg. Ding} \\
e. \text{thorn} & \sim \text{nhg. Dorn} & e. \text{leather} & \sim \text{nhg. Leder} \\
e. \text{thirst} & \sim \text{nhg. Durst}
\end{align*}
\]

Finally, for Germanic and English *d* we point to these examples:

\[
\begin{align*}
e. \text{bed} & \sim \text{nhg. Bett} & e. \text{drink} & \sim \text{nhg. trinken} \\
e. \text{bed} & \sim \text{nhg. Beet} & e. \text{duck} & \sim \text{nhg. tauchen} \\
e. \text{board} & \sim \text{nhg. Brett} & e. \text{deer} & \sim \text{nhg. Tier} \\
e. \text{ride} & \sim \text{nhg. reiten} & e. \text{lead} & \sim \text{nhg. leiten} \\
e. \text{day} & \sim \text{nhg. Tag} & e. \text{mood} & \sim \text{nhg. Mut} \\
e. \text{deep} & \sim \text{nhg. tief} & e. \text{daughter} & \sim \text{nhg. Tochter} \\
e. \text{door} & \sim \text{nhg. Tür} & e. \text{tide} & \sim \text{nhg. Zeit} \\
e. \text{do} & \sim \text{nhg. tun} & e. \text{under} & \sim \text{nhg. unter} \\
e. \text{spade} & \sim \text{nhg. Spaten} & e. \text{wide} & \sim \text{nhg. weit} \\
e. \text{good} & \sim \text{nhg. gut} & e. \text{widow} & \sim \text{nhg. Witwe} \\
e. \text{red} & \sim \text{nhg. rot} & e. \text{dear} & \sim \text{nhg. teuer} \\
e. \text{ladder} & \sim \text{nhg. Leiter} & e. \text{shoulder} & \sim \text{nhg. Schulter} \\
e. \text{dead} & \sim \text{nhg. tot} & e. \text{need} & \sim \text{nhg. Not} \\
e. \text{seed} & \sim \text{nhg. Saat} & e. \text{fold} & \sim \text{nhg. falten}
\end{align*}
\]

Exceptions

Of course, no rules without exception (which gives rise to new, refined rules):

1. Germ. *t* remains after *f*, *s*, or *ch*:

72
B.5. Sound laws of other IE languages

- lat. *captivus* ~ nhg. *Haft*
- e. *stone* ~ nhg. *Stein*, but not *Sein* (just you try)
- e. *starve* ~ nhg. *sterben*
- e. *is* ~ nhg. *ist* ← ie. *esti* → oe. *asti* (where *s* prevented the shift of *t* in both the first and the second consonant shifts)

2. Germ. *t* remains before *r*: e. *tree*, *true* ~ nhg. *Treue*, *Trost*


4. Germ. *k* is not shifted if *r* follows immediately
   - e. *acre* ~ nhg. *Acker*
   - e. *bite* ~ nhg. *bitter* in contrast to nhg. *Biss*

**New High German more conservative than English**

English is closer to Germanic than New High German. However, sometimes, New High German is more conservative than English:

<table>
<thead>
<tr>
<th>NHG_E</th>
<th>Germ. b</th>
<th>nhg. b</th>
<th>∼</th>
<th>e. v/f</th>
</tr>
</thead>
<tbody>
<tr>
<td>germ. ch not w.-i.</td>
<td>→ nhg. ch</td>
<td>∼</td>
<td>e. ∅</td>
<td>(written <em>gh</em>)</td>
</tr>
<tr>
<td>germ. g not w.-i.</td>
<td>→ nhg. g</td>
<td>∼</td>
<td>e. ∅</td>
<td>(written <em>i</em> or <em>y</em>)</td>
</tr>
<tr>
<td>germ. g w.-i.</td>
<td>→ nhg. g</td>
<td>∼</td>
<td>e. y</td>
<td></td>
</tr>
<tr>
<td>germ. k</td>
<td>→ nhg. k</td>
<td>∼</td>
<td>e. ch</td>
<td>(near oe. <em>i</em> or <em>e</em>)</td>
</tr>
<tr>
<td>germ. n/m</td>
<td>→ nhg. n/m</td>
<td>∼</td>
<td>e. ∅</td>
<td>(before <em>f</em>, <em>th</em>, or <em>s</em>)</td>
</tr>
</tbody>
</table>

The first line of NHG_E is exemplified by

- e. *life* ~ nhg. *Leib*
- e. *live* ~ nhg. *leben*
- e. *deaf* ~ nhg. *taub*
- e. *dove* ~ nhg. *Taube*
- e. *loaf* ~ nhg. *Laib* (Brot)
- e. *leaf* ~ nhg. *Laub*
- e. *have* ~ nhg. *haben*
- e. *seven* ~ nhg. *sieben*
- e. *love* ~ nhg. *lieben*
- e. *starve* ~ nhg. *sterben*
- e. *believe* ~ nhg. *glauben*
- e. *evil* ~ nhg. *übel*

The second and third lines of NHG_E show how velar sounds turn mute in English, i.e., we find

- e. *to fight* ~ nhg. *fechten*
- e. *night* ~ nhg. *Nach*
- e. *knight* ~ nhg. *Knecht*
- e. *weight* ~ nhg. *Ge-wicht*
- e. *plight* ~ nhg. *Pflicht*
- e. *eight* ~ nhg. *acht*
B. Sound laws

and

- e. rain ∼ Regen
- e. way ∼ Weg
- e. to lie ∼ liegen
- e. many ∼ mannig-fältig
- e. to lie ∼ lügen
- e. to say ∼ sagen
- e. day ∼ Tag
- e. nail ∼ Nagel

While the third line concerns germ. *g* within a word, the fourth line is about word-initial *g*:

- e. yellow ∼ gelb
- e. yawn ∼ gähnen

We also find e. *g* in this position, like in e. forget ∼ nhg. „vergessen“. This is an Old Nordic import into the English language.

The fifth line is justified by these examples:

- e. church ← oe. ciriæ ∼ nhg. Kirche
- e. choose ← oe. ceosan ∼ nhg. kiesen (old for “examine, choose”)
- e. chin ∼ Kinn

Finally (sixth line of NHG_E), we have the loss *n* or *m* in English:

- e. five ∼ fünf
- e. tooth ∼ Zahn
- e. wish ∼ wünschen
- e. other ∼ anderer
- e. us ∼ uns
- e. goose ∼ Gans

B.5.6. Consonants: From Indo-European to Germanic and English

The previous two subsections dealt with the first and the second consonant shift, respectively. Putting them together, one gets these examples:

- lat. trēs ∼ e. three ∼ nhg. drei
- lat. tū ∼ e. thou(old form) ∼ nhg. du
- gr. B cardiology ∼ fr. cordialement ∼ e. heart ∼ nhg. Herz
- lat. B dental ∼ e. tooth ∼ nhg. Zahn
- Dun (Laoghaire) (Irish town near Dublin) ∼ e. town ∼ nhg. Zaun
- gr. B dermatology ← ie. *der* ("to tear (an animal’s skin from the body") → e. tear („zerren, reißen") ∼ nhg. zerren

An important class of regular exceptions comes under the heading of Verner’s law. If ie. *p/t/k/s* (not word-initial) do not follow immediately the ie. accent, we have
B.6. Sequence of sound laws

VER

\[ \text{ie. } p/t/k/s \text{ not word-initial, no immediately after ie. accent} \]
\[ \rightarrow \text{germ. } b^{\text{fric}}/d^{\text{fric}}/g^{\text{fric}}/r \]
\[ \rightarrow \begin{cases} 
  \text{e. } v/th/g/r \\
  \text{nhg. } b/t/g/r 
\end{cases} \]

where "fric" stands for fricative. These sounds are consonants produced by forcing air through a narrow channel. Sibilants (like oi. s or s) are special fricatives where the tongue directs the air over the edge of the teeth. That the Germanic sounds are fricative is not obvious from German where we have t for both germ. d and germ. d^{\text{fric}}:

\[ \text{NHG } _C \rightarrow \text{germ. } d \rightarrow \text{e. } d \text{ (example red)} \sim \text{nhg. } t \text{ (example rot)} \]
\[ \text{VER } \rightarrow \text{germ. } d^{\text{fric}} \rightarrow \text{e. } th \text{ (example father)} \sim \text{nhg. } t \text{ (example Vater)} \]

The fricative nature shows more clearly in English words like father. Indeed, ie. *ph₂ˈtər (where ê is both long and stressed) is a good example for Verner’s law. The ie. stress immediately follows t and hence we get germ. d^{\text{fric}}.

Otherwise, we have the (more common) development:

\[ \text{NHG } _C \rightarrow \text{ie. } p/t/k/s \text{ word-initial or not immediately after ie. accent} \]
\[ \rightarrow \text{germ. } f/b/h/s \]
\[ \rightarrow \text{nhg. } f/d/h/s \sim \text{e. } f/th/h/s \]

where the example of ie. *b̥ˈrət̬ər yields e. brother \sim \text{nhg. Bruder}.

B.6. Sequence of sound laws

Sound laws are valid only for a limited time period. The sequence of sound laws is sometimes relevant. I hope that these sequences are not too far off the mark:
B. Sound laws

![Diagram of sound laws]

Figure B.3.: Sequence of sound laws (tentatively)

- PPal → SPal by śíras (p. 372)
- PPal → CerD by viṣṭa (p. 114)
- DzD → CCl → CpLz by dehi (p. 48)
- CCl → SY_N by hīṃsā (p. 135)
- DzD → ASh by aqḍha (p. 47)
- DA → PPal by jahōti (p. 86)
- DA → SPal by jaghāna (p. 191)
- ASh → sz → RUKI → CerD → CpLz by āḍha (p. 49)
- SPal → aā by jagāma (p. 33)
- Lo → aā by bhar-ā-mas (p. 33)
- Lo → Lar_CH by mārayati versus janayati (p. 33)
- Lo → Lar_V (ie. h3e→ ie. o) by oi. avi versus lat. ovis (p. 263)
- aā → CpLz by vodhum (p. 48)
- sz → CpLz by vodhum (p. 48)
- RUKI → CerD by isṭa (p. 41)
- Lar_CH, Lar_V → DA by duhitar (p. 52)

The arrows indicate that one sound law was applied before another one in relevant instances. This does not imply that the opposite order is ruled out for other words. After all, the application of one rule may provide the very environment that allows application of another one. Putting these different sequences together, a network of sound laws results that is depicted in fig. B.3.

Another, quite different question is whether one sound law was only applied after another one could not have been active any more.

76
C. Grammar: verbal system

C.1. Roots

Learners of Sanskrit are used to memorize

\[ bhud, bhôdati \]
\[ vas, vasati \]
\[ pat, patati \]

... where

\( 3 \) bhud, vas, and pat are referred to as oi. roots and

\( 3 \) bhôdati etc. are the forms for the 3. pers. sg. present tense.

There is, of course, nothing wrong with memorizing pat, patati. Note, however, that the oi. root is a (helpful) grammatical fiction. It is regularly used to derive root nouns (subsection C.4.1), the passive voice (subsection C.4.7), and the past participle (pp. 109).

For verbs in the first class, the present-tense forms are ideally given in the full grade and the oi. root in the zero grade, as shown by bhud, bhôdati (see chapter B, section B.2.4 which you should now read for the fourth time). However, we do not always see the oi. root in zero grade for two different reasons (two extra reasons are given below):

1. The oi. root may be unpronounceable (the zero grade of pat should be \(^*pt\), but neither \( p \) nor \( t \) can become syllabic). (But even here, we can point to the aorist \( a\text{-}pa\text{-}pt\text{-}a\text{-}t \).)

2. The regular result may be “too far off”. Consider the oi. root vas whose zero grade would be us and then, by RUKI, us...

In most textbooks, what we call “oi. roots” are simply called “roots”. We distinguish

\( 3 \) a root with ie. e, i.e., a full-grade root or a normal-grade root or just a root (in Sanskrit: \( a \), or, if a half vowel follows, \( ê \) or \( ô \), respectively), from

\( 3 \) a root where ie. e was lost, i.e., the zero-grade root (in Sanskrit: see pp. 23)

Typically, (ie.) roots are mono-syllabic and of one of the following forms
### C. Grammar: verbal system

<table>
<thead>
<tr>
<th>syllabic structure</th>
<th>example</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>C-e-C</td>
<td>med</td>
<td>to measure</td>
</tr>
<tr>
<td>e-C</td>
<td>ed</td>
<td>to eat</td>
</tr>
<tr>
<td>C-L-e-C</td>
<td>trem</td>
<td>to tremble</td>
</tr>
<tr>
<td>C-e-L-C</td>
<td>serp</td>
<td>to creep</td>
</tr>
<tr>
<td>C-e-HV-C</td>
<td>deuk</td>
<td>to lead</td>
</tr>
</tbody>
</table>

Nowadays, ie. roots *ed are not accepted any more. Instead, laryngeals are thought to come before the e. Thus, we would have *h₁ed instead of just *ed. Similarly, ie. *a高铁 with root vowel a is replaced by *h₂e高铁 where h₂ is responsible for changing e to a. Thus, from this point of view, all ie. roots are enclosed by consonants (which may be laryngeals or also liquids or half vowels). While we make use of laryngeal theory oftentimes, we do not mind reconstructions as *ed.

We now turn to two additional reasons why oi. roots may not be in zero grade. Both concern ie. roots ending in a laryngeal:

3. Oi. roots such as bhā (second class) do not distinguish between strong forms (typically full grade) and weak forms (typically zero grade), but use bhā- throughout although bhā is full grade.

4. A given ie. root may give rise to two different oi. roots, such as ē-ti versus yā-ti or jay-a-ti versus jjā-ti.

Turning to the third reason, consider the syllable structure C-e-C. If the final consonant is a laryngeal, we obtain C-e-H so that we obtain long ā as in

<table>
<thead>
<tr>
<th>√</th>
<th>3. pers. sg.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>pā</td>
<td>pā-ti</td>
<td>to protect</td>
</tr>
<tr>
<td>bhā</td>
<td>bhā-ti</td>
<td>to shine</td>
</tr>
<tr>
<td>mā</td>
<td>mā-ti</td>
<td>to measure</td>
</tr>
<tr>
<td>yā</td>
<td>yā-ti</td>
<td>to go</td>
</tr>
<tr>
<td>vā</td>
<td>vā-ti</td>
<td>to blow</td>
</tr>
</tbody>
</table>

With respect to the fourth reason, a given ie. root may give rise to two different oi. roots as the following table shows:

<table>
<thead>
<tr>
<th>√</th>
<th>√</th>
</tr>
</thead>
<tbody>
<tr>
<td>i (&quot;to go&quot;), ē-ti</td>
<td>yā (&quot;to go out, to go forth&quot;), yā-ti</td>
</tr>
<tr>
<td>ghr (&quot;to springle, to wet&quot;), jī-ghar-ti</td>
<td>ghrā (&quot;to smell&quot;), ghrā-ti</td>
</tr>
<tr>
<td>jan (&quot;to produce&quot;, see ā in dictionary),</td>
<td>jā (&quot;to know&quot;), jānti</td>
</tr>
<tr>
<td>ji (&quot;to conquer, to overcome&quot;), jay-a-ti</td>
<td>jjā (&quot;to suppress, to grow old&quot;), jjā-ti</td>
</tr>
<tr>
<td>tī (&quot;to cross&quot;), tar-a-ti</td>
<td>trā(i) (&quot;to protect, to save&quot;), trā-ti</td>
</tr>
<tr>
<td>man (&quot;to think&quot;), man-ya-tē</td>
<td>mnā (&quot;to remember, to praise&quot;), mnā-ti</td>
</tr>
</tbody>
</table>

78
Thus, these long-ā roots like mnā are built by this rule:

\[ \text{zero-grade root } + \overset{a}{\leftarrow} e h_2 \]

Perhaps, the long-ā roots have a consequential meaning?

◇ He goes (ē-ti) so that he escapes (yā-ti).

◇ He conquers (jay-a-ti) so that he suppresses (jyā-ti).

C.2. Ten verbal classes, overview

C.2.1. Thematic versus athematic classes

Sanskrit is famous for its ten verbal classes. In this section (classes 1, 4, 6, and 10) and in the next section (classes 2, 3, 5, 7, 8, and 9) we present a rough overview of these classes. Interesting special cases are dealt with later.

A typical characteristic of the athematic classes is the presence of strong forms (mostly full grade) and weak forms (zero grade). In order to provide examples, we report the 3. pers. sing. (which usually takes a strong form) and the 1. pers. pl. (where we should expect the weak form). A more detailed analysis of the athematic classes is found in section C.6 (pp. 142).

In the third class, we have reduplication, in the classes 5, 7, 8, and 9 a nasal infix complicates matters.

C.2.2. The four thematic classes

The first class

We first turn to the four classes that use the thematic vowel. One typical example for the first class is given by

\[ \overset{bhud}{\text{oi root}}, \overset{bhōd}{\text{root}}, \overset{a}{\text{thematic}}, \overset{ti}{\text{ending}} \]

in zero grade      in full grade    vowel    3. pers. sg.

Other examples, typical or less typical are now presented: Typical cases (zero-grade oi. root, present-tense in full-grade) include:
C. Grammar: verbal system

<table>
<thead>
<tr>
<th>√</th>
<th>3. pers. sg.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>kṛṣ</td>
<td>kṛṣ-a-ti</td>
<td>he ploughs</td>
</tr>
<tr>
<td>klāp</td>
<td>klāp-a-ti</td>
<td>he is ready for</td>
</tr>
<tr>
<td>dyot</td>
<td>dyot-a-tē</td>
<td>he shines</td>
</tr>
<tr>
<td>bhā ← *bhuH</td>
<td>bhav-a-ti</td>
<td>he is</td>
</tr>
<tr>
<td>mīh</td>
<td>mēh-a-ti</td>
<td>he urinates</td>
</tr>
<tr>
<td>śuc</td>
<td>śōc-a-ti</td>
<td>he grieves</td>
</tr>
<tr>
<td>smr</td>
<td>smar-a-ti</td>
<td>he remembers</td>
</tr>
</tbody>
</table>

Some oï roots are given in full grade:

<table>
<thead>
<tr>
<th>√</th>
<th>3. pers. sg.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>kamp</td>
<td>kamp-a-tē</td>
<td>he trembles</td>
</tr>
<tr>
<td>tyaj</td>
<td>tyaj-a-ti</td>
<td>he abandons</td>
</tr>
<tr>
<td>dah</td>
<td>dah-a-ti</td>
<td>he burns</td>
</tr>
<tr>
<td>vas</td>
<td>vas-a-ti</td>
<td>he dwells</td>
</tr>
</tbody>
</table>

In these examples, the zero grades would be impossible to pronounce or “too far away” to be recognizable.

Some reduplicated roots also belong to the first class:

◊ **si-sa-ti** (“he sits”) with (full-grade!) oï root *sad* is originally a reduplicated form and could be considered a class-3 verb. In fact, we obtain *si-sa-ti* by way of

- **si-sa-ti** (reduplication with *i* and zero grade, without sandhi)
- → **si-sa-ti** (*sz* before voiced stop)
- → **si-sa-ti** (**RUKI**)
- → **si-sa-ti** (**CerD**)
- → **si-sa-ti** (**CpLz**), see *pūd*

whence finally ***si-sa-ti*** through leveling:

<table>
<thead>
<tr>
<th><strong>si-sa-ti</strong></th>
<th>influenced by <em>sa-sa-ti</em> (perf. 3. pers. sg.) or other forms with dental</th>
</tr>
</thead>
<tbody>
<tr>
<td>turns into</td>
<td><strong>si-sa-ti</strong> with dental</td>
</tr>
</tbody>
</table>

◊ **sthā, tisthati** (“to stand”) is thought to go back to iε. *steh₂*. Note that *t* in the iε. full-grade root is not aspirated. Thus, *ti-sth-a-ti* is not an instance of Grassmann’s law (although the final result does not contract that law). Instead, the aspiration is a reflex of the laryngeal. Reduplicating with *i* and just the consonant immediately before *i* yields
C.2. Ten verbal classes, overview

\*ti-sth₂-eti (reduplication with i and zero grade)
→ \*ti-sth-eti (Lar_CH: h₂ aspirates t)
→ ti-sth-ati (RUKI)
→ ti-sth-ati (CERD)

The full grade form should be \*steh₂ → stā. In fact, the oi. root sthā is aspirated (as in the infinitive sthā-tum). Leveling provides an easy explanation.

◊ While h₂ has caused aspiration, h₃ may have caused voicedness in pā, pi-ba-ati (“to drink”):

\*pi-ph₃-eti (reduplication with i and zero grade)
→ \*pi-b-eti (Lar_CH: h₃ makes t voiced)
→ pi-b-ati

The first class also contains verbs where

◊ both oi. root and present-tense contain short i or short u:

<table>
<thead>
<tr>
<th></th>
<th>3. pers. sg.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>cumb</td>
<td>cumb-a-ti</td>
<td>he kisses</td>
</tr>
<tr>
<td>bhiks</td>
<td>bhiks-a-ti (p. 130)</td>
<td>he begs</td>
</tr>
</tbody>
</table>

◊ both oi. root and present-tense contain ī:

<table>
<thead>
<tr>
<th></th>
<th>3. pers. sg.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>krūd</td>
<td>krūd-a-ti</td>
<td>he plays</td>
</tr>
<tr>
<td>tīk</td>
<td>tīk-a-ti</td>
<td>he trips</td>
</tr>
</tbody>
</table>

◊ both oi. root and present-tense are in lengthened grade:

<table>
<thead>
<tr>
<th></th>
<th>3. pers. sg.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>kāṅkṣ</td>
<td>kāṅkṣ-a-ti</td>
<td>he craves</td>
</tr>
<tr>
<td>kāṣ</td>
<td>kāṣ-a-ti</td>
<td>he shines</td>
</tr>
<tr>
<td>khāḍ</td>
<td>khāḍ-a-ti</td>
<td>he eats</td>
</tr>
<tr>
<td>dhāv</td>
<td>dhāv-a-ti</td>
<td>he runs</td>
</tr>
</tbody>
</table>

◊ the oi. root is in full grade while the present tense is in lengthened grade:

krām-a-ti (“he strides”) with oi. root kram (not by Brugmann’s law because of root vowel ie. e)
The fourth class

The fourth class also employs the thematic vowel. Both oi. root and present tense are in zero grade, as seen in this example:

\[
\begin{array}{lll}
    \text{si}d&\text{h}, & \text{si}d&\text{h} \quad \text{y} \quad \text{a} \quad \text{ti} \\
    \text{oi. root} & \text{root} & \text{suffix} & \text{thematic} & \text{ending} \\
    \text{in zero grade} & \text{in zero grade} & \text{vowel} & 3. \text{pers. sg.}
\end{array}
\]

Consider these typical cases (zero-grade oi. root, present tense in zero grade plus suffix y):

<table>
<thead>
<tr>
<th>verb</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>kup</td>
<td>he is angry</td>
</tr>
<tr>
<td>$k$sup</td>
<td>he is agitated</td>
</tr>
<tr>
<td>tus</td>
<td>he is pleased</td>
</tr>
<tr>
<td>trp</td>
<td>he is content</td>
</tr>
<tr>
<td>nr$t$</td>
<td>he dances</td>
</tr>
<tr>
<td>sidh</td>
<td>he is successful</td>
</tr>
<tr>
<td>snih</td>
<td>he loves</td>
</tr>
</tbody>
</table>

Some verbs exhibit full-grade oi. root with nasal. Then SY\_N applies:

<table>
<thead>
<tr>
<th>verb</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>$b$hra\n$\acute{s}$</td>
<td>he falls</td>
</tr>
<tr>
<td>$r$añj</td>
<td>he reddens</td>
</tr>
</tbody>
</table>

But, this rule is not always adhered to. In the following example, the result would have been too difficult to attribute:

<table>
<thead>
<tr>
<th>verb</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>man</td>
<td>he thinks</td>
</tr>
</tbody>
</table>

Finally, we turn to laryngeal cases. A clear instance of full-grade oi. root and zero-grade present tense is given by

<table>
<thead>
<tr>
<th>verb</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>j$\ddot{a}$-y-a-tê</td>
<td>he is born</td>
</tr>
</tbody>
</table>

where we apply the laryngeal sound law Lar\_SY (p. 28). The laryngeal in this case is clear from infinitive j$\ddot{a}$-i-tum. Laryngeals are also responsible for these three examples where we encounter full-grade oi. root and zero grade (!) present tense:
C.2. Ten verbal classes, overview

<table>
<thead>
<tr>
<th>√</th>
<th>3. pers. sg.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>dam</td>
<td>dām-y-a-ti ← *d m H</td>
<td>he tames</td>
</tr>
<tr>
<td>śam</td>
<td>sām-y-a-ti ← *k m H</td>
<td>he gets quiet</td>
</tr>
<tr>
<td>šram</td>
<td>šrām-y-a-ti ← *k r m H</td>
<td>he toils</td>
</tr>
</tbody>
</table>

The reason for long ā in mad, mād-y-a-ti is unclear.

The sixth class

The sixth class is like the fourth class without y, see, for example,

<table>
<thead>
<tr>
<th>oi. root</th>
<th>root</th>
<th>thematic</th>
<th>ending</th>
</tr>
</thead>
<tbody>
<tr>
<td>in zero grade</td>
<td>in zero grade</td>
<td>vowel</td>
<td>3. pers. sg.</td>
</tr>
</tbody>
</table>

Look, first, at these typical cases (zero-grade oi. root, zero-grade present tense):

<table>
<thead>
<tr>
<th>√</th>
<th>3. pers. sg.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>kṛṣ</td>
<td>kṛṣ-a-ti</td>
<td>he ploughs</td>
</tr>
<tr>
<td>ksip</td>
<td>ksip-a-ti</td>
<td>he throws</td>
</tr>
<tr>
<td>tud</td>
<td>tud-a-ti</td>
<td>he strikes</td>
</tr>
<tr>
<td>diś</td>
<td>diś-a-ti</td>
<td>he shows</td>
</tr>
<tr>
<td>nud</td>
<td>nud-a-ti</td>
<td>he pushes</td>
</tr>
<tr>
<td>likh</td>
<td>likh-a-ti</td>
<td>he writes</td>
</tr>
<tr>
<td>viś</td>
<td>viś-a-ti</td>
<td>he enters</td>
</tr>
</tbody>
</table>

Second, we have some verbs with nasal infix in the present tense:

<table>
<thead>
<tr>
<th>√</th>
<th>3. pers. sg.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>muc</td>
<td>mauc-a-ti</td>
<td>he frees</td>
</tr>
<tr>
<td>lip</td>
<td>limp-a-ti</td>
<td>he smears</td>
</tr>
<tr>
<td>lap</td>
<td>lamp-a-ti</td>
<td>he bites off, he steals</td>
</tr>
<tr>
<td>vid</td>
<td>vind-a-ti</td>
<td>he finds</td>
</tr>
</tbody>
</table>

Finally, observe the verbs which (Indo-European speaking) use s̄k̄ to form the present tense:
C. Grammar: verbal system

<table>
<thead>
<tr>
<th>( )</th>
<th>3. pers. sg.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>is</td>
<td>icch-a-ti</td>
<td>he wishes</td>
</tr>
<tr>
<td>pracch</td>
<td>prach-a-ti</td>
<td>he asks</td>
</tr>
</tbody>
</table>

Clearly, gam, gacch-a-ti also belongs here. While it is normally considered a first-class root, gacch-a-ti goes back to ie. "gʷm-šk-e-ti (SY N, SIB). Thus, gacch-a-ti is in zero grade.

The tenth class

For the tenth class, the leading examples is this:

|  |  |  |  |  |  |
|---|---|---|---|---|
| cur | cεn | -ay | a | ti |
| oi. root | root | suffix | thematic | ending |

in zero grade in full grade vowel 3. pers. sg.

with a full-grade root in the present tense. Another frequent example is provided by

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>cint</td>
<td>cint-ay-a-ti</td>
<td>he thinks</td>
</tr>
</tbody>
</table>

The causatives look similar, but are treated elsewhere, in subsection C.3.8

C.2.3. The second class

Leaving the thematic group of verbs, we now treat the athematic classes 2, 3, 5, 7, 8, and 9. In the third class, we have reduplication, in the classes 5, 7, 8, and 9 a nasal infix. The remaining class 2 (which we are now going to deal with) is the most simple one. For example, the full grade of i is ñ so that Sanskrit for “to go” is

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>i</td>
<td>ñ</td>
<td>ti</td>
</tr>
<tr>
<td>oi. root</td>
<td>root</td>
<td>ending</td>
</tr>
</tbody>
</table>

in zero grade in full grade 3. pers. sg.

In the following examples, we report the 3. pers. sing. (which usually takes a strong form) and the 1. pers. pl. (where we should expect the weak form). First, the typical cases include:
C.2. Ten verbal classes, overview

### 1. Sound laws oi.

-_SOUND LAWS_ $$/\pm + t \rightarrow t$$ (Cer $D$)

### 2. Both Grassmann (deaspiration of word-initial *dh, DA) and Bartholomae (ie. gh $t$ → oi. g $dh$, ASh)

### 3. $lë$-$dhi$ is to be explained by

- $*$leîgh-$ti$ (full grade)
  - $lëîgh$-$ti$
  - $lëî$-$dhi$ (ASH)
  - $lëz$-$dhi$ ($sz$ before voiced stop)
  - $lëz$-$dhi$ (RUKI)
  - $lëz$-$dhi$ (Cer $D$)
  - $lë$-$dhi$ (CpL $z$, but é already long)

However, full grade also in plural are sometimes observed:

### 4. Next, consider some oi. sêt. roots with regular weak-strong distribution:

### 5. However, some sêt roots show strong forms also in the plural:
C. Grammar: verbal system

We sometimes find lengthened-grade in sg., zero-grade in pl. (so-called Narten present forms):

<table>
<thead>
<tr>
<th></th>
<th>3. pers. sg.</th>
<th>1. pers. pl.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>√</td>
<td>nu</td>
<td>nu-mas</td>
<td>to praise</td>
</tr>
<tr>
<td>√</td>
<td>ru</td>
<td>ru-mas</td>
<td>to roar</td>
</tr>
<tr>
<td>√</td>
<td>stu</td>
<td>stu-mas</td>
<td>to praise</td>
</tr>
</tbody>
</table>

Finally, long-ā verbs do not differ between strong and weak forms:

<table>
<thead>
<tr>
<th></th>
<th>3. pers. sg.</th>
<th>1. pers. pl.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>√</td>
<td>khyā</td>
<td>khyā-mas</td>
<td>to tell</td>
</tr>
<tr>
<td>√</td>
<td>pā</td>
<td>pā-mas</td>
<td>to protect</td>
</tr>
<tr>
<td>√</td>
<td>bhā</td>
<td>bhā-mas</td>
<td>to shine</td>
</tr>
<tr>
<td>√</td>
<td>mā</td>
<td>mā-mas</td>
<td>to measure</td>
</tr>
<tr>
<td>√</td>
<td>yā</td>
<td>yā-mas</td>
<td>to go</td>
</tr>
<tr>
<td>√</td>
<td>vā</td>
<td>vā-mas</td>
<td>to blow</td>
</tr>
</tbody>
</table>

C.2.4. The third class

We now turn to the reduplicating class of verbs which does not have many representatives. (However, reduplication is also used for perfect and for desiderative forms.) The basic idea is that the former part of the root is repeated. However, the repeated root vowel is often “reduced” and i seems to be the preferred reduplication vowel. In particular, we find this pattern:

oi. root vowels   ā  ĭ  ī  ū  ū  ā
                     ↓  ↓  ↓  ↓  ↓
reduplication vowel a  ī  u  i

Thus, a typical example is given by the verb for “carry”:

\[
\begin{array}{cccc}
\text{oi. root} & \text{reduplication} & \text{root} & \text{ending} \\
\text{in zero grade} & \text{syllable} & \text{in full grade} & 3. \text{pers. sg.} \\
\end{array}
\]

Grassmann’s law (DA, section B.3.2, pp. 37) is regularly applied. For example, the oi. root hu (“sacrifice”) goes back to i.e. * ħeu and we obtain

\[
\begin{align*}
\text{ie. } & \text{* ħeu-ĝheu-ti} \\
\rightarrow & \quad ĝu-ĝhō-ti (\text{DA}) \\
\rightarrow & \quad ĵu-hō-ti (\text{PPal, p. 35})
\end{align*}
\]

Here is a list with third-class verbs:
C.2. Ten verbal classes, overview

<table>
<thead>
<tr>
<th>verb</th>
<th>3. pers. sg.</th>
<th>1. pers. pl.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>gā</td>
<td>ji-gā-ti</td>
<td>ji-gī-mas</td>
<td>to go</td>
</tr>
<tr>
<td>dā</td>
<td>da-dā-ti</td>
<td>da-d-mas</td>
<td>to give</td>
</tr>
<tr>
<td>dhā</td>
<td>da-dhā-ti</td>
<td>da-dh-mas</td>
<td>to set</td>
</tr>
<tr>
<td>bhī</td>
<td>bi-bhē-ti</td>
<td>bi-bhā-mas</td>
<td>to be afraid</td>
</tr>
<tr>
<td>bhr</td>
<td>bi-bhar-ti</td>
<td>bi-bhr-mas</td>
<td>to carry</td>
</tr>
<tr>
<td>hā</td>
<td>ja-hā-ti</td>
<td>ja-hī-mas</td>
<td>to abandon</td>
</tr>
<tr>
<td>hū</td>
<td>ju-hō-ti</td>
<td>ju-hu-mas</td>
<td>to sacrifice</td>
</tr>
</tbody>
</table>

C.2.5. The nasal infix classes

Infixes in the root

The remaining four classes 5, 7, 8, and 9 show a nasal element. The most ancient constellation can be seen in class 7. For example, the Sanskrit verb for “to join” is yug, yunakti which is best understood as

\[
\begin{array}{cccc}
\text{yu} & \text{na} & \text{k} & \text{ti} \\
\text{beginning of oi. root} & \text{sign} & \text{final root} & \text{ending} \\
\text{in zero grade} & \text{in strong form} & \text{consonant} & \text{3. pers. sg.} \\
\end{array}
\]

At first sight, the other classes do not exhibit an infix into the oi. root:

<table>
<thead>
<tr>
<th>verb</th>
<th>3. pers. sg.</th>
<th>1. pers. pl.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>sāk</td>
<td>sāk-nō-ti</td>
<td>sāk-nu-mas</td>
<td>to be able</td>
</tr>
<tr>
<td>tan</td>
<td>tan-ō-ti</td>
<td>tan-u-mas</td>
<td>to stretch</td>
</tr>
<tr>
<td>pū</td>
<td>pu-nū-ti</td>
<td>pu-nī-mas</td>
<td>to purify</td>
</tr>
</tbody>
</table>

However, this first impression is misleading from a historical point of view.

The ninth class as a special instance of the seventh class

Let us begin with a comparison of classes 7 and 9. It was a close look at these classes that prompted de Saussure to postulate laryngeal sounds in Indo-European. Here is how he argued (in principle).

Consider two verbs, one from the seventh class, the other from the ninth class:

<table>
<thead>
<tr>
<th>class</th>
<th>gana sign</th>
<th>3. pers. sg.</th>
<th>future</th>
<th>infinitive</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>na</td>
<td>yug</td>
<td>yōk-sy-ā-ti</td>
<td>yōk-tum</td>
</tr>
<tr>
<td>9</td>
<td>nā</td>
<td>pū</td>
<td>pavi-sy-ā-ti</td>
<td>pavi-tum</td>
</tr>
</tbody>
</table>
C. Grammar: verbal system

The present tense in class 7 uses na as an infix, in our example between a and the root-final consonant j. In contrast, nā in the 9th class occurs after the oi. root. De Saussure hypothesized that both verbs are similarly constructed. If that hypothesis is correct, we need to deal with two differences:

1. The ninth class has long nā, rather than short na in the seventh class.
2. Second, the future and the infinitive forms of pu show i which seems to come out of nowhere. Traditional Sanskrit grammarians also noted this i. They call pu an oi. sēt root (sēt ← sa-it), i.e., an oi. root where i does not show up in the oi. root, but in some other forms.

De Saussure’s brilliant idea was this: One sound (that is not to be seen any more) is responsible for both phenomena. Let us denote this sound by H. It had two effects.

1. H leads to the lengthening of na to nā.
2. H turns into i between consonants.

Then, one can rewrite the above Sanskrit table by a corresponding table with Indo-European forms:

<table>
<thead>
<tr>
<th>class</th>
<th>*gāna sign</th>
<th>future</th>
<th>infinitive</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>*ne</td>
<td>*yuq</td>
<td>*yu-ne-g-ti</td>
</tr>
<tr>
<td>9</td>
<td>*ne</td>
<td>*puH</td>
<td>*pu-ne-H-ti</td>
</tr>
</tbody>
</table>

Thus, the classes 7 and 9 turn out to have an identical origin. Long i in the weak class sign is nī as in pu-nī-mas. It is difficult to explain.

The fifth class as a special instance of the seventh class

It can be shown that the seventh class and the fifth class are also basically the same. A prominent representative of the fifth class is

śru, śr-ṇo-ti ("he hears").

Now we understand this verb as one where, originally, the root-final consonant is the half vowel v. Then, before consonants, ie. *ne-v should regularly turn into Sanskrit nā. This is, indeed, what happens here. The present tense sg. is best understood by this comparison:

<table>
<thead>
<tr>
<th>class</th>
<th>*gāna sign</th>
<th>3. pers. sg.</th>
<th>gāna sign</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>*ne</td>
<td>*yuq</td>
<td>*yu-ne-g-ti → yu-na-ti</td>
</tr>
<tr>
<td>5</td>
<td>*ne</td>
<td>*klu → śru</td>
<td>*klu-ne-ti → śr-ṇo-ti</td>
</tr>
</tbody>
</table>

Thus, originally, we have the na-infix as in yu-na-k-ti. However, this was not evident to the speakers who imagined an oi. root śr and, added to that root, nō (similar to nā in pu-nā-ti).
The eighth class as a special instance of the fifth class

Now, and this is the final step, the eighth class can be considered a subclass of the fifth one. One may, of course, be tempted to interpret eighth-class verbs in this manner

<table>
<thead>
<tr>
<th>class</th>
<th>3. pers. sg.</th>
<th>gana sign</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>tan</td>
<td>tan-ô-ti</td>
</tr>
</tbody>
</table>

where ô is the characteristic gana sign of this class. However, it is better to see the comparison with the fifth-class verbs which are built from the zero grade:

<table>
<thead>
<tr>
<th>class</th>
<th>*gana sign</th>
<th>3. pers. sg.</th>
<th>gana sign</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>*ne</td>
<td>*kl-ne-u-ti</td>
<td>sr-ô-ti</td>
</tr>
<tr>
<td>8</td>
<td>*ne</td>
<td>*ln-ne-u-ti</td>
<td>ta-ô-ti</td>
</tr>
</tbody>
</table>

Thus, the n is part of a nasal infix and not the final root consonant. The root consonant turns into a, according to the sound law SY_N (pp. 25).

The class signs

According to the above arguments, the nasal classes 5, 8, and 9 can ultimately be seen as special instances of the seventh class with gana sign na. Since all classes use the signs in strong and weak forms, we obtain

<table>
<thead>
<tr>
<th>class</th>
<th>strong gana sign</th>
<th>3. pers. sg.</th>
<th>weak gana sign</th>
<th>3. pers. pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>nô</td>
<td>sr-ô-ti</td>
<td>nu</td>
<td>sr-ô-u-mas</td>
</tr>
<tr>
<td>7</td>
<td>na</td>
<td>yu-na-k-ti</td>
<td>n</td>
<td>yu-ô-j-mas</td>
</tr>
<tr>
<td>8</td>
<td>ô</td>
<td>tan-ô-ti</td>
<td>u</td>
<td>tan-i-mas</td>
</tr>
<tr>
<td>9</td>
<td>nô</td>
<td>pu-nô-ti</td>
<td>nô</td>
<td>pu-nô-mas</td>
</tr>
</tbody>
</table>

Here, the weak sign forms of the classes 5, 7, and 8 are understandable from section B.2.4 (pp. 23). It is not quite clear why, in the 9. class, we have nô from nH which should lead to nô instead.

Thus, historically, the four nasal classes all use na (going back to ie. *ne). Thus, class 7 is the most basic one. Have a look at figure C.1 to see again how the other classes are derived.

C.2.6. The fifth class

Historically, the nô and nu signs of the fifth class developed from a “misunderstanding” with respect to sr-nô-ti. This was then generalized to other verbs. Here are a few examples, with strong gana sign nô and weak gana sign nu:
C. Grammar: verbal system

7. class (sign na):
*yu-ne-k-ti → yu-na-k-ti

5. class (sign nô):
*kl-ne-u-ti → śr-nô-ti

10. class (sign nā):
*pu-ne-H-ti → pu-nā-ti

8. class (sign ô):
*tm-ne-u-ti → ta-nô-ti = tan-ô-ti

Figure C.1.: The nasal infix classes

<table>
<thead>
<tr>
<th>√</th>
<th>3. pers. sg.</th>
<th>3. pers. pl.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>āp</td>
<td>āp-nô-ti</td>
<td>āp-nu-mas</td>
<td>to obtain</td>
</tr>
<tr>
<td>śak</td>
<td>śak-nô-ti</td>
<td>śak-nu-mas</td>
<td>to be able</td>
</tr>
<tr>
<td>su</td>
<td>su-nô-ti</td>
<td>su-nu-mas</td>
<td>to press</td>
</tr>
</tbody>
</table>

C.2.7. The seventh class

The seventh class is the only one of the n-infix verbal classes where the na or n signs are infixed into the root, for example,

<table>
<thead>
<tr>
<th>√</th>
<th>3. pers. sg.</th>
<th>3. pers. pl.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>chid</td>
<td>chi-na-t-ti</td>
<td>chi-n-d-mas</td>
<td>to cut</td>
</tr>
<tr>
<td>piś</td>
<td>pi-na-ś-ti</td>
<td>pi-m-ś-mas</td>
<td>to grind</td>
</tr>
<tr>
<td>bhid</td>
<td>bhī-na-t-ti</td>
<td>bhī-n-d-mas</td>
<td>to break</td>
</tr>
<tr>
<td>yuj</td>
<td>yu-na-k-ti</td>
<td>yu-n-ī-j-mas</td>
<td>to join</td>
</tr>
</tbody>
</table>

C.2.8. The eighth class

Apart from tan with

- ta-nô-ti, ta-nu-mas from the Indo-European point of view, or
- tan-ô-ti, tan-u-mas from the point of view of the traditional gana sign

the oi root kr (“to make”) also belongs here. Remember
C.3. Infinitive and other normal-grade forms

<table>
<thead>
<tr>
<th>√</th>
<th>3. pers. sg.</th>
<th>3. pers. pl.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>kr</td>
<td>kar-ô-ti</td>
<td>kur-mas</td>
<td>to make</td>
</tr>
</tbody>
</table>

This is somewhat surprising because this root does not seem to belong to those with nasal (infix). Apparently, the Indian grammarians considered

◊ kar-ô-ti as similar to tan-ô-ti and
◊ kur-mas as similar to the alternative form tan-mas

It is important to note that the older Vedic form krôti is well attested. From that perspective, kr rightly belongs to the verbs with nasals.

C.2.9. The ninth class

Finally, consider these examples for the the ninth class:

<table>
<thead>
<tr>
<th>√</th>
<th>3. pers. sg.</th>
<th>1. pers. pl.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>kr</td>
<td>kr-n.ô-ti</td>
<td>kr-n.-mas</td>
<td>to buy</td>
</tr>
<tr>
<td>pu</td>
<td>pu-nâ-ti</td>
<td>pu-nî-mas</td>
<td>to purify</td>
</tr>
<tr>
<td>vr</td>
<td>vr-nâ-ti</td>
<td>vr-nî-mas</td>
<td>to choose</td>
</tr>
</tbody>
</table>

In pu-nâ-ti we have expected short u. The long î in kr-nâ-ti is unexpected.

C.3. Infinitive and other normal-grade forms

C.3.1. General rule

The formation of the infinitive follows the general pattern

full-grade root + tum

Consider these examples where the full grade clearly shows:

<table>
<thead>
<tr>
<th>√ in z.g.</th>
<th>3. pers. sg.</th>
<th>infinitive</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>kr</td>
<td>kar-ô-ti</td>
<td>kar-tum</td>
<td>to make</td>
</tr>
<tr>
<td>bhr</td>
<td>bhar-a-ti</td>
<td>bhar-tum</td>
<td>to carry</td>
</tr>
<tr>
<td>mri</td>
<td>mri-ya-tê</td>
<td>mar-tum</td>
<td>to die</td>
</tr>
<tr>
<td>vas</td>
<td>vas-a-ti</td>
<td>vas-tum</td>
<td>to dwell</td>
</tr>
<tr>
<td>smr</td>
<td>smar-a-ti</td>
<td>smar-tum</td>
<td>to remember</td>
</tr>
<tr>
<td>hr</td>
<td>har-a-ti</td>
<td>har-tum</td>
<td>to take, to rob</td>
</tr>
</tbody>
</table>

Also, roots with i regularly have full grade ê:
C. Grammar: verbal system

<table>
<thead>
<tr>
<th>√ in z.g.</th>
<th>3. pers. sg.</th>
<th>infinitive</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>i</td>
<td>éti</td>
<td>é-tum</td>
<td>to go</td>
</tr>
<tr>
<td>kšip</td>
<td>kšip-a-ti</td>
<td>kšép-tum</td>
<td>to throw</td>
</tr>
<tr>
<td>jì</td>
<td>jay-a-ti</td>
<td>jé-tum</td>
<td>to defeat</td>
</tr>
</tbody>
</table>

while roots with ū exhibit ů:

<table>
<thead>
<tr>
<th>√ in z.g.</th>
<th>3. pers. sg.</th>
<th>infinitive</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>šrū</td>
<td>šr-nō-ti</td>
<td>šrō-tum</td>
<td>to listen</td>
</tr>
<tr>
<td>stu</td>
<td>stāu-ti (Narten)</td>
<td>stō-tum</td>
<td>to praise</td>
</tr>
<tr>
<td>hu</td>
<td>ju-hō-ti</td>
<td>hō-tum</td>
<td>to sacrifice</td>
</tr>
</tbody>
</table>

Expected backward assimilation is often encountered:

<table>
<thead>
<tr>
<th>√ in z.g.</th>
<th>3. pers. sg.</th>
<th>infinitive</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>khid</td>
<td>khid-ya-ti</td>
<td>khēt-tum</td>
<td>to suffer</td>
</tr>
<tr>
<td>tud</td>
<td>tud-a-ti</td>
<td>tōt-tum</td>
<td>to hit</td>
</tr>
<tr>
<td>tyaj (f.g.)</td>
<td>tyaj-a-ti</td>
<td>tyak-tum</td>
<td>to abandon</td>
</tr>
<tr>
<td>nud</td>
<td>nud-a-ti</td>
<td>nōt-tum</td>
<td>to push</td>
</tr>
<tr>
<td>pac (f.g.)</td>
<td>pac-a-ti</td>
<td>pāk-tum</td>
<td>to cook</td>
</tr>
<tr>
<td>bhid</td>
<td>bhī-na-ti</td>
<td>bhēt-tum</td>
<td>to break</td>
</tr>
<tr>
<td>mvc</td>
<td>muñc-a-ti</td>
<td>mōk-tum</td>
<td>to liberate</td>
</tr>
<tr>
<td>yuj</td>
<td>yu-na-k-ti</td>
<td>yōk-tum</td>
<td>to join</td>
</tr>
<tr>
<td>vac (f.g.)</td>
<td>vak-ti</td>
<td>vak-tum</td>
<td>to speak</td>
</tr>
<tr>
<td>sad (f.g.)</td>
<td>sūd-a-ti (p. 80)</td>
<td>sāl-tum</td>
<td>to sit</td>
</tr>
</tbody>
</table>

C.3.2. Oi. roots ending in a nasal

When the oi. root (which is full grade in all the examples below) ends in a nasal n or m, the labial nasal also becomes dental n before dental t:

<table>
<thead>
<tr>
<th>√ in f.g.</th>
<th>3. pers. sg.</th>
<th>infinitive</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>gam</td>
<td>ga-cch-a-ti</td>
<td>gan-tum</td>
<td>to go</td>
</tr>
<tr>
<td>tan</td>
<td>ta-nō-ti</td>
<td>tan-tum</td>
<td>to stretch</td>
</tr>
<tr>
<td>nam</td>
<td>nam-a-ti</td>
<td>nam-tum</td>
<td>to salute</td>
</tr>
<tr>
<td>man</td>
<td>man-y-a-tē</td>
<td>man-tum</td>
<td>to think</td>
</tr>
<tr>
<td>yam</td>
<td>yacch-a-ti</td>
<td>yan-tum</td>
<td>to restrain</td>
</tr>
<tr>
<td>ram</td>
<td>ram-a-tē</td>
<td>ran-tum</td>
<td>to enjoy</td>
</tr>
<tr>
<td>han</td>
<td>han-ti</td>
<td>han-tum</td>
<td>to hit</td>
</tr>
</tbody>
</table>
C.3.3. Aspiration and cerebralization

Applying aspiration laws

If an oi root ends in a voiced aspirate, the addition of tum necessitates the aspiration shift which is associated with the name of Christian Bartholomae:

| ASh      | ie. gh-t → oi. g-dh |
|          | ie. dh-t → oi. d-dh |
|          | ie. bh-t → oi. b-dh |
| but      | ie. dh-s → oi. t-s  |
|          | ie. bh-s → oi. p-s  |

The shift is obvious in these verbs:

<table>
<thead>
<tr>
<th></th>
<th>3. pers. sg.</th>
<th>infinitive</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>kṣubh</td>
<td>kṣubh-y-a-ti</td>
<td>kṣoḥ-dhum</td>
<td>to be upset</td>
</tr>
<tr>
<td>yudh</td>
<td>yudh-y-a-tê</td>
<td>yōḍ-dhum</td>
<td>to fight</td>
</tr>
<tr>
<td>labh (f.g.)</td>
<td>labh-a-tê</td>
<td>lab-dhum</td>
<td>to obtain</td>
</tr>
</tbody>
</table>

Sometimes, the other aspiration law is also applied. Grassmann’s law says: If you have two aspirated sounds, the first one becomes deaspirated:

| DA        | ie. C^{asp}V^{asp} → oi. C^{unasp}V^{asp} |

We now need to mix these sound laws with the palatalization laws SPal (pp. 36). For example, we have

<table>
<thead>
<tr>
<th></th>
<th>3. pers. sg.</th>
<th>infinitive</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>dah (f.g.)</td>
<td>dah-a-ti</td>
<td>*dheg&quot;h-tum → dag-dhum</td>
<td>to burn</td>
</tr>
<tr>
<td>dih</td>
<td>dēg-dhi</td>
<td>*dheigh-tum → dēg-dhum</td>
<td>to smear</td>
</tr>
<tr>
<td>duh</td>
<td>dōg-dhi</td>
<td>*dheugh-tum → dōg-dhum</td>
<td>to milk</td>
</tr>
<tr>
<td>snih</td>
<td>snih-y-a-ti</td>
<td>*sneig&quot;h-tum → snēg-dhum</td>
<td>to love</td>
</tr>
</tbody>
</table>

In more detail, we have

\[ \text{ie.} *\text{sneig"h-tum} \text{(full grade and tum-marker for infinitive)} \]
\[ \rightarrow \text{snēg} \ h\text{-tum} \text{(no SPal before consonant)} \]
\[ \rightarrow \text{snēg-dhum} \text{(ASH)} \]

or

\[ \text{ie.} *\text{dheugh-tum} \text{(full grade and tum-marker for infinitive)} \]
\[ \rightarrow \text{dōgh} \ h\text{-tum} \text{(no SPal before consonant)} \]
\[ \rightarrow \text{dōgh-tum} \text{(DA)} \]
\[ \rightarrow \text{dōg-dhum} \text{(ASH)} \]
C. Grammar: verbal system

Applying cerebralization sound laws

In a few verbs, the infinitive comes with cerebralization. In this subsection, we need several cerebralization laws. First, cerebralization occurs not only after š, but also after š:

\[
\text{CerD} \quad \text{oi. š/s + t} \rightarrow \text{oi. št} \\
\text{z + d/dh} \rightarrow \text{ž + d/dh}
\]

This is clearly seen in these verbs:

<table>
<thead>
<tr>
<th>√</th>
<th>3. pers. sg.</th>
<th>infinitive</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>kṛṣ</td>
<td>kṛṣ-a-ti</td>
<td>karaṣ-tum, karaṣ-tum</td>
<td>to plough</td>
</tr>
<tr>
<td>kruś</td>
<td>kruś-a-ti</td>
<td>kruṣ-tum</td>
<td>to cry out</td>
</tr>
<tr>
<td>tuṣ</td>
<td>tuṣ-y-a-ti</td>
<td>tōṣ-tum</td>
<td>to enjoy</td>
</tr>
<tr>
<td>daṃś (f.g.)</td>
<td>daṃś-a-ti (z.g.)</td>
<td>daṃś-tum</td>
<td>to bite</td>
</tr>
<tr>
<td>diś (z.g.)</td>
<td>diś-a-ti</td>
<td>dēṣ-tum</td>
<td>to show</td>
</tr>
<tr>
<td>drś (z.g.)</td>
<td>(paś-y-a-ti)</td>
<td>dṛaṣ-tum</td>
<td>to see</td>
</tr>
<tr>
<td>dvś</td>
<td>dvś-ti</td>
<td>dvś-tum</td>
<td>to hate</td>
</tr>
<tr>
<td>naś (z.g.)</td>
<td>naś-y-a-ṭi</td>
<td>naṃś-tum ← ie. *ḥoṃṇēk-ṭu</td>
<td>to perish</td>
</tr>
<tr>
<td>puṣ</td>
<td>puṣ-y-a-ti</td>
<td>pōṣ-tum</td>
<td>to nourish</td>
</tr>
<tr>
<td>pracch (f.g.)</td>
<td>pracch-a-ti</td>
<td>praṣ-tum</td>
<td>to ask</td>
</tr>
<tr>
<td>vrś</td>
<td>vrś-a-ti</td>
<td>varś-tum</td>
<td>to rain</td>
</tr>
<tr>
<td>srj</td>
<td>srj-a-ti</td>
<td>sṛaṣ-tum</td>
<td>to throw, to let loose</td>
</tr>
<tr>
<td>sprś</td>
<td>sprś-a-ti</td>
<td>spars-tum, spras-tum</td>
<td>to touch</td>
</tr>
</tbody>
</table>

In contrast to section B.2.4 (pp. 23) and different from oi. root kṛ with infinitive karaṣ-tum, we find ra rather than ar in some verbs above: karaṣ-tum, draṣ-tum, and spars-tum by the sound law MET_rSP. Indeed, rṣ-ṭ (as in karaṣ-tum, varṣ-tum or spars-tum) is a rather heavy combination of consonants.

The infinitive of yaj ("to sacrifice") is yaṣ-tum, but should not be: Ie. *yeγ should yield

ie.*yeγ-tum (full grade and tum-marker for infinitive)

\[ \rightarrow \text{yaṣ-tum (sz before voiceless consonant)} \]

Presumably, leveling (from the PPP) has done the rest (see p. 114):

\[
\begin{align*}
\text{yas-tum} & \\
\text{influenced by } & \text{is-ṭa} & \text{with cerebral š-ṭ} \\
\text{turns into } & \text{yas-ṭum} & \text{with cerebral š-ṭ}
\end{align*}
\]
C.3. Infinitive and other normal-grade forms

... both aspiration and cerebralization laws

The infinitive vôdhum from vah, vah-a-ti (“to flow, to drive”) goes back to ie. *vegh. Cerebralization has no sound-law justification. We should have obtained

ie. *vegh-tum (full grade and tum-marker for infinitive)
→ vaj-dhum (ASH)
→ vah-dhum (sz before voiced consonant)
→ vô-dhum (CPL, pp. 50)

Here, leveling from regularly formed PPP u-dha is responsible for vôdhum, with cerebral dh.

Similarly, but with Grassmann’s law, guh, gûhati (“to hide”) goes back to ie. *gheugh and we get

ie. *gheugh-tum (full grade and tum-marker for infinitive)
→ geu-dhum (DA, ASh)
→ geuz-dhum (sz before voiced consonant)
→ geuz-dhum (Ruki)
→ goz-dhum (DIPH, Cer D)
→ go-dhum (CPL, but ò already long)

A very parallel development leads to the infinitive lé-dhum of lihati (“he licks”):

ie. *leigh-tum (full grade and tum-marker for infinitive)
→ leig-dhum (ASH)
→ leiz-dhum (sz before voiced consonant)
→ leiz-dhum (Ruki)
→ lez-dhum (DIPH, Cer D)
→ le-dhum (CPL, but ë already long)

Sometimes, we may find cerebral sounds which are not justified by sound laws but by analogy. For example, the infinitive of ruh, rôhati “to climb” is rûdhum, but the ie. root is *h₁leudh (ie. *dh can produce oi. h according to subsection 3.3.10, pp. 53) which should have lead to rödhum (similar to dödhum or bödhum) instead.

sah, sahati (“to tolerate”) with infinitive sô-dhum although the sound laws show a different result:

ie. *segh-tum (full grade and tum-marker for infinitive)
→ saq-dhum (ASH)
→ saz-dhum (sz before voiced consonant)
→ sô-dhum (CPL, z)

where the analogy with verbs like guh above is responsible for cerebralization.
C. Grammar: verbal system

C.3.4. Laryngeals

The infinitive of quite a few number of verbs can be explained by laryngeal theory, either in line with our sound laws or by later analogy. Remember:

\[ \text{ie.} \ast CHC \rightarrow \text{oi.} \text{CiC} \]

By this sound law, the verbs listed below exhibit \( i \) between the oi. full-grade root and infinitive marker \( tum \).

<table>
<thead>
<tr>
<th>√</th>
<th>3. pers. sg.</th>
<th>infinitive</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>av (f.g.)</td>
<td>( \ast h_2\text{euH-}e-ti \rightarrow av-a-ti )</td>
<td>( \ast h_2\text{euH-tum} \rightarrow av-i-tum )</td>
<td>to help</td>
</tr>
<tr>
<td>khan (f.g.)</td>
<td>( \ast k\text{henH-}e-ti \rightarrow khan-a-ti )</td>
<td>( \ast k\text{hen-H-tum} \rightarrow khan-i-tum )</td>
<td>to dig</td>
</tr>
<tr>
<td>jan (f.g.)</td>
<td>( \ast j^n H-\text{y-e/o-tei} \rightarrow j^n\text{-ya-tê} )</td>
<td>( \ast j^n\text{en-H-tum} \rightarrow jan-i-tum )</td>
<td>to be born</td>
</tr>
<tr>
<td>nî</td>
<td>( \ast neyH-\text{e-ti} \rightarrow nay-a-ti )</td>
<td>( \ast ney-H-tum \rightarrow nay-i-tum )</td>
<td>to lead</td>
</tr>
<tr>
<td>bhū</td>
<td>( \ast bheuH-\text{e-ti} \rightarrow bhav-a-ti )</td>
<td>( \ast bheu-H-tum \rightarrow bhav-i-tum )</td>
<td>to be</td>
</tr>
</tbody>
</table>

Many other roots, even if there is no laryngeal excuse, use \( i-tum \) rather than just \( tum \) as the infinitive suffix. Many verbs show this \( i \) that prevents sandhi between the (normal-grade or, more rarely, zero-grade) root and the \( tum \): \( \text{path-i-tum}, \text{pat-i-tum}, \text{cumb-i-tum}, \text{bhås-i-tum}, \text{ëp-itum}, \text{côray-itum}, \text{kôpitum}, \text{kartitum}, \text{kathayitum}, \text{lékh-itum} \)

Besides \( nay-i-tum \) which is parallel to \( bhav-i-tum \), one also finds \( nê-tum \). It is difficult to decide whether \( nay-i-tum \) or \( nê-tum \) is the regular development:

- ♦ In \( nay-i-tum \), the laryngeal is of a vowel quality rather than a consonantional one. It stands between the consonants \( y \) and \( t \) and hence turns into \( i \).
- ♦ In \( nê-tum \), the laryngeal is of a rather consonantonal quality. The diphthong \( ay \) before that consonant turns into the long vowel \( ê \). When the laryngeal drops, this vowel cannot be lengthened any further.

There is also a class of verbs with long \( å \) before \( tum \). The sound law

\[ \text{ie.} \ast eH \rightarrow \text{oi.} \  å \]

is responsible for these examples:

<table>
<thead>
<tr>
<th>√</th>
<th>3. pers. sg.</th>
<th>infinitive</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>dā</td>
<td>( \ast d-e-deh_3-ti \rightarrow da-då-ti )</td>
<td>( \ast deh_3-tum \rightarrow då-tum )</td>
<td>to give</td>
</tr>
<tr>
<td>dhā</td>
<td>( \ast d-e-dheh_1-ti \rightarrow da-dhå-ti )</td>
<td>( \ast dheh_1-tum \rightarrow dhå-tum )</td>
<td>to set, to place</td>
</tr>
<tr>
<td>pā</td>
<td>( \text{pi-b-a-ti} ) (p. 81)</td>
<td>( \ast peh_3-tum \rightarrow på-tum )</td>
<td>to drink</td>
</tr>
<tr>
<td>sās</td>
<td>( sås-ti )</td>
<td>( \ast keHs-tum \rightarrow sås-tum )</td>
<td>to order, to teach</td>
</tr>
<tr>
<td>sthā</td>
<td>( ti-sth-a-ti )</td>
<td>( \ast steh_2-tum \rightarrow sthå-tum ) (levelling!)</td>
<td>to stand</td>
</tr>
</tbody>
</table>
C.3.5. Agent nouns, instrument nouns, and action nouns

Masculine action nouns with suffix *a*

Many examples can be found with *oi. a* added to the full-grade root. The simplest examples are those without half vowels:

<table>
<thead>
<tr>
<th>√</th>
<th>translation</th>
<th>m. action/agent noun in f.g.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>ar</td>
<td>to fit, to connect</td>
<td>ar-a-s</td>
<td>spoke (of a wheel)</td>
</tr>
<tr>
<td>kr</td>
<td>to make</td>
<td>bhas-kar-a-s</td>
<td>light-maker → sun</td>
</tr>
<tr>
<td>gam</td>
<td>to go</td>
<td>sam-ä-gam-a-s</td>
<td>meeting</td>
</tr>
<tr>
<td>bhañj</td>
<td>to break</td>
<td>bhañg-a-s</td>
<td>breaking, defeat</td>
</tr>
<tr>
<td>vr</td>
<td>to choose</td>
<td>var-a-s</td>
<td>boon</td>
</tr>
</tbody>
</table>

and

<table>
<thead>
<tr>
<th>√</th>
<th>translation</th>
<th>m. agent noun in f.g.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>kr</td>
<td>to make</td>
<td>kumbha-kär-a-s</td>
<td>pot-maker → potter</td>
</tr>
</tbody>
</table>

If the roots contain the half vowels *i* or *u, ê* or *ô*, respectively, show up in the full grade:

<table>
<thead>
<tr>
<th>√</th>
<th>translation</th>
<th>m. action/agent noun in f.g.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>khid</td>
<td>to be depressed</td>
<td>khêd-a-s</td>
<td>tedium</td>
</tr>
<tr>
<td>dis</td>
<td>to show</td>
<td>dês-a-s</td>
<td>country</td>
</tr>
<tr>
<td>bhid</td>
<td>to split</td>
<td>bhêd-a-s</td>
<td>separation, split</td>
</tr>
<tr>
<td>vid</td>
<td>to know</td>
<td>vêd-a-s</td>
<td>sacred knowledge</td>
</tr>
</tbody>
</table>

and

<table>
<thead>
<tr>
<th>√</th>
<th>translation</th>
<th>m. action/agent noun in f.g.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>kup</td>
<td>to be angry</td>
<td>kôp-a-s</td>
<td>anger</td>
</tr>
<tr>
<td>krudh</td>
<td>to be angry</td>
<td>krôdh-a-s</td>
<td>anger</td>
</tr>
<tr>
<td>lubh</td>
<td>to be desire</td>
<td>lôbh-a-s</td>
<td>greed</td>
</tr>
</tbody>
</table>

If a root end in *i*, we witness the half vowel *y* before the ending *a-s*:

<table>
<thead>
<tr>
<th>√</th>
<th>translation</th>
<th>m. action/agent noun in f.g.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>ji</td>
<td>to conquer</td>
<td>jay-a-s</td>
<td>victory</td>
</tr>
</tbody>
</table>

Similarly for *i* (“to go”) where the meanings vary with the prepositions:
C. Grammar: verbal system

<table>
<thead>
<tr>
<th>√</th>
<th>translation</th>
<th>m. action noun in f.g.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>ati-i</td>
<td>to excel</td>
<td>atya-ay-a-s</td>
<td>transgression</td>
</tr>
<tr>
<td>adhi-i</td>
<td>to study</td>
<td>adhy-ay-a-s</td>
<td>chapter, section</td>
</tr>
<tr>
<td>anu-i</td>
<td>to follow</td>
<td>anv-ay-a-s</td>
<td>succession, progeny</td>
</tr>
<tr>
<td>abhi-i</td>
<td>to arrive</td>
<td>abhy-ay-a-s</td>
<td>arrival of darkness</td>
</tr>
<tr>
<td>ud-i</td>
<td>to go up</td>
<td>ud-ay-a-s</td>
<td>appearance of a star</td>
</tr>
<tr>
<td>upa-i</td>
<td>to go towards</td>
<td>upa-ay-a-s → upāy-ay-a-s</td>
<td>means, approach</td>
</tr>
<tr>
<td>ny-ā-i</td>
<td>to come down</td>
<td>ny-ā-ay-a-s → nyāy-ay-a-s</td>
<td>rule, method</td>
</tr>
<tr>
<td>pra-i</td>
<td>to set off</td>
<td>pra-ay-a-s → prāy-ay-a-s</td>
<td>departure from life</td>
</tr>
<tr>
<td>vi-i</td>
<td>to disappear</td>
<td>vy-ay-a-s</td>
<td>loss, cost</td>
</tr>
</tbody>
</table>

Since laryngeals are lost without trace between a consonant (here: the half vowel y) and a vowel, they affect the root vowel, but not the action noun:

<table>
<thead>
<tr>
<th>√</th>
<th>translation</th>
<th>m. action/agent noun in f.g.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>bhā ← “bhiH</td>
<td>to fear</td>
<td>bhay-a-m, n. (!) ← “bheyH-o-m</td>
<td>fear, danger</td>
</tr>
<tr>
<td>bhā ← “bhuH</td>
<td>to be</td>
<td>bhav-a-s ← “bhuH-o-s</td>
<td>being, state</td>
</tr>
</tbody>
</table>

Consider

<table>
<thead>
<tr>
<th>√</th>
<th>3. pers. sg.</th>
<th>translation</th>
<th>m. ac./ag. noun in f.g.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>yuj</td>
<td>yuj-a-tê</td>
<td>ie. *yug-e-toi</td>
<td>he yokes</td>
<td>yōg-a-s ← ie. *yug-o-s</td>
</tr>
</tbody>
</table>

Secondary palatalization (**SPal**) lies behind

◊ palatal consonant j in yuj-a-tê (the ie. thematic vowel is e) versus

◊ non-palatal consonant g in yōg-a-s (the suffix vowel a goes back to ie. o)

This pattern can also be seen in

<table>
<thead>
<tr>
<th>√</th>
<th>3. pers. sg.</th>
<th>translation</th>
<th>m. action/agent noun in f.g.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>arc</td>
<td>arc-a-ti</td>
<td>he shines</td>
<td>ark-a-s</td>
<td>sun, song</td>
</tr>
<tr>
<td>bhaj</td>
<td>bhaj-a-ti</td>
<td>he divides</td>
<td>bhaq-a-s</td>
<td>wealth</td>
</tr>
<tr>
<td>bhuj</td>
<td>bhuj-a-ti</td>
<td>he enjoys</td>
<td>bhōq-a-s</td>
<td>enjoyment</td>
</tr>
<tr>
<td>mih</td>
<td>mēh-a-ti</td>
<td>he urinates</td>
<td>mēgh-a-s</td>
<td>rain</td>
</tr>
<tr>
<td>yuj</td>
<td>yuj-a-tê</td>
<td>he yokes</td>
<td>yōg-a-s</td>
<td>joining</td>
</tr>
<tr>
<td>vi-vic</td>
<td>vi-vi-na-k-ti</td>
<td>he sifts</td>
<td>vi-vēk-a-s</td>
<td>discrimination</td>
</tr>
<tr>
<td>śuc</td>
<td>śoc-a-ti</td>
<td>he grieves</td>
<td>sōk-a-s</td>
<td>grief</td>
</tr>
<tr>
<td>srvj</td>
<td>srvj-a-ti</td>
<td>he releases</td>
<td>sarg-a-s</td>
<td>letting go</td>
</tr>
</tbody>
</table>
Neuter nouns with suffix *ana

We find many neuter action nouns with suffix *ana. The first * seems to go back to an ie. front vowel, i.e., ie. *eno → oi. *ana. Otherwise bhôj-ana-m or vac-ana-m in the following table could not be explained:

<table>
<thead>
<tr>
<th>✓</th>
<th>translation</th>
<th>n. action noun in f.g.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>gam</td>
<td>to go</td>
<td>gam-ana-m</td>
<td>going</td>
</tr>
<tr>
<td>nî</td>
<td>to lead</td>
<td>nay-ana-m</td>
<td>leading (→ eye)</td>
</tr>
<tr>
<td>bhuj</td>
<td>to enjoy</td>
<td>bhôj-ana-m</td>
<td>enjoyment</td>
</tr>
<tr>
<td>myd</td>
<td>to squeeze</td>
<td>mard-ana-m</td>
<td>rubbing, pressing</td>
</tr>
<tr>
<td>vac</td>
<td>to speak</td>
<td>vac-ana-m</td>
<td>speech</td>
</tr>
<tr>
<td>vad</td>
<td>to speak</td>
<td>vad-ana-m</td>
<td>speaking (→ mouth)</td>
</tr>
<tr>
<td>vi-as</td>
<td>he dissipate</td>
<td>vy-as-ana-m</td>
<td>vice</td>
</tr>
<tr>
<td>śru</td>
<td>he hears</td>
<td>śrav-ana-m</td>
<td>hearing</td>
</tr>
<tr>
<td>su</td>
<td>he presses</td>
<td>sav-ana-m</td>
<td>pressing, Soma</td>
</tr>
<tr>
<td>sū</td>
<td>she begets</td>
<td>sav-ana-m</td>
<td>childbirth</td>
</tr>
</tbody>
</table>

The oi. root i (“to go”) gives rise to these examples:

<table>
<thead>
<tr>
<th>✓</th>
<th>translation</th>
<th>n. action noun in f.g.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>adhi-i</td>
<td>to study</td>
<td>adhy-ay-ana-m</td>
<td>reading, recitation</td>
</tr>
<tr>
<td>ud-i</td>
<td>to go up</td>
<td>ud-ay-ana-m</td>
<td>rising of the sun, outcome</td>
</tr>
<tr>
<td>upa-i</td>
<td>to go towards</td>
<td>upa-ay-ana-m → upây-ana-m</td>
<td>coming near (a teacher: initiation)</td>
</tr>
<tr>
<td>pra-i</td>
<td>to set off, to die</td>
<td>pra-ay-ana-m → prây-ana-m</td>
<td>going forth, beginning</td>
</tr>
</tbody>
</table>

Remember also râma-ay-ana-m → râmây-ana-m.

Some common laryngeal roots also use the *ana suffix which looks like a na suffix. For example, from dā (“to give”), we obtain

*da-ana → oi. dā-na

and similarly

<table>
<thead>
<tr>
<th>✓</th>
<th>translation</th>
<th>n. action noun in f.g.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>dā</td>
<td>to give</td>
<td>dā-na-m</td>
<td>giving, gift</td>
</tr>
<tr>
<td>dhū</td>
<td>to put, to place</td>
<td>dhū-na-m</td>
<td>container</td>
</tr>
<tr>
<td>pā</td>
<td>to drink</td>
<td>pā-na-m</td>
<td>drinking, drink</td>
</tr>
<tr>
<td>sthā</td>
<td>to stand</td>
<td>sthā-na-m</td>
<td>standing, place</td>
</tr>
</tbody>
</table>
C. Grammar: verbal system

**Masculine nouns with suffix ana**

Sometimes, the suffix *ana* may also point to an agent noun:

<table>
<thead>
<tr>
<th>√</th>
<th>translation</th>
<th>m. agent noun in f.g.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>nand</td>
<td>to delight</td>
<td>nand-ana-s</td>
<td>delighter</td>
</tr>
<tr>
<td>pū</td>
<td>to purify</td>
<td>pū-ana-s</td>
<td>purifier → wind</td>
</tr>
</tbody>
</table>

**Neuter nouns with suffix as**

Very common neuter words like take the suffix *as*. Here is a list:

<table>
<thead>
<tr>
<th>√</th>
<th>translation</th>
<th>n. action noun in f.g.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>cit</td>
<td>to observe</td>
<td>cêt-as</td>
<td>thought</td>
</tr>
<tr>
<td>tap</td>
<td>to burn</td>
<td>tap-as</td>
<td>austerity</td>
</tr>
<tr>
<td>nam</td>
<td>to bow</td>
<td>nam-as</td>
<td>bowing, homage</td>
</tr>
<tr>
<td>man</td>
<td>to think</td>
<td>man-as</td>
<td>thought</td>
</tr>
<tr>
<td>vac</td>
<td>to speak</td>
<td>vac-as</td>
<td>speech</td>
</tr>
</tbody>
</table>

**Neuter nouns with suffix is**

Neuter nouns with suffix *is* are rare. Examples are

<table>
<thead>
<tr>
<th>√</th>
<th>translation</th>
<th>n. action noun in f.g.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>jyôt</td>
<td>to shine</td>
<td>jyôt-is</td>
<td>light, star</td>
</tr>
<tr>
<td>hav</td>
<td>to sacrifice</td>
<td>hav-is</td>
<td>oblation</td>
</tr>
</tbody>
</table>

**Agent nouns with suffix tar**

Infinitives and agent nouns share the special features

◇ of building on the full grade and

◇ of using a *t*-suffix, *tum* in the case of the infinitive and *tar* for agent nouns:

<table>
<thead>
<tr>
<th>√</th>
<th>infinitive</th>
<th>translation</th>
<th>m. agent noun in f.g.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>av</td>
<td>av-i-tum</td>
<td>to help</td>
<td>av-i-tar</td>
<td>helper, friend</td>
</tr>
<tr>
<td>kr</td>
<td>kar-tum</td>
<td>to make</td>
<td>kar-tar</td>
<td>doer, maker</td>
</tr>
<tr>
<td>kruś</td>
<td>krös-tum</td>
<td>to shriek</td>
<td>krös-tar</td>
<td>shrieker → jackal</td>
</tr>
<tr>
<td>gam</td>
<td>gam-tum</td>
<td>to go</td>
<td>gam-tar</td>
<td>goer</td>
</tr>
<tr>
<td>jê</td>
<td>jê-tum</td>
<td>to defeat</td>
<td>jê-tar</td>
<td>conqueror</td>
</tr>
<tr>
<td>dōh</td>
<td>dōg-dhum</td>
<td>to milk</td>
<td>dōg-dhar</td>
<td>milker, exploiter</td>
</tr>
</tbody>
</table>
### C.3. Infinitive and other normal-grade forms

<table>
<thead>
<tr>
<th>nê-tum</th>
<th>nê-tar</th>
<th>to lead</th>
<th>leader</th>
</tr>
</thead>
<tbody>
<tr>
<td>pâ-tum</td>
<td>pâ-tar</td>
<td>to drink</td>
<td>drinker</td>
</tr>
<tr>
<td>bhar-tum</td>
<td>bhar-tar</td>
<td>to carry</td>
<td>husband</td>
</tr>
<tr>
<td>vak-tum</td>
<td>vak-tar</td>
<td>to speak</td>
<td>speaker</td>
</tr>
<tr>
<td>vô-dhum</td>
<td>vô-dhr</td>
<td>to drive</td>
<td>bridegroom</td>
</tr>
<tr>
<td>±rô-tum</td>
<td>±rô-tar</td>
<td>to hear</td>
<td>hearer</td>
</tr>
<tr>
<td>sav-i-tum</td>
<td>sav-i-tar</td>
<td>to beget</td>
<td>activator, father, sun</td>
</tr>
<tr>
<td>hô-tum</td>
<td>hô-tar</td>
<td>to sacrifice</td>
<td>priest</td>
</tr>
</tbody>
</table>

Sometimes, the zero grade is taken instead. I.e. "khen-H" has zero grade khâ by the sound law "ie. CnH → oi. Câ". This is the form seen in khâ-tar ("digger") ← khan ("to dig"), besides the expected full-grade form khan-i-tar ← "khen-H-t-".

**Instrument nouns with suffix tra**

The instruments used by the agents from the previous subsection are characterized by the suffix *tra* + neuter ending *m*. For example, the "drinker" pâ-tâ uses the "drinking-vessel" pâ-tra-m.

<table>
<thead>
<tr>
<th>√</th>
<th>infinitive</th>
<th>translation</th>
<th>n. instrum. noun in f.g.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>kê</td>
<td>kar-tum</td>
<td>kar-tra-m</td>
<td>to make</td>
<td>spell, charm</td>
</tr>
<tr>
<td>gâ</td>
<td>gâ-tum</td>
<td>gâ-tra-m</td>
<td>to go</td>
<td>body limb</td>
</tr>
<tr>
<td>chad</td>
<td>chat-tum</td>
<td>chat-tra-m/ chatra-m</td>
<td>to cover</td>
<td>umbrella</td>
</tr>
<tr>
<td>duh</td>
<td>dôg-dhum</td>
<td>dôg-dhra-m</td>
<td>to milk</td>
<td>milk-pail</td>
</tr>
<tr>
<td>nî</td>
<td>nê-tum</td>
<td>nê-tra-m</td>
<td>to lead</td>
<td>eye</td>
</tr>
<tr>
<td>pat</td>
<td>pat-i-tum</td>
<td>pat-tra-m/ patra-m</td>
<td>to fly</td>
<td>wing, leaf</td>
</tr>
<tr>
<td>pâ</td>
<td>pâ-tum</td>
<td>pâ-tra-m</td>
<td>to drink</td>
<td>cup, vessel</td>
</tr>
<tr>
<td>yam</td>
<td>yan-tum</td>
<td>yan-tra-m</td>
<td>to hold up/back</td>
<td>band, instrument</td>
</tr>
<tr>
<td>vac</td>
<td>vak-tum</td>
<td>vak-tra-m</td>
<td>to speak</td>
<td>mouth</td>
</tr>
<tr>
<td>vas</td>
<td>vas-tum</td>
<td>vas-tra-m</td>
<td>to clothe</td>
<td>clothing</td>
</tr>
<tr>
<td>šas</td>
<td>šas-tum</td>
<td>šas-tra-m</td>
<td>to kill</td>
<td>weapon</td>
</tr>
<tr>
<td>šâs</td>
<td>šâs-tum</td>
<td>šâs-tra-m</td>
<td>to instruct</td>
<td>scientific text</td>
</tr>
<tr>
<td>šru</td>
<td>šró-tum</td>
<td>šró-tra-m</td>
<td>to hear</td>
<td>ear</td>
</tr>
<tr>
<td>hu</td>
<td>hô-tum</td>
<td>hô-tra-m</td>
<td>to sacrifice</td>
<td>sacrifice</td>
</tr>
</tbody>
</table>
C. Grammar: verbal system

Action nouns with suffix man

Action nouns in man are also derived from the full grade:

<table>
<thead>
<tr>
<th>√</th>
<th>infinitive</th>
<th>translation</th>
<th>n. instrument noun in f.g.</th>
<th>translation (means of ...)</th>
</tr>
</thead>
<tbody>
<tr>
<td>kr</td>
<td>kar-tum</td>
<td>to make</td>
<td>kar-man</td>
<td>action</td>
</tr>
<tr>
<td>chad</td>
<td>chat-tum</td>
<td>to cover</td>
<td>chad-man</td>
<td>roof, protection</td>
</tr>
<tr>
<td>jan</td>
<td>jan-i-tum</td>
<td>to beget</td>
<td>jan-man</td>
<td>birth</td>
</tr>
</tbody>
</table>

C.3.6. Comparative and superlative

Comparative and superlative forms are often formed tara and tara or with īyas and āṭha, respectively:

<table>
<thead>
<tr>
<th>adjective</th>
<th>translation</th>
<th>comparative</th>
<th>superlative</th>
</tr>
</thead>
<tbody>
<tr>
<td>priya</td>
<td>dear</td>
<td>priya-tara</td>
<td>priya-tama</td>
</tr>
<tr>
<td>mahant</td>
<td>great</td>
<td>mahat-tara</td>
<td>mahat-tama</td>
</tr>
<tr>
<td>alpa</td>
<td>small</td>
<td>alp-īyas</td>
<td>alp-āṭha</td>
</tr>
<tr>
<td>aru</td>
<td>wide</td>
<td>var-īyas</td>
<td>var-āṭha</td>
</tr>
<tr>
<td>guru</td>
<td>heavy</td>
<td>gar-īyas</td>
<td>gar-āṭha</td>
</tr>
</tbody>
</table>

Many of the īyas and āṭha forms are built on verbal roots. Then, the adjective builds on the zero grade while we find the full grade in both comparative and superlative:

<table>
<thead>
<tr>
<th>√</th>
<th>translation</th>
<th>adjective (z.g.)</th>
<th>translation</th>
<th>comparative (f.g.)</th>
<th>superlative (f.g.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ksip</td>
<td>to throw</td>
<td>ksip-ra (1)</td>
<td>fast</td>
<td>ksip-īyas (1)</td>
<td>ksip-āṭha (1)</td>
</tr>
<tr>
<td>ksud</td>
<td>to crush</td>
<td>ksud-ra (1)</td>
<td>small</td>
<td>ksud-īyas (1)</td>
<td>ksud-āṭha (1)</td>
</tr>
<tr>
<td>mrd</td>
<td>to rub</td>
<td>mrd-u</td>
<td>soft</td>
<td>mrd-īyas (2)</td>
<td>mrd-āṭha (2)</td>
</tr>
</tbody>
</table>

1. One class of adjectives is built from the zero grade plus ra (as shown on pp. 121). This r is lost in the comparative and superlative forms.
2. In contrast to mrd-ana-m, we find ra rather than ar for unclear reasons.

C.3.7. Future with sy-suffix

Forms with and without RUKI

The future meaning has developed from a desiderative one. Compare e. he will go which indicates future tense. Its original meaning is “he wants to go”; e. will is related to nhg. wollen (“to want”). The Sanskrit desiderative is dealt with in the next section (subsection C.4.8 pp. 126). The future is formed from the full grade of the root:
### C.3. Infinitive and other normal-grade forms

full-grade root + sy + a + ending

Long-ā roots (although stemming from laryngeals) provide simple examples:

<table>
<thead>
<tr>
<th>√ in f.g.</th>
<th>translation</th>
<th>infinitive</th>
<th>future, 3. sg.</th>
</tr>
</thead>
<tbody>
<tr>
<td>dā</td>
<td>to give</td>
<td>dā-tum</td>
<td>dā-sy-a-ti</td>
</tr>
<tr>
<td>dhā</td>
<td>to set, to place</td>
<td>dhā-tum</td>
<td>dhā-sy-a-ti</td>
</tr>
<tr>
<td>pā</td>
<td>to drink</td>
<td>pā-tum</td>
<td>pā-sy-a-ti</td>
</tr>
<tr>
<td>sthā</td>
<td>to stand</td>
<td>sthā-tum</td>
<td>sthā-sy-a-ti</td>
</tr>
</tbody>
</table>

For roots without i or u, we find the full grade a in:

<table>
<thead>
<tr>
<th>√ in f.g.</th>
<th>translation</th>
<th>infinitive</th>
<th>future, 3. sg.</th>
</tr>
</thead>
<tbody>
<tr>
<td>man</td>
<td>to think</td>
<td>man-tum</td>
<td>man-sy-a-ti</td>
</tr>
<tr>
<td>yaj</td>
<td>to sacrifice</td>
<td>yas-tum</td>
<td>yāk-sy-a-ti</td>
</tr>
<tr>
<td>ram</td>
<td>to enjoy</td>
<td>ran-tum</td>
<td>ran-sy-a-tē</td>
</tr>
<tr>
<td>labh</td>
<td>to obtain</td>
<td>lab-dhum</td>
<td>lap-sy-a-tē</td>
</tr>
<tr>
<td>vac</td>
<td>to speak</td>
<td>vak-tum</td>
<td>vak-sy-a-ti</td>
</tr>
<tr>
<td>sad</td>
<td>to sit</td>
<td>sat-tum</td>
<td>sat-sy-a-tē</td>
</tr>
<tr>
<td>han</td>
<td>to kill</td>
<td>han-tum</td>
<td>han-sy-a-ti</td>
</tr>
</tbody>
</table>

In all these examples, we see some backward assimilation to the unvoiced s. RUKI is encountered after k in vak-sy-a-ti. Also, labh shows that the s cannot become aspirated, i.e., there is no aspiration shift as in lap-sy-a-tē. For the same reason, the following two future forms are identical:

<table>
<thead>
<tr>
<th>√ in z.g.</th>
<th>translation</th>
<th>infinitive</th>
<th>future, 3. sg.</th>
</tr>
</thead>
<tbody>
<tr>
<td>vṛt</td>
<td>to turn round</td>
<td>vart-i-tum</td>
<td>vart-sy-a-ti</td>
</tr>
<tr>
<td>vṛdh</td>
<td>to grow</td>
<td>vardh-i-tum</td>
<td>vart-sy-a-ti</td>
</tr>
</tbody>
</table>

Roots with i lead to full grade ē and hence to:

<table>
<thead>
<tr>
<th>√ in f.g.</th>
<th>translation</th>
<th>infinitive</th>
<th>future, 3. sg.</th>
</tr>
</thead>
<tbody>
<tr>
<td>i</td>
<td>to go</td>
<td>ē-tum</td>
<td>ē-sy-a-ti</td>
</tr>
<tr>
<td>ksīp</td>
<td>to throw</td>
<td>ksēp-tum</td>
<td>ksēp-sy-a-ti</td>
</tr>
<tr>
<td>ji</td>
<td>to defeat</td>
<td>jē-tum</td>
<td>jē-sy-a-ti</td>
</tr>
<tr>
<td>bhid</td>
<td>to break</td>
<td>bhēt-tum</td>
<td>bhēt-sy-a-ti</td>
</tr>
</tbody>
</table>

while roots with u lead to full grade ō clearly seen in
C. Grammar: verbal system

<table>
<thead>
<tr>
<th>√ in z.g.</th>
<th>translation</th>
<th>infinitive</th>
<th>future, 3. sg.</th>
</tr>
</thead>
<tbody>
<tr>
<td>muc</td>
<td>to liberate</td>
<td>môk-tum</td>
<td>mêk-sy-a-ti</td>
</tr>
<tr>
<td>yuj</td>
<td>to join</td>
<td>yôk-tum</td>
<td>yôk-sy-a-ti</td>
</tr>
<tr>
<td>šru</td>
<td>to listen</td>
<td>šrô-tum</td>
<td>šrô-sy-a-ti</td>
</tr>
<tr>
<td>stu</td>
<td>to praise</td>
<td>stô-tum</td>
<td>stô-sy-a-ti</td>
</tr>
</tbody>
</table>

Laryngeal roots are responsible for i-sy-a-ti:

<table>
<thead>
<tr>
<th>√</th>
<th>translation</th>
<th>infinitive</th>
<th>future, 3. sg.</th>
</tr>
</thead>
<tbody>
<tr>
<td>jan (f.g.) to be born</td>
<td>*gen-H-tum → jan-i-tum</td>
<td>jan-i-sy-a-ti</td>
<td></td>
</tr>
<tr>
<td>bhā to be</td>
<td>*bheu-H-tum → bhav-i-tum</td>
<td>bhav-i-sy-a-ti</td>
<td></td>
</tr>
</tbody>
</table>

By analogy, this convenient quasi-thematic i spreads to other roots without any laryngeal excuse:

<table>
<thead>
<tr>
<th>√ in f.g.</th>
<th>translation</th>
<th>infinitive</th>
<th>future, 3. sg.</th>
</tr>
</thead>
<tbody>
<tr>
<td>kr to make</td>
<td>kartum</td>
<td>kar-i-sy-a-ti</td>
<td></td>
</tr>
<tr>
<td>gam to go</td>
<td>gam-tum</td>
<td>gam-i-sy-a-ti</td>
<td></td>
</tr>
<tr>
<td>tan to stretch</td>
<td>tan-tum</td>
<td>tan-i-sy-a-ti</td>
<td></td>
</tr>
<tr>
<td>budh to awake</td>
<td>bôdh-i-tum</td>
<td>bôdh-i-sy-a-ti</td>
<td></td>
</tr>
<tr>
<td>bhṛ to carry</td>
<td>bhartum</td>
<td>bhar-i-sy-a-ti</td>
<td></td>
</tr>
<tr>
<td>man to think</td>
<td>man-tum</td>
<td>man-i-sy-a-ti/tê</td>
<td></td>
</tr>
<tr>
<td>smṛ to remember</td>
<td>smartum</td>
<td>smar-i-sy-a-ti</td>
<td></td>
</tr>
<tr>
<td>likh to write</td>
<td>lêkh-i-tum</td>
<td>lêkh-i-sy-a-ti</td>
<td></td>
</tr>
<tr>
<td>vad to speak</td>
<td>vad-i-tum</td>
<td>vad-i-sy-a-ti</td>
<td></td>
</tr>
<tr>
<td>vṛt to turn round</td>
<td>vart-i-tum</td>
<td>vart-i-sy-a-tê</td>
<td></td>
</tr>
<tr>
<td>vṛdh to grow</td>
<td>vardh-i-tum</td>
<td>vardh-i-sy-a-tê</td>
<td></td>
</tr>
</tbody>
</table>

Aspiration laws (revelation of aspirated root-initial)

The aspiration laws lead to interesting future forms for two reasons:

1. The aspiration shift \( \text{ASH} \) cannot happen onto \( s \) or \( sy \).
2. Then, there is no need for root-initial deaspiration and i.e. aspiration becomes apparent:

<table>
<thead>
<tr>
<th>√</th>
<th>translation</th>
<th>infinitive</th>
<th>future, 3. sg.</th>
</tr>
</thead>
</table>
C.3. Infinitive and other normal-grade forms

<table>
<thead>
<tr>
<th>verb</th>
<th>translation</th>
<th>infinitive</th>
<th>future, 3. sg.</th>
</tr>
</thead>
<tbody>
<tr>
<td>gāh</td>
<td>to dive</td>
<td>gā-h-dham</td>
<td>gēk-sy-a-tē ← *gheH??-</td>
</tr>
<tr>
<td>dāh</td>
<td>to burn</td>
<td>dāg-dhum</td>
<td>dhak-sy-a-ti ← *dheq&quot;h-s-</td>
</tr>
<tr>
<td>dīh</td>
<td>to smear</td>
<td>dēg-dhum</td>
<td>dhēk-sy-a-ti ← *dheigh-s-</td>
</tr>
<tr>
<td>dūh</td>
<td>to milk</td>
<td>dōg-dhum</td>
<td>dhōk-sy-a-ti ← *dheugh-s-</td>
</tr>
<tr>
<td>bandh ← *bhendh to bind</td>
<td>bād-dhum (z.g.!</td>
<td>bhant-sy-a-ti ← *bhendh-s-</td>
<td></td>
</tr>
<tr>
<td>budh ← *bhudh to awake</td>
<td>bōdh-i-tum</td>
<td>bhōt-sy-a-ti ← *bheudh-s-</td>
<td></td>
</tr>
</tbody>
</table>

Primary palatalization (revelation of root-final)

Primary palatalization is seen in the sound law

\[ \text{ie. } k \rightarrow oi. š. \]

Now, ie. š manifests itself in oi. future forms as oi. k:

A second origin of k-sy in future forms is SIB, in particular

\[ \text{oi. } š + s \rightarrow \text{oi. } k + š \]

Here are some examples:

<table>
<thead>
<tr>
<th>√</th>
<th>translation</th>
<th>infinitive</th>
<th>future, 3. sg.</th>
</tr>
</thead>
<tbody>
<tr>
<td>daṃš (f.g.)</td>
<td>daš-a-ti</td>
<td>daṃs-tum</td>
<td>daṃk-sy-a-ti ← *denk-k-s</td>
</tr>
<tr>
<td>diš</td>
<td>diš-a-ti</td>
<td>dēš-tum</td>
<td>dēk-sy-a-ti ← *deik-k-s-</td>
</tr>
<tr>
<td>drīš</td>
<td>to see</td>
<td>drāš-tum</td>
<td>drak-sy-a-ti ← *derk-k-s-</td>
</tr>
<tr>
<td>naš (z.g.)</td>
<td>to perish</td>
<td>naṃš-tum</td>
<td>naṃk-sy-a-ti ← *hōne(n)k-k-s-</td>
</tr>
<tr>
<td>pracch (f.g.) to ask</td>
<td>prāš-tum</td>
<td>prak-sy-a-ti ← *prek-k-s-</td>
<td></td>
</tr>
<tr>
<td>sprīš</td>
<td>to touch</td>
<td>spars-tum, sprāš-tum</td>
<td>spark-sy-a-ti ← *spērk-k-s-</td>
</tr>
</tbody>
</table>

Finally, remember the SIB rule

\[ \text{oi. } š + s \rightarrow \text{oi. } t + s \]
C. Grammar: verbal system

with the following example:

<table>
<thead>
<tr>
<th>√</th>
<th>translation</th>
<th>infinitive</th>
<th>future, 3. sg.</th>
</tr>
</thead>
<tbody>
<tr>
<td>vas</td>
<td>to dwell</td>
<td>vas-tum</td>
<td>val-asy-a-ti</td>
</tr>
</tbody>
</table>

C.3.8. Causatives

As a rule, causatives are built from the full grade. However, since the ie. root vowel is o for causatives, Brugmann’s law applies. Therefore, one often observes ā which should not be addressed as a lengthened grade.

I begin with the full grade in closed syllables, typical for roots with i or u. With i we find

\[
\text{vis}^\prime, \quad \text{vēs}^\prime - \text{ay} - \text{a} - \text{ti}
\]

oi. root  root  suffix  thematic  ending

in zero grade  in full grade  vowel  3. pers. sg.

and with u

\[
\begin{align*}
\text{bhōd}-\text{ay-a-ti} & \quad (\text{“causes to be awake → awakens”}) \leftrightarrow \text{budd} \quad (\text{“to be awake”}) \\
\text{kōp}-\text{ay-a-ti} & \quad (\text{“causes to be angry → enrages”}) \leftrightarrow \text{kup} \quad (\text{“to be angry”}) \\
\text{śōbh}-\text{ay-a-ti} & \quad (\text{“causes to shine, to be beautiful”}) \leftrightarrow \text{śubh} \quad (\text{“to shine”})
\end{align*}
\]

Oi. roots ending on long vowel ā (which full grade due to the laryngeal) use p to mark causatives:

\[
\begin{align*}
\text{sthā}-\text{p-ay-a-ti} & \quad (\text{“causes to stand → sets”}) \leftrightarrow \text{sthā} \quad (\text{“to stand”}) \\
\text{dā}-\text{p-ay-a-ti} & \quad (\text{“causes to give”}) \leftrightarrow \text{dā} \quad (\text{“to give”}) \\
\text{snā}-\text{p-ay-a-ti} & \quad (\text{“causes to swim → to bathe”}) \leftrightarrow \text{snā} \quad (\text{“to swim”}) \\
\text{jñā}-\text{p-ay-a-ti} & \quad (\text{“causes to know → inform”}) \leftrightarrow \text{jñā} \quad (\text{“to know”})
\end{align*}
\]

Brugmann’s law is responsible for these examples:

\[
\begin{align*}
\text{kār}-\text{ay-a-ti} & \quad (\text{“causes to do → orders”}) \leftrightarrow \text{kṛ} \quad (\text{“to make”}) \\
\text{tyāj}-\text{ay-a-ti} & \quad (\text{“causes to abandon”}) \leftrightarrow \text{tyaj} \quad (\text{“to abandon”}) \\
\text{pāṭ}-\text{ay-a-ti} & \quad (\text{“causes to read → teaches”}) \leftrightarrow \text{pat} \quad (\text{“to read”}) \\
\text{mār}-\text{ay-a-ti} & \quad (\text{“causes to die → kills”}) \leftrightarrow \text{mr} \quad (\text{“to die”}) \\
\text{vāc}-\text{ay-a-ti} & \quad (\text{“make [a text] speak → read”}) \leftrightarrow \text{vac} \quad (\text{“to speak”}) \\
\text{śrāv}-\text{ay-a-ti} & \quad (\text{“causes to hear → teaches”}) \leftrightarrow \text{śru} \quad (\text{“to hear”}) \\
\text{sād}-\text{ay-a-ti} & \quad (\text{“causes to sit → makes sit”}) \leftrightarrow \text{sad} \quad (\text{“to sit”})
\end{align*}
\]
Applications of Brugmann’s law is regularly prevented by laryngeals as in these examples:

<table>
<thead>
<tr>
<th>√</th>
<th>3. pers. sg.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>jan</td>
<td>jan-a-y-a-ti ← ie. *gonH-ey-e-ti (he begets)</td>
<td></td>
</tr>
<tr>
<td>dam</td>
<td>dam-a-y-a-ti ← ie. *domH-ey-e-ti (he tames)</td>
<td></td>
</tr>
</tbody>
</table>

In contrast, we find “wrong”

◊ bhāv-a-y-a-ti (“causes to be → makes”) from oi. root bhū (“to be”) ← ie. *bhuH,

where the laryngeal should have prevented application of Lo.

Perhaps due to the two consonants following u, zero-grade is exhibited in

◊ cumb-a-y-a-ti (“causes to kiss”) ← cumb (“to kiss”)

C.3.9. Gerunds in am

There exists a rare gerund that is formed with am. It mostly uses the full grade:

<table>
<thead>
<tr>
<th>√</th>
<th>translation</th>
<th>am-gerund, full grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>kṣip</td>
<td>to throw</td>
<td>kṣēp-am</td>
</tr>
<tr>
<td>drś</td>
<td>to see</td>
<td>darś-am</td>
</tr>
<tr>
<td>bandh (f.g.)</td>
<td>to bind</td>
<td>bandh-am</td>
</tr>
<tr>
<td>buj</td>
<td>to enjoy</td>
<td>bōj-am</td>
</tr>
</tbody>
</table>

However, by Lo, one often witnesses long ā in open syllables:

<table>
<thead>
<tr>
<th>√</th>
<th>translation</th>
<th>am-gerund, lengthened grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>kr</td>
<td>to make</td>
<td>kār-am</td>
</tr>
<tr>
<td>grah</td>
<td>to grab</td>
<td>grāh-am</td>
</tr>
<tr>
<td>tād</td>
<td>to hit</td>
<td>tād-am</td>
</tr>
<tr>
<td>dah</td>
<td>to burn</td>
<td>dāh-am</td>
</tr>
<tr>
<td>pāṭ</td>
<td>to read</td>
<td>pāṭ-am</td>
</tr>
<tr>
<td>vah</td>
<td>to carry</td>
<td>vāḥ-am</td>
</tr>
<tr>
<td>śru</td>
<td>to hear</td>
<td>śrāv-am</td>
</tr>
<tr>
<td>smr</td>
<td>to remember</td>
<td>smār-am</td>
</tr>
</tbody>
</table>

Verbs like trāi regularly lead to trāy-am:
C. Grammar: verbal system

<table>
<thead>
<tr>
<th>√</th>
<th>translation</th>
<th>əm-gerund, full grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>gāi</td>
<td>to sing</td>
<td>gāiy-am</td>
</tr>
<tr>
<td>trāi</td>
<td>to protect</td>
<td>trāy-am</td>
</tr>
<tr>
<td>dhīyāi</td>
<td>to meditate</td>
<td>dhīyāy-am</td>
</tr>
</tbody>
</table>

However, trāy-am might be misunderstood as trā-yam. This misunderstanding gave rise to a gerund marker yam that is found in these examples:

<table>
<thead>
<tr>
<th>√</th>
<th>translation</th>
<th>əm-gerund, full grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>dā</td>
<td>to give</td>
<td>dā-yam</td>
</tr>
<tr>
<td>dhā</td>
<td>to set, to place</td>
<td>dhā-yam</td>
</tr>
<tr>
<td>pā</td>
<td>to drink</td>
<td>pā-yam</td>
</tr>
<tr>
<td>mā</td>
<td>to measure</td>
<td>mā-yam</td>
</tr>
</tbody>
</table>

C.4. Past participle and other zero-grade forms

C.4.1. Root nouns

Before dealing with the past participles, we present the so-called root nouns where endings are directly affixed to the root. Most of them are feminine. Root nouns are typically indicated by

◇ the root in zero grade and
◇ the nom. sg. which does not exhibit any case ending. Its root-final consonant is characterized by loss of voice and aspiration as explained in subsection B.3.5.

Dental root-final consonant

In the case of dental root-final consonant, the “no voice, no aspiration” rule yields the obvious results:

◇ yut (stem yudh) (“battle”)
◇ mṛt (stem mṛḍ) (“clay”)
◇ vidyut (stem vidyut) (“flash of lightning”)

Full grade

The root may sometimes be in full grade, for reasons explained in section C.1, pp. 77

◇ upa-ni-ṣat (stem upa-ni-ṣad) ← ie. *sed

108
C.4. Past participle and other zero-grade forms

- Old meaning: “the sitting down at the feet of another to listen to his words, and hence, secret knowledge given in this manner”
- Current opinion: “a placement of two or several things in a hierarchy, in particular with respect to a hierarchically interconnected universe”

\[ \circ \text{sam-sat (stem sam-sad) (“assembly”) } \leftarrow \text{ie. } *\text{sed} \]
\[ \circ \text{pari-šat (stem pari-šad) (“assembly”) } \leftarrow \text{ie. } *\text{sed} \]
\[ \circ \text{a-pat (stem ā-pad) (“calamity”) } \leftarrow \text{ie. } *\text{pad} \]

\( k \) or \( ṭ \) as root-final consonants

When the root ends in \( ź \), we are not surprised to see \( ź \k \) instead, since \( ź \) goes back to ie. palatal \( ŧ \) (p. 35):

\[ \circ \text{dr̥k (stem dr̥š) (“sight”) } \leftarrow \text{ie. root } *\text{derk} \]

But one also finds \( ṭ \):

\[ \circ \text{vīṭ (stem viś) (“house, people”) } \leftarrow \text{ie. root } *\text{veik} \]

Other examples are

\[ \circ \text{bhuk (stem bhuj) (“enjoyment, utility”) } \leftarrow \text{ie. root } *\text{bheug} \]
\[ \circ \text{mit (stem mih) (“mist, haze, fog”) } \leftarrow \text{ie. root } *\text{meigh} \]
\[ \circ \text{šuk (stem šuc) (“flame, grief”) } \leftarrow \text{ie. root } *\text{keuk} \]

See subsection B.3.3 pp. 45 for a few attempts to distill rules.

C.4.2. General rule for PPP

Roughly speaking, the past participle (PPP) is constructed in this manner:

\[ \text{zero-grade root } + \text{ta (ie. } *\text{to} \]

Consider these examples with syllabic \( r \) in both oi. root and PPP where the zero grade clearly shows:

<table>
<thead>
<tr>
<th>( \sqrt{ } ) in z.g.</th>
<th>3. pers. sg.</th>
<th>PPP</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>( k̥r )</td>
<td>kar-ō-ti</td>
<td>k̥r-ta</td>
<td>to make</td>
</tr>
<tr>
<td>( bhr )</td>
<td>bhar-a-ti</td>
<td>bhr-ta</td>
<td>to carry</td>
</tr>
<tr>
<td>( mr )</td>
<td>mri-ya-tê</td>
<td>mr-ta</td>
<td>to die</td>
</tr>
<tr>
<td>( smr )</td>
<td>smar-a-ti</td>
<td>smr-ta</td>
<td>to remember</td>
</tr>
<tr>
<td>( hr )</td>
<td>har-a-ti</td>
<td>hr-ta</td>
<td>to take, to rob</td>
</tr>
</tbody>
</table>
C. Grammar: verbal system

Roots with *i* preserve this *i* in the PPP:

<table>
<thead>
<tr>
<th>√ in z.g.</th>
<th>3. pers. sg.</th>
<th>PPP</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>i</em></td>
<td><em>é-ti</em></td>
<td><em>i-ta</em></td>
<td>to go</td>
</tr>
<tr>
<td><em>kśip</em></td>
<td><em>kśip-a-ti</em></td>
<td><em>kśip-ta</em></td>
<td>to throw</td>
</tr>
<tr>
<td><em>ji</em></td>
<td><em>jay-a-ti</em></td>
<td><em>ji-ta</em></td>
<td>to defeat</td>
</tr>
</tbody>
</table>

Regarding *i* with prefixes, consider:

<table>
<thead>
<tr>
<th>√</th>
<th>translation</th>
<th>PPP</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>adhi-i</em></td>
<td>to study</td>
<td><em>adhi-ta</em></td>
<td>well read, learned</td>
</tr>
<tr>
<td><em>upa-i</em></td>
<td>to go towards</td>
<td><em>upa-ta</em></td>
<td>endowed with</td>
</tr>
<tr>
<td><em>pra-i</em></td>
<td>to set off, to die</td>
<td><em>pré-ta</em></td>
<td>gone forth → dead</td>
</tr>
<tr>
<td><em>vi-i</em></td>
<td>to diverge, to disappear</td>
<td><em>vi-ta</em></td>
<td>gone, freed from</td>
</tr>
</tbody>
</table>

Likewise, roots with *u* (or f.g. root with initial *v*) preserve this *u* in the PPP:

<table>
<thead>
<tr>
<th>√</th>
<th>3. pers. sg.</th>
<th>PPP</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>mac</em></td>
<td><em>mauc-a-ti</em></td>
<td><em>mak-ta</em></td>
<td>to liberate</td>
</tr>
<tr>
<td><em>yuj</em></td>
<td><em>yu-na-k-ti</em></td>
<td><em>yuk-ta</em></td>
<td>to join</td>
</tr>
<tr>
<td><em>vac</em>  (f.g.)</td>
<td><em>vak-ti</em></td>
<td><em>uk-ta</em></td>
<td>to speak</td>
</tr>
<tr>
<td><em>vap</em>  (f.g.)</td>
<td><em>vap-a-ti</em></td>
<td><em>up-ta</em></td>
<td>to sow</td>
</tr>
<tr>
<td><em>śru</em></td>
<td><em>śr-ñō-ti</em></td>
<td><em>śru-ta</em></td>
<td>to listen</td>
</tr>
<tr>
<td><em>stu</em></td>
<td><em>stāu-ti</em> (Narten)</td>
<td><em>stu-ta</em></td>
<td>to praise</td>
</tr>
<tr>
<td><em>hu</em></td>
<td><em>ju-hō-ti</em></td>
<td><em>hu-ta</em></td>
<td>to sacrifice</td>
</tr>
</tbody>
</table>

Instead of the *ta* marker, a few verbs also use *na* Most roots in the table below end in *d* so that we obtain the expected backward assimilation:

<table>
<thead>
<tr>
<th>√</th>
<th>3. pers. sg.</th>
<th>PPP</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>khid</em></td>
<td><em>khid-ya-ti</em></td>
<td><em>khin-na</em></td>
<td>to suffer</td>
</tr>
<tr>
<td><em>tud</em></td>
<td><em>tud-a-ti</em></td>
<td><em>tun-na</em></td>
<td>to hit</td>
</tr>
<tr>
<td><em>nud</em></td>
<td><em>nud-a-ti</em></td>
<td><em>nun-na</em></td>
<td>to push</td>
</tr>
</tbody>
</table>
C.4. Past participle and other zero-grade forms

<table>
<thead>
<tr>
<th></th>
<th>pad</th>
<th>pad-y-a-tê</th>
<th>pan-na</th>
<th>to fall, to go</th>
</tr>
</thead>
<tbody>
<tr>
<td>bhid</td>
<td>bhi-na-t-ti</td>
<td>bhin-na</td>
<td></td>
<td>to break</td>
</tr>
<tr>
<td>sad (f.g.)</td>
<td>sīd-a-ti</td>
<td>san-na</td>
<td></td>
<td>to sit</td>
</tr>
</tbody>
</table>

But stems that end in oi. also use the na marker:

<table>
<thead>
<tr>
<th>√ in f.g.</th>
<th>3. pers. sg.</th>
<th>PPP</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>bhañj</td>
<td>bha-na-k-ti</td>
<td>bhag-na</td>
<td>to break</td>
</tr>
<tr>
<td>majj</td>
<td>majj-a-ti</td>
<td>mag-na</td>
<td>to sink</td>
</tr>
</tbody>
</table>

In contrast to the PPP, the infinitive (section C.3) is typically formed by adding oi. tum to the full-grade root. However, since we have a suffix beginning with t in both cases, there are quite a number of similarities as will become obvious in the following subsections.

Basically, gerunds ending with tvā use the zero-grade root as do the PPP. However, in many verbs, the infinitive seems to have influenced the formation of the gerund. Hence, we have many gerunds that use the normal grade, often along with a form in zero grade.

C.4.3. Oi. roots ending in a nasal

Sometimes, the oi. root is not in zero grade and therefore, it is not suitable for the purpose of forming the PPP. We then have to form the zero grade ourselves. An important class concerns the oi. roots ending in a nasal. According to subsection B.5.2 (pp. 66), a nasal that becomes syllabic turns into oi. a. Consider these examples:

<table>
<thead>
<tr>
<th>√ in f.g.</th>
<th>3. pers. sg.</th>
<th>PPP</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>gam</td>
<td>ga-ch-a-ti</td>
<td>gata</td>
<td>to go</td>
</tr>
<tr>
<td>tan</td>
<td>ta-nô-ti</td>
<td>tata</td>
<td>to stretch</td>
</tr>
</tbody>
</table>

and this list:

<table>
<thead>
<tr>
<th>√ in f.g.</th>
<th>3. pers. sg.</th>
<th>PPP</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>nam</td>
<td>nam-a-ti</td>
<td>nata</td>
<td>to salute</td>
</tr>
<tr>
<td>man</td>
<td>man-y-a-tê</td>
<td>nata</td>
<td>to think</td>
</tr>
<tr>
<td>yam</td>
<td>yacch-a-ti</td>
<td>gata</td>
<td>to restrain</td>
</tr>
<tr>
<td>mm</td>
<td>ram-a-tê</td>
<td>nata</td>
<td>to enjoy</td>
</tr>
<tr>
<td>han</td>
<td>han-ti</td>
<td>hata</td>
<td>to hit</td>
</tr>
</tbody>
</table>

The last example goes back ie. *g"hen “to kill, to hit” where secondary palatalization
C. Grammar: verbal system

(before ie. e) produces han-ti. However, secondary palatalization cannot be invoked for the zero grade where we should have obtained $g^*=h\eta\rightarrow gh\text{-}ta$. ha\text{-}ta is easily explained by proportional analogy:

<table>
<thead>
<tr>
<th>tan</th>
<th>with root-initial consonant t: tata</th>
</tr>
</thead>
<tbody>
<tr>
<td>han</td>
<td>with root-initial consonant h: hata</td>
</tr>
</tbody>
</table>

C.4.4. Aspiration and cerebralization

Applying aspiration laws

If an oi. root ends in a voiced aspirate, the addition of ta necessitates the aspiration shift $\text{ASH}$ which is associated with the name of Christian Bartholomae (see section B.3.3, pp. 37):

<table>
<thead>
<tr>
<th>$\sqrt{}$</th>
<th>3. pers. sg.</th>
<th>PPP</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\text{k}\text{sub}$</td>
<td>$\text{k}\text{sub}-y-a-t\text{i}$</td>
<td>$\text{k}\text{sub}-d\text{ha}$</td>
<td>to be upset</td>
</tr>
<tr>
<td>$\text{yudh}$</td>
<td>$\text{yudh}-y-a-t\text{e}$</td>
<td>$\text{yud-dha}$</td>
<td>to fight</td>
</tr>
<tr>
<td>$\text{labh}$ (f.g.)</td>
<td>$\text{labh}-a-t\text{e}$</td>
<td>$\text{lab-dha}$ (f.g.)</td>
<td>to obtain</td>
</tr>
<tr>
<td>$\text{v}\text{ydh}$</td>
<td>$\text{v}\text{ydh}-a-t\text{e}$</td>
<td>$\text{v}\text{yd-dha}$</td>
<td>to grow</td>
</tr>
</tbody>
</table>

Note that $\text{lab-dha}$ is full grade. While $l$ might become syllabic, the result n.at. $\text{l}\text{b-dha}$ would be unusual.

Sometimes, Grassmann’s law is also applied. It says: If you have two aspirated sounds, the first one becomes deaspirated. Nice examples are provided by these PPP:

<table>
<thead>
<tr>
<th>$\sqrt{}$</th>
<th>future 3. sg.</th>
<th>PPP</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\text{b}\text{andh} \leftarrow \text{*bhendh}$</td>
<td>$\text{b}\text{hant-sy-a-ti} \leftarrow \text{*bhen}\text{dh-s}$-</td>
<td>$\text{b}\text{ad-dha} \leftarrow \text{*b}\text{h}\eta\text{-d}\text{h-to}$</td>
<td>to bind</td>
</tr>
<tr>
<td>$\text{budh} \leftarrow \text{*bhudh}$</td>
<td>$\text{bh\text{ot-sy-a-ti} \leftarrow \text{*bheudh-s}$-</td>
<td>$\text{bud-dha} \leftarrow \text{*b}\text{hudh-to}$</td>
<td>to awake</td>
</tr>
</tbody>
</table>

where

$\diamond$ the root initial $bh$ becomes deaspirated (DA)

$\diamond$ the root final $dh$ undergoes the aspiration shift (ASH) due to Bartholomae.

We now need to mix these sound laws with the rules named secondary palatalization (SPal, fig. B.2 on p. 36). For example, we have
C.4. Past participle and other zero-grade forms

ie. *dheg"h-to (z.g. with to-marker for PPP)
→ dhegh-to (no SPal before consonant t)
→ degh-to (DA)
→ dag-dha (aā, ASh, aā)

and

ie. *snig"h-to (z.g. with to-marker for PPP)
→ snigh-to (no SPal before t)
→ snig-dha (ASh, aā)

Thus, we get these examples:

<table>
<thead>
<tr>
<th>√</th>
<th>3. pers. sg.</th>
<th>PPP</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>dah (f.g.)</td>
<td>dah-a-ti</td>
<td>*dheg&quot;h-to → dag-dha (f.g.)!</td>
<td>to burn</td>
</tr>
<tr>
<td>dih</td>
<td>deg-dhi</td>
<td>*dhigh-to → dig-dhum</td>
<td>to smear</td>
</tr>
<tr>
<td>duh</td>
<td>dog-dhi</td>
<td>*dhugh-to → dug-dhum</td>
<td>to milk</td>
</tr>
<tr>
<td>snih</td>
<td>snih-y-a-ti</td>
<td>*snig&quot;h-to → snig-dha</td>
<td>to love</td>
</tr>
</tbody>
</table>

A small mystery is provided by nah (“to bind”) with PPP nad-dha. Presumably, nadh is the “correct” oi. full-grade stem from where nah was produced as a dialectal variant (see pp. 53). From nadh, the PPP nad-dha (“bound”) is obtained by Bartholomae’s law. The problem is that naddha would then be in full grade. The zero grade *addha is unattested as is a hypothetic full-grade root *nandh which could have produced the PPP nad-dha as bandh (“to bind”) leads to bad-dha.

Applying cerebralization sound laws

In a number of verbs, the PPP involves cerebralization, in particular due to

\[
\text{CerD} \quad \begin{align*}
\text{oi. } & s/s + t \quad \rightarrow \quad \text{oi. } \ddot{s}t \\
& z + d/dh \quad \rightarrow \quad z + d/dh
\end{align*}
\]

First, consider oi. roots that end in \(s\) that goes back to ie. ːk:

◇ damš (“to bite”) ← ie. *denk

ie. *dən̥ k-to (z.g. with to-marker for PPP)
→ das-to (syllabic \(n\) → a, PPal)
→ das̆-ta (CerD, aā)
C. Grammar: verbal system

◇ drš ("to see") ← ie. *derk with

   ie.*drk-to (z.g. with to-marker for PPP)
   → drš-to (PPal)
   → drš-ta (CerD, aā)

◇ prac ("to ask") ← ie. *prek-sk with

   ie.*prk-to (z.g. with to-marker for PPP)
   → prš-to (PPal)
   → prš-ta (CerD, aā)

◇ viš ("to enter") ← ie. *veik with

   ie.*viš-to (z.g. with to-marker for PPP)
   → viš-to (PPal)
   → viš-ta (CerD, aā)

◇ vrs ("to plough") ← ie. *kers with

   ie.*krs-to (z.g. with to-marker for PPP)
   → krs-to (RUKI)
   → krs-ta (CerD, aā)

◇ dvis ("to hate") ← ie. *dees with

   ie.*dvis-to (z.g. with to-marker for PPP)
   → dvis-to (RUKI)
   → dvis-ta (CerD, aā)

◇ vrs ("to rain") ← ie. *vers with

   ie.*vrs-to (z.g. with to-marker for PPP)
   → vrs-to (RUKI)
   → vrs-ta (CerD, aā)

A second important cerebralization rule is the RUKI rule. It combines with CerD in these examples:

◇ is ("to wish") ← ie. *h2eis with

   ie.*h2is-to (z.g. with to-marker for PPP)
   → is-to (RUKI)
   → is-ta (CerD, aā)

◇ krš ("to plough") ← ie. *kers with

   ie.*krs-to (z.g. with to-marker for PPP)
   → krs-to (RUKI)
   → krs-ta (CerD, aā)

◇ dvis ("to hate") ← ie. *dees with

   ie.*dvis-to (z.g. with to-marker for PPP)
   → dvis-to (RUKI)
   → dvis-ta (CerD, aā)

Finally, before application of RUKI, a sz rule is applied in the PPP is-ta of oi. yaj ("to sacrifice"):  

114
C.4. Past participle and other zero-grade forms

ie. *iğ-to (z.g. with to PPP marker)
→ is-to (sz before voiceless cons.)
→ iṣ-to (RUKI)
→ iṣ-ṭa (CerD, aā)

and, very similarly, for the PPP of srj (“to throw, to create”):

ie. *srğ-to (z.g. with to PPP marker)
→ srṣ-to (sz before voiceless cons.)
→ srṣ-to (RUKI)
→ srṣ-ṭa (CerD, aā)

Interestingly, iṣ-ṭa is the regularly formed PPP of both

◊ is (“to wish”) ← ie. full grade *h2eis (see 114) and
◊ oi. yaj (“to sacrifice”) ← ie. full grade *yeğ (see 115)

... both aspiration and cerebralization laws

Even more complicated is the explanation for the past participle of vah (“to flow”, “to carry”) which is ūdha. Very strange? Well, yes. But regular. The ie. origin is *veğh, with zero grade uğh (hV) so that we obtain

ie. *uğh-to (z.g. with to PPP marker)
→ uğ-dho (ASh)
→ uz-dho (sz before voiced stop)
→ uz-dho (RUKI)
→ uz-ṭha (CerD, aā)
→ ǔ-dha (CpLz)

A very parallel development leads to the past participle līghha of līh, līhāti (“to lick”), this time lengthening i rather than u:

ie. *līgh-to (z.g. with to PPP marker)
→ līğ-dho (ASh)
→ līz-dho (sz before voiced stop)
→ līz-dho (RUKI)
→ līz-ṭha (CerD, aā)
→ lī-dha (CpLz)
Similarly, but with Grassmann’s law, *guh (“to hide”) goes back to ie. *gheūgh and we get

\[
\text{ie. } *\text{guh-to (z.g. with to PPP marker)}
\]

\[
\rightarrow guj-dho (\text{DA and ASh})
\]

\[
\rightarrow guz-dho (\text{sz before voiced stop})
\]

\[
\rightarrow guz-dho (\text{RUKI})
\]

\[
\rightarrow guz-dha (\text{CerD, aā})
\]

\[
\rightarrow gū-dha (\text{CpLz})
\]

Also, with root vowel \( l \) rather than \( i \) or \( u \), we have ie. *delīg (“to be fix”) so that we obtain

\[
\text{ie. } *\text{delīg-to (z.g. with to PPP marker)}
\]

\[
\rightarrow drj-dho (\text{rl and ASh})
\]

\[
\rightarrow d\text{r}z-dho (\text{sz before voiced stop})
\]

\[
\rightarrow d\text{r}z-dho (\text{RUKI})
\]

\[
\rightarrow d\text{r}z-dha (\text{CerD, aā})
\]

\[
\rightarrow d\text{r}dha (\text{loss of voiced } z \text{ without expected CpLz})
\]

Sometimes, one finds cerebral sounds which are not justified by sound laws. For example, the PPP of ruh, rōhati (“to climb”) is rūdha, but the ie. root is *h₁leudh (ie. *dh can produce oi. h according to subsection B.3.10, pp. 53) which should have lead to rud-dha (similar to dug-dha or bud-dha) instead.

A second example is sah, sabhati (“to tolerate”) with PPP sô-dha where the sound laws do not justify cerebral dh:

\[
\text{ie. } *\text{sēgh-to (full grade (!) and to PPP marker)}
\]

\[
\rightarrow sej-dho (\text{ASH})
\]

\[
\rightarrow saz-dha (\text{sz before voiced stop, aā})
\]

\[
\rightarrow sô-dha (\text{CpLz})
\]

Here, as in rūdha above, some analogy must have come into play.

C.4.5. Laryngeals

The PPP of quite a number of verbs can be explained by laryngeal theory. The reader is reminded of these sound laws:
C.4. Past participle and other zero-grade forms

<table>
<thead>
<tr>
<th>neighborhood of laryngeal sound law</th>
<th>past participle and other zero-grade forms</th>
</tr>
</thead>
<tbody>
<tr>
<td>after *i/u/e/o</td>
<td>ie. *iH/uH/eH/oH → *i/a/a</td>
</tr>
<tr>
<td>after <em>n</em></td>
<td>ie. *C nH → Cn</td>
</tr>
<tr>
<td>after <em>C labial r</em></td>
<td>ie. *C labial r H → Cnr</td>
</tr>
<tr>
<td>between consonants</td>
<td>ie. *CHC → CXC</td>
</tr>
<tr>
<td>between consonant and vowel</td>
<td>ie. *CHV → CV</td>
</tr>
</tbody>
</table>

In line with these sound laws, several lists of laryngeal verbs are now presented. Consider, first, examples where the laryngeal leads to long *i* or *u*:

<table>
<thead>
<tr>
<th>√ in z.g.</th>
<th>3. pers. sg.</th>
<th>PPP</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>nī</td>
<td>*neyH-e-ti → nay-a-ti</td>
<td>*nī-H-to → nī-ta</td>
<td>to lead</td>
</tr>
<tr>
<td>bhī</td>
<td>*bhi-bheiH-ti → bi-bhē-ti</td>
<td>*bhiH-to → bhā-ta</td>
<td>to be afraid</td>
</tr>
<tr>
<td>bhū</td>
<td>*bhevH-e-ti → bhav-a-ti</td>
<td>*bhu-H-to → bhā-ta</td>
<td>to be</td>
</tr>
<tr>
<td>pū</td>
<td>*pu-ne-H-ti → pu-nā-ti</td>
<td>*pu-H-to → pū-ta</td>
<td>to purify</td>
</tr>
</tbody>
</table>

Now come PPP formed with the marker *na* rather than *ta*:

<table>
<thead>
<tr>
<th>√ in z.g.</th>
<th>3. pers. sg.</th>
<th>PPP</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>lī</td>
<td>*liH-y- → lī-ya-tē</td>
<td>*liH-no → lī-na</td>
<td>to cling</td>
</tr>
<tr>
<td>lū</td>
<td>*lu-ne-H-ti → lu-nā-ti</td>
<td>*lu-H-no → lū-na</td>
<td>to cut</td>
</tr>
</tbody>
</table>

Rather difficult is

<table>
<thead>
<tr>
<th>√</th>
<th>3. pers. sg.</th>
<th>PPP (p. 81)</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>pā</td>
<td>*pī-ph3-e-ti → pī-b-a-ti</td>
<td>*ph3i-to → *pib3-to → pī-ta</td>
<td>to drink</td>
</tr>
</tbody>
</table>

where the PPP is often explained by the metathesis *ph3it → *pib3it (Lar_MTh). Now, consider, these laryngeal roots where the PPP is explained by “ie. *CHC → CXC”:

<table>
<thead>
<tr>
<th>√ in z.g.</th>
<th>3. pers. sg.</th>
<th>PPP</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>dā</td>
<td>*de-deh3-ti → da-dā-ti</td>
<td>*dh3-to → di-ta (1)</td>
<td>to give</td>
</tr>
<tr>
<td>dhā</td>
<td>*de-dheh1-ti → da-dhā-ti</td>
<td>*dhh1-to → hi-ta (2)</td>
<td>to set, to place</td>
</tr>
<tr>
<td>sthā</td>
<td>ti-sth-a-ti</td>
<td>*sth3-to → sthī-ta (3)</td>
<td>to stand</td>
</tr>
</tbody>
</table>

1. *dā* has two different PPP, the regular *di-ta* given in the list above and the irregular (but more common) *dat-ta*. Perhaps, *da-dā-mi* was misunderstood as *dad-ā-mi* where a PPP *datta* ← *dad-ta* might be expected.

2. The word initial *dh* from *dhā* sometimes turns into *h* (see p. 53).
C. Grammar: verbal system

3. The aspirated root sthā is explained by analogy as is aspiration in the PPP sthī-ta where the laryngeal has caused aspiration and is reflected by i at the same time.

Many verbs show i between the (zero-grade or full-grade) root and the ta. For some of them, a former laryngeal may be responsible, but others have just extended this model to forms where it is not, historically, justified. Here are some examples: path-i-ta, cumb-i-ta, bhaś-i-ta, uṣ-i-ta (from vas with RUKI).

Laryngeals can lengthen syllabic nasals:

\[ \sqrt{\text{in f.g.}} \quad \text{3. pers. sg.} \quad \text{PPP} \quad \text{translation} \]

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>kam (f.g.)</td>
<td>no present tense</td>
<td>*km\text{-}H\text{-}to \to kāṁ\text{-}ta (2)</td>
<td>to love</td>
<td></td>
</tr>
<tr>
<td>kram (f.g.)</td>
<td>*kremH\text{-}ye\text{-}ti \to krāṁ\text{-}ya\text{-}ti (1)</td>
<td>*krm\text{-}H\text{-}to \to krāṁ\text{-}ta (2)</td>
<td>to walk</td>
<td></td>
</tr>
<tr>
<td>khan (f.g.)</td>
<td>*khenH\text{-}e\text{-}ti \to khan\text{-}a\text{-}ti</td>
<td>*khn\text{-}H\text{-}to \to kāḥ\text{-}ta</td>
<td>to dig</td>
<td></td>
</tr>
<tr>
<td>jan (f.g.)</td>
<td>*gñ\text{-}H\text{-}y\text{-}e\text{-}tei \to jā\text{-}y\text{-}a\text{-}tē</td>
<td>*gñ\text{-}H\text{-}to \to jā\text{-}ta</td>
<td>to be born</td>
<td></td>
</tr>
</tbody>
</table>

1. krāṁ-ya-ta is regular 4. class (i.e., zero-grade root). Then “ie. \( Cm\text{-}H \to Čam\)” (Lar\_SY) is regularly applied.

2. kāṁ-ta is readily explained by Lar\_SY and BA.

In contrast, jñā-ta from the root jñā (ie. *jenh₃) can only be explained by levelling. See the dictionary.

Finally, we comment on a group of verbs where long vowels ō or ū go back to \( r\text{-}H\):

\[ \text{ie. } C\text{labial}_rH \to Čūr \]
\[ \text{ie. } C\text{nostril}_rH \to Čūr \]

All these forms have na as the PPP marker (as do lī-na and hā-na from above):

<table>
<thead>
<tr>
<th>( \sqrt{\text{in z.g.}} )</th>
<th>3. pers. sg.</th>
<th>PPP</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>kṛ</td>
<td>*kerH\text{-}e\text{-}ti (no SPa!l) \to kir\text{-}a\text{-}ti</td>
<td>*kr\text{-}H\text{-}no \to kīr\text{-}na</td>
<td>to scatter</td>
</tr>
<tr>
<td>jṛ</td>
<td>*jetH\text{-}y\text{-}e\text{-}ti \to jīr\text{-}y\text{-}a\text{-}ti</td>
<td>*jṛ\text{-}H\text{-}no \to jīr\text{-}na</td>
<td>to waste away</td>
</tr>
<tr>
<td>tṛ</td>
<td>*terH\text{-}e\text{-}ti \to tar\text{-}a\text{-}ti</td>
<td>*tr\text{-}H\text{-}no \to tīr\text{-}na</td>
<td>to pass</td>
</tr>
<tr>
<td>dṛ</td>
<td>*dṛ\text{-}ne\text{-}H\text{-}ti \to dṛ\text{-}ṛā\text{-}ti</td>
<td>*dṛ\text{-}H\text{-}no \to dīr\text{-}na</td>
<td>to tear</td>
</tr>
<tr>
<td>pṛ</td>
<td>*pṛ\text{-}ne\text{-}H\text{-}ti \to prṛ\text{-}ṇā\text{-}ti</td>
<td>*pṛ\text{-}H\text{-}no \to pūr\text{-}na</td>
<td>to fill</td>
</tr>
</tbody>
</table>

It seems that str, strṇōti (“to spread”) also belongs to his list because one has the PPP.
C.4. Past participle and other zero-grade forms

stīr-na similar to stīr-na. Presumably, the ie. root is *terH. Note, however, the second PPP stīta.

As a final example, we turn to

<table>
<thead>
<tr>
<th>√ in z.g.</th>
<th>3. pers. sg.</th>
<th>PPP</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>div</td>
<td>*diHv-y-e-ti</td>
<td>div-y-a-ti</td>
<td>*dyHv-to</td>
</tr>
</tbody>
</table>

Thus, starting with ie. *deiHv, the zero-grade present tense div-y-a-ti is regular. Before the PPP marker to, i becomes the consonant y so that Lar_MTh gets applied to yield dyu-ta.

Some i-ta PPPs exist without any etymological justification for i:

<table>
<thead>
<tr>
<th>√ in z.g.</th>
<th>3. pers. sg.</th>
<th>PPP</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>path</td>
<td>path-a-ti</td>
<td>path-i-ta</td>
<td>to read</td>
</tr>
<tr>
<td>pat</td>
<td>pat-a-ti</td>
<td>pat-i-ta</td>
<td>to fall</td>
</tr>
</tbody>
</table>

Here, the zero grade with ta as the PPP marker is not possible because plosives cannot be syllabic. Inserting i may make the forms more transparent.

C.4.6. Nouns and adjectives

Feminine action nouns with suffix ti

We have dealt with feminine action nouns with zero suffix above (see pp. 108). We now turn to derivations with suffixes. For many verbs, the PPP provides a model of how to form the ti-noun. Pretty obvious cases are

<table>
<thead>
<tr>
<th>√ in z.g.</th>
<th>PPP</th>
<th>translation</th>
<th>ti-noun</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>kr</td>
<td>kr-ta</td>
<td>to make</td>
<td>kr-ti-s</td>
<td>doing, deed</td>
</tr>
<tr>
<td>kṣip</td>
<td>kṣip-ta</td>
<td>to throw</td>
<td>kṣip-ti-s</td>
<td>throwing</td>
</tr>
<tr>
<td>bhr</td>
<td>bhr-ta</td>
<td>to carry</td>
<td>bhr-ti-s</td>
<td>support</td>
</tr>
<tr>
<td>muc</td>
<td>muc-ta</td>
<td>to liberate</td>
<td>muc-ti-s</td>
<td>liberation</td>
</tr>
<tr>
<td>mr</td>
<td>mr-ta</td>
<td>to die</td>
<td>mr-ti-s</td>
<td>death</td>
</tr>
<tr>
<td>yuj</td>
<td>yuk-ta</td>
<td>to join</td>
<td>yuk-ti-s</td>
<td>connection</td>
</tr>
<tr>
<td>vac (f.g.)</td>
<td>uk-ta</td>
<td>to speak</td>
<td>uk-ti-s</td>
<td>speech</td>
</tr>
<tr>
<td>vap (f.g.)</td>
<td>up-ta</td>
<td>to sow</td>
<td>up-ti-s</td>
<td>sowing seeds</td>
</tr>
<tr>
<td>śru</td>
<td>śru-ta</td>
<td>to listen</td>
<td>śru-ti-s</td>
<td>vedic text</td>
</tr>
<tr>
<td>stu</td>
<td>stu-ta</td>
<td>to praise</td>
<td>stu-ti-s</td>
<td>praise, hymn</td>
</tr>
<tr>
<td>smṛ</td>
<td>smṛ-ta</td>
<td>to remember</td>
<td>smṛ-ti-s</td>
<td>tradition</td>
</tr>
</tbody>
</table>
C. Grammar: verbal system

The very common root *i* (“to go”) is contained in these *ti*-nouns:

<table>
<thead>
<tr>
<th>√ <em>i</em> in z.g.</th>
<th>PPP</th>
<th>translation</th>
<th><em>ti</em>-noun</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>adhī-<em>i</em></td>
<td>adhī-<em>ta</em></td>
<td>to study</td>
<td>adhī-<em>ti</em>-s</td>
<td>study</td>
</tr>
<tr>
<td>anu-<em>i</em></td>
<td>anu-<em>ta</em></td>
<td>to follow</td>
<td>anu-<em>ti</em>-s</td>
<td>following after</td>
</tr>
<tr>
<td>abhī-<em>i</em></td>
<td>abhī-<em>ta</em></td>
<td>to arrive</td>
<td>abhī-<em>ti</em>-s</td>
<td>attack</td>
</tr>
<tr>
<td>ud-<em>i</em></td>
<td>ud-<em>ta</em></td>
<td>to go up</td>
<td>ud-<em>ti</em>-s</td>
<td>sunrise</td>
</tr>
<tr>
<td>upa-<em>i</em></td>
<td>upa-<em>ta</em></td>
<td>to go towards</td>
<td>upa-<em>ti</em>-s</td>
<td>approach</td>
</tr>
<tr>
<td>pra-<em>i</em></td>
<td>pra-<em>ta</em></td>
<td>to set off</td>
<td>pra-<em>ti</em>-s</td>
<td>escape</td>
</tr>
</tbody>
</table>

Oi. roots ending in a nasal lead to the feminine *ti*-nouns seen in the following table:

<table>
<thead>
<tr>
<th>√ in f.g.</th>
<th>PPP</th>
<th>translation</th>
<th><em>ti</em>-noun</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>gam</td>
<td>ga-<em>ta</em></td>
<td>to go</td>
<td>ga-<em>ti</em>-s</td>
<td>path</td>
</tr>
<tr>
<td>tan</td>
<td>ta-<em>ta</em></td>
<td>to stretch</td>
<td>ta-<em>ti</em>-s</td>
<td>mass, crowd</td>
</tr>
<tr>
<td>nam</td>
<td>na-<em>ta</em></td>
<td>to salute</td>
<td>na-<em>ti</em>-s</td>
<td>salutation</td>
</tr>
<tr>
<td>man</td>
<td>ma-<em>ta</em></td>
<td>to think</td>
<td>ma-<em>ti</em>-s</td>
<td>thought</td>
</tr>
<tr>
<td>yam</td>
<td>ya-<em>ta</em></td>
<td>to restrain</td>
<td>ya-<em>ti</em>-s</td>
<td>control</td>
</tr>
<tr>
<td>nam</td>
<td>ra-<em>ta</em></td>
<td>to enjoy</td>
<td>ra-<em>ti</em>-s</td>
<td>pleasure</td>
</tr>
<tr>
<td>han</td>
<td>ha-<em>ta</em></td>
<td>to hit</td>
<td>ha-<em>ti</em>-s</td>
<td>killing</td>
</tr>
</tbody>
</table>

Cerebralization is involved in these examples:

<table>
<thead>
<tr>
<th>√ in f.g.</th>
<th>PPP</th>
<th>translation</th>
<th><em>ti</em>-noun</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>iṣ</td>
<td>iṣ-<em>ta</em></td>
<td>to wish</td>
<td>iṣ-<em>ti</em>-s</td>
<td>wish</td>
</tr>
<tr>
<td>krṣ</td>
<td>krṣ-<em>ta</em></td>
<td>to plough</td>
<td>krṣ-<em>ti</em>-s</td>
<td>ploughing, harvest</td>
</tr>
<tr>
<td>dṛṣ</td>
<td>dṛṣ-<em>ta</em></td>
<td>to see</td>
<td>dṛṣ-<em>ti</em>-s</td>
<td>sight</td>
</tr>
<tr>
<td>budh</td>
<td>bud-dha</td>
<td>to awake</td>
<td>bud-dhi-<em>s</em></td>
<td>idea, understanding</td>
</tr>
<tr>
<td>yaj</td>
<td>iṣ-<em>ta</em></td>
<td>to sacrifice</td>
<td>iṣ-<em>ti</em>-s</td>
<td>sacrifice</td>
</tr>
<tr>
<td>vah</td>
<td>u-<em>dha</em></td>
<td>to flow, to carry</td>
<td>u-*dhi-<em>s</em></td>
<td>carrying</td>
</tr>
<tr>
<td>viś</td>
<td>viś-<em>ta</em></td>
<td>to enter</td>
<td>viś-<em>ti</em>-s</td>
<td>compulsory work</td>
</tr>
<tr>
<td>vṛdh</td>
<td>vṛd-dha</td>
<td>to grow</td>
<td>vṛd-dhi-<em>s</em></td>
<td>growth</td>
</tr>
<tr>
<td>vṛṣ</td>
<td>vṛṣ-<em>ta</em></td>
<td>to rain</td>
<td>vṛṣ-<em>ti</em>-s</td>
<td>rain</td>
</tr>
</tbody>
</table>
C.4. Past participle and other zero-grade forms

<table>
<thead>
<tr>
<th>sṛj</th>
<th>sṛṣ-ṭa</th>
<th>to create</th>
<th>sṛṣ-ṭi-s</th>
<th>creation</th>
</tr>
</thead>
</table>

Funny? vṛd-dhi-s (“growth, lengthened grade”) is in zero grade!

And, of course, consider all these laryngeal roots:

<table>
<thead>
<tr>
<th>√ in z.g.</th>
<th>PPP</th>
<th>translation</th>
<th>ti-noun</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>kam (f.g.)</td>
<td>kān-ṭa</td>
<td>to love</td>
<td>kān-ṭi-s</td>
<td>desire, female beauty</td>
</tr>
<tr>
<td>khan (f.g.)</td>
<td>khā-ṭa</td>
<td>to dig</td>
<td>khā-ṭi-s</td>
<td>digging</td>
</tr>
<tr>
<td>jan (f.g.)</td>
<td>jā-ṭa</td>
<td>to be born</td>
<td>jā-ṭi-s</td>
<td>birth, caste</td>
</tr>
<tr>
<td>jī testify</td>
<td>jīr-na</td>
<td>to waste away</td>
<td>a-jīr-ṭi-s</td>
<td>indigestibleness</td>
</tr>
<tr>
<td>dāa</td>
<td>dī-ṭa</td>
<td>to give</td>
<td>dī-ṭi-s</td>
<td>offering, largess</td>
</tr>
<tr>
<td>dat-ta</td>
<td></td>
<td>to give</td>
<td>dat-ṭi-s</td>
<td>giving, gift</td>
</tr>
<tr>
<td>dāa</td>
<td>dī-ṭa</td>
<td>to bind</td>
<td>a-dī-ṭi-s</td>
<td>freedom, name of a goddess</td>
</tr>
<tr>
<td>dhāa</td>
<td>hi-ṭa</td>
<td>to set, to place</td>
<td>hi-ṭi-s</td>
<td>mission, mandate</td>
</tr>
<tr>
<td>ni</td>
<td>nī-ṭa</td>
<td>to lead</td>
<td>nī-ṭi-s</td>
<td>conduct, policy</td>
</tr>
<tr>
<td>pā</td>
<td>pī-ṭa</td>
<td>to drink</td>
<td>pī-ṭi-s</td>
<td>drinking, tavern</td>
</tr>
<tr>
<td>pū</td>
<td>pū-ṭa</td>
<td>to purify</td>
<td>pū-ṭi-s</td>
<td>purity</td>
</tr>
<tr>
<td>pī</td>
<td>pūr-ṇa</td>
<td>to fill</td>
<td>pūr-ṭi-s</td>
<td>filling, reward</td>
</tr>
<tr>
<td>bhī</td>
<td>bhū-ṭa</td>
<td>to be afraid</td>
<td>bhū-ṭi-s</td>
<td>fear, danger</td>
</tr>
<tr>
<td>bhūa</td>
<td>bhū-ṭa</td>
<td>to be</td>
<td>bhū-ṭi-s</td>
<td>existence, welfare</td>
</tr>
<tr>
<td>sthāa</td>
<td>sthi-ṭa</td>
<td>to stand</td>
<td>sthi-ṭi-s</td>
<td>rule, standing</td>
</tr>
</tbody>
</table>

Finally, s-ti-s (“being (close to a master) → dependent, vassal”) is the regular ti-noun from as (“to be”). One also finds sti-pā (“protecting the dependents”).

Adjectives with ra

Quite a few adjectives exist that are built by adding ra to the zero grade of the verb:

<table>
<thead>
<tr>
<th>√ in z.g.</th>
<th>PPP</th>
<th>translation</th>
<th>ra adjective</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>uṣ (1)</td>
<td></td>
<td>to get strong</td>
<td>uṣ-ṛa</td>
<td>powerful, mighty</td>
</tr>
<tr>
<td>kṛṣp</td>
<td>kṛṣṭa</td>
<td>to moan</td>
<td>kṛṣṭ-ṛa (SIB)</td>
<td>dangerous, painful</td>
</tr>
<tr>
<td>kr̥u (n.at.) (1)</td>
<td></td>
<td>to form a crust</td>
<td>kr̥u-ṛa (2)</td>
<td>bloody</td>
</tr>
<tr>
<td>kṣip</td>
<td>kṣip-ta</td>
<td>to throw</td>
<td>kṣip-ṛa</td>
<td>fast, quick</td>
</tr>
</tbody>
</table>
C. Grammar: verbal system

<table>
<thead>
<tr>
<th>verb</th>
<th>verb - form (n.at.)</th>
<th>meaning</th>
<th>ra adjective</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>ksud</td>
<td>ksud-da</td>
<td>to crunch</td>
<td>ksud-ra</td>
<td>mean</td>
</tr>
<tr>
<td>grdh</td>
<td>grdh-da</td>
<td>to be greedy</td>
<td>grdh-ra</td>
<td>greedy</td>
</tr>
<tr>
<td>cit</td>
<td>cit-ta</td>
<td>to observe</td>
<td>cit-ra</td>
<td>bright</td>
</tr>
<tr>
<td>chid</td>
<td>chit-ta</td>
<td>to cut</td>
<td>chid-ra</td>
<td>leaky, hole</td>
</tr>
<tr>
<td>dhī</td>
<td>dhī-ta</td>
<td>to reflect</td>
<td>dhī-ra</td>
<td>steady, head-strong</td>
</tr>
<tr>
<td>nādh</td>
<td>nāṣṭa (3)</td>
<td>to be needy</td>
<td>nāḥ-ra (3)</td>
<td>poor, weak</td>
</tr>
<tr>
<td>mīṣ</td>
<td>mīṣ-ta (4)</td>
<td>to mix</td>
<td>mīṣ-ra</td>
<td>diverse</td>
</tr>
<tr>
<td>vip</td>
<td></td>
<td>to tremble</td>
<td>vip-ra</td>
<td>excited, wise</td>
</tr>
<tr>
<td>sidh</td>
<td>siddha</td>
<td>to succeed</td>
<td>sidh-ra</td>
<td>perfect, good</td>
</tr>
<tr>
<td>sthā</td>
<td>sthī-ta</td>
<td>to stand</td>
<td>sthī-ra</td>
<td>steady, durable</td>
</tr>
<tr>
<td>sphāy</td>
<td></td>
<td>to grow fat</td>
<td>sphī-ra</td>
<td>abundant, vast</td>
</tr>
<tr>
<td>hims</td>
<td>hims-i-ta</td>
<td>to hurt</td>
<td>hims-ra</td>
<td>hurting, vicious</td>
</tr>
</tbody>
</table>

1. See dictionary where other forms without s-extension are also mentioned.
2. See kravis in dictionary chapter.
3. \(*nHād-ṛo \rightarrow ādh-ṛa (\text{Lar} _\text{SY})\)
4. One meaning is “savoury, sweet”.

If the oi. root begins with a (or laryngeal plus e), we see the full grade (which is the oi. root!) instead. Thus, asra (“throwing, painful”) is build on the full grade of as, asyati (“to throw, to shoot”). Levelling seems to underlie this case. Also with full grade is nam-ra (“bowing down, humble”) from oi. root nam. The zero grade would have been na-ra (by SY _\text{N}) similar to the PPP nata. Similarly, we have the ra-adjecitives from full grades:

<table>
<thead>
<tr>
<th>in z.g.</th>
<th>PPP translation</th>
<th>ra adjective</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>dabh</td>
<td>to destroy</td>
<td>dabh-ra</td>
<td>little, deficient</td>
</tr>
<tr>
<td>vak</td>
<td>to go crookedly</td>
<td>vak-ra</td>
<td>crooked, curved</td>
</tr>
<tr>
<td>vaj-ra</td>
<td>to be hard or strong</td>
<td>vaj-ra</td>
<td>as hard as diamond</td>
</tr>
</tbody>
</table>

Finally, the zero-grade adjectives
C.4. Past participle and other zero-grade forms

- tīv-ra (“severe, violent, intense”)
- sīgh-ra (“quick”)

are based on (probably laryngeal) roots that are scarcely attested.

C.4.7. Passive voice

Zero grades

The general rule for the passive voice is this:

oi. root + y + a + ātmanēpada ending

In many cases, the zero grade can readily be recognized:

<table>
<thead>
<tr>
<th>√ in z.g.</th>
<th>3. pers. sg. active</th>
<th>3. pers. sg. passive</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>ie. root with er</td>
<td>kṛṣ</td>
<td>kṛṣ-a-ti</td>
<td>kṛṣ-y-a-tē</td>
</tr>
<tr>
<td></td>
<td>ḍṛṣ (paśyattī)</td>
<td>ḍṛṣ-y-a-tē</td>
<td>to see</td>
</tr>
<tr>
<td></td>
<td>srj</td>
<td>srj-a-ti</td>
<td>srj-y-a-tē</td>
</tr>
<tr>
<td>ie. root with ei</td>
<td>iś</td>
<td>icch-a-ti</td>
<td>icch-y-a-tē</td>
</tr>
<tr>
<td></td>
<td>kliś kliś-y-a-tē (1)</td>
<td>kliś-y-a-tē (1)</td>
<td>to suffer</td>
</tr>
<tr>
<td></td>
<td>kṣip kṣip-a-ti</td>
<td>kṣip-y-a-tē</td>
<td>to throw</td>
</tr>
<tr>
<td></td>
<td>viś viś-a-ti</td>
<td>viś-y-a-tē</td>
<td>to enter</td>
</tr>
<tr>
<td>ie. root with eu</td>
<td>nud</td>
<td>nud-a-tē</td>
<td>nud-y-a-tē</td>
</tr>
<tr>
<td></td>
<td>budh</td>
<td>budh-a-ti</td>
<td>budh-y-a-tē</td>
</tr>
<tr>
<td></td>
<td>mud</td>
<td>mōd-a-ti</td>
<td>mud-y-a-tē</td>
</tr>
</tbody>
</table>

1. kliś-y-a-tē is an example where verbs of the 4. class (with ya) (here ātmanēpada!) equal the passive voice.

The zero grade is also obvious for some oi. roots with initial ya or va:

<table>
<thead>
<tr>
<th>√ in z.g.</th>
<th>3. pers. sg. active</th>
<th>3. pers. sg. passive</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>yaj</td>
<td>yaj-a-ti</td>
<td>ij-y-a-tē</td>
<td>to sacrifice</td>
</tr>
<tr>
<td>vac</td>
<td>vak-ti</td>
<td>uc-y-a-tē</td>
<td>to speak</td>
</tr>
<tr>
<td>vad</td>
<td>vad-a-ti</td>
<td>ud-y-a-tē</td>
<td>to speak</td>
</tr>
<tr>
<td>vas</td>
<td>vas-a-ti</td>
<td>us-y-a-tē</td>
<td>to dwell</td>
</tr>
<tr>
<td>vah</td>
<td>vah-a-ti</td>
<td>uh-y-a-tē</td>
<td>to flow, to carry</td>
</tr>
</tbody>
</table>
C. Grammar: verbal system

In the following examples, SY_N is responsible for a in the zero grades:

<table>
<thead>
<tr>
<th>√ in f.g.</th>
<th>3. pers. sg. active</th>
<th>3. pers. sg. passive</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>granth</td>
<td>grath-nā-ti</td>
<td>grath-y-a-tê</td>
<td>to bind, to compile</td>
</tr>
<tr>
<td>bandh</td>
<td>badh-nā-ti</td>
<td>badh-y-a-tê</td>
<td>to bind, to compile</td>
</tr>
<tr>
<td>manth</td>
<td>math-nā-ti</td>
<td>math-y-a-tê</td>
<td>to stir, to shake</td>
</tr>
</tbody>
</table>

From subsection B.2.2 (pp. 20), we know the mr-iy-a-tê rule:

\[ CryV \rightarrow C\text{r}iyV \]

The following passive forms fall under this rule:

<table>
<thead>
<tr>
<th>√ in z.g.</th>
<th>3. pers. sg. active</th>
<th>3. pers. sg. passive</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>kr</td>
<td>kar-ō-ti</td>
<td>kri-y-a-tê</td>
<td>to make</td>
</tr>
<tr>
<td>bhṛ</td>
<td>bhar-a-ti</td>
<td>bhri-y-a-tê</td>
<td>to carry</td>
</tr>
<tr>
<td>mr</td>
<td>mri-ya-tê (1)</td>
<td>mri-y-a-tê (1)</td>
<td>to die</td>
</tr>
<tr>
<td>vr</td>
<td>vṛ-nā-ti</td>
<td>vri-y-a-tê</td>
<td>to choose</td>
</tr>
<tr>
<td>sr</td>
<td>sar-a-ti</td>
<td>sri-y-a-tê</td>
<td>to flow, to move</td>
</tr>
<tr>
<td>hr</td>
<td>har-a-ti</td>
<td>hri-y-a-tê</td>
<td>to take, to rob</td>
</tr>
</tbody>
</table>

1. Same forms in active and passive.

Laryngeal verbs can be understood in this manner. Consider, first, tūr-na versus tūr-ya-tê:

<table>
<thead>
<tr>
<th>√ in z.g.</th>
<th>PPP</th>
<th>3. pers. sg. passive</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>kr</td>
<td>kūr-na</td>
<td>kūr-y-a-tê</td>
<td>to scatter</td>
</tr>
<tr>
<td>jṛ</td>
<td>jūr-na</td>
<td>jūr-y-a-tê</td>
<td>to waste away</td>
</tr>
<tr>
<td>tṛ</td>
<td>tūr-na</td>
<td>tūr-y-a-tê</td>
<td>to pass</td>
</tr>
<tr>
<td>dṛ</td>
<td>dūr-na</td>
<td>dūr-y-a-tê</td>
<td>to tear, to pierce</td>
</tr>
<tr>
<td>pṛ</td>
<td>pūr-na</td>
<td>pūr-y-a-tê</td>
<td>to fill</td>
</tr>
</tbody>
</table>

Knowing the PPP is also very helpful for these laryngeal words:
C.4. Past participle and other zero-grade forms

<table>
<thead>
<tr>
<th>√ in z.g.</th>
<th>PPP</th>
<th>3. pers. sg. passive</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>khan</td>
<td>khā-ta</td>
<td>khā-y-a-tē</td>
<td>to dig</td>
</tr>
<tr>
<td>nī</td>
<td>nī-ta</td>
<td>nī-y-a-tē</td>
<td>to lead</td>
</tr>
<tr>
<td>pū</td>
<td>pū-ta</td>
<td>pū-y-a-tē</td>
<td>to purify</td>
</tr>
<tr>
<td>bhī</td>
<td>bhī-ta</td>
<td>bhī-y-a-tē</td>
<td>to be afraid</td>
</tr>
<tr>
<td>bhū</td>
<td>bhū-ta</td>
<td>bhū-y-a-tē</td>
<td>to be</td>
</tr>
</tbody>
</table>

In many of these examples, long ō is regularly employed as it is in

<table>
<thead>
<tr>
<th>√ in z.g.</th>
<th>PPP</th>
<th>3. pers. sg. passive</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>pā</td>
<td>pē-ta</td>
<td>pē-ya-tē</td>
<td>to drink</td>
</tr>
</tbody>
</table>

where long ō might be explainable by metathesis ∗pḥ3i → ∗pih3.

All these passive forms with long ō are responsible for those where long ō is not, etymologically, justified:

<table>
<thead>
<tr>
<th>√ in z.g.</th>
<th>PPP</th>
<th>3. pers. sg. passive</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>dā</td>
<td>dī-ta</td>
<td>dī-y-a-tē</td>
<td>to give</td>
</tr>
<tr>
<td>dhā</td>
<td>hi-ta</td>
<td>dhā-y-a-tē</td>
<td>to set, to place</td>
</tr>
<tr>
<td>sthā</td>
<td>sthi-ta</td>
<td>sthā-ya-tē</td>
<td>to stand</td>
</tr>
</tbody>
</table>

It seems that long ū that is expected in pūr-ya-tē, pū-ya-tē, or bhū-ya-tē above might also be responsible for the following forms by analogy:

<table>
<thead>
<tr>
<th>√ in z.g.</th>
<th>PPP</th>
<th>3. pers. sg. passive</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>stu</td>
<td>stu-ta</td>
<td>stu-y-a-tē</td>
<td>to praise</td>
</tr>
<tr>
<td>hā</td>
<td>hā-na/hā-ta</td>
<td>hā-y-a-tē</td>
<td>to abandon</td>
</tr>
<tr>
<td>hu</td>
<td>hu-ta</td>
<td>hu-y-a-tē</td>
<td>to sacrifice</td>
</tr>
</tbody>
</table>

Irregular full grades

In contrast to the regular zero grade, some passives use the full grade:

<table>
<thead>
<tr>
<th>√</th>
<th>PPP</th>
<th>3. pers. sg. passive</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>ghas</td>
<td>ghas-ta</td>
<td>ghōṣ-y-a-tē (1)</td>
<td>to proclaim</td>
</tr>
<tr>
<td>cur</td>
<td></td>
<td>cōr-y-a-tē (1)</td>
<td>to steal</td>
</tr>
<tr>
<td>path</td>
<td>path-i-ta (2)</td>
<td>path-y-a-tē (3)</td>
<td>to read</td>
</tr>
<tr>
<td>pat</td>
<td>pat-i-ta (2)</td>
<td>pat-y-a-tē (3)</td>
<td>to fall</td>
</tr>
</tbody>
</table>
C. Grammar: verbal system

<table>
<thead>
<tr>
<th>tyaj (f.g.)</th>
<th>tyak-ta</th>
<th>tyaj-y-a-tê (3)</th>
<th>to abandon</th>
</tr>
</thead>
<tbody>
<tr>
<td>labh (f.g.)</td>
<td>lab-dha (f.g.!)</td>
<td>labh-y-a-tê (3)</td>
<td>to obtain</td>
</tr>
<tr>
<td>sad (f.g.)</td>
<td>san-na</td>
<td>sad-y-a-tê (3)</td>
<td>to sit</td>
</tr>
<tr>
<td>smy</td>
<td>smy-ta</td>
<td>smar-y-a-tê (4)</td>
<td>to remember</td>
</tr>
</tbody>
</table>

1. Passive forms for (3) could have used the zero grade (n.at. ghus-y-a-tê) without any problem.

2. Some verbs like pat use i-ta as the PPP marker without etymological justification.

3. None of the root-initial or root-final consonants can become syllabic. (Note, however, that l might become syllabic. Levelling might have rectified the outcome n.at. labh-y-a-tê.) Therefore, the full grade cannot be avoided.

4. At a first glance, u.at. smr-ya-tê seems possible. However, it would violate the mr-iy-a-tê rule (pp. 20):

\[
    \text{Cry}V \rightarrow \text{Cry}yV
\]

which would then lead to u.at. and difficult to recognize smr-iya-tê → sar-iya-tê.

Full grade are consistently present in nasal roots:

<table>
<thead>
<tr>
<th>(\sqrt{\text{V}})</th>
<th>PPP</th>
<th>3. pers. sg. passive</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>gam</td>
<td>ga-ta</td>
<td>gam-y-a-tê</td>
<td>to go</td>
</tr>
<tr>
<td>tan</td>
<td>ta-ta</td>
<td>tan-y-a-tê</td>
<td>to stretch</td>
</tr>
<tr>
<td>nam</td>
<td>nata</td>
<td>nam-y-a-tê</td>
<td>to salute</td>
</tr>
<tr>
<td>man</td>
<td>mata</td>
<td>man-y-a-tê</td>
<td>to think</td>
</tr>
<tr>
<td>yam</td>
<td>yata</td>
<td>yam-y-a-tê</td>
<td>to restrain</td>
</tr>
<tr>
<td>ram</td>
<td>rata</td>
<td>ram-y-a-tê</td>
<td>to enjoy</td>
</tr>
<tr>
<td>han</td>
<td>hata</td>
<td>han-y-a-tê</td>
<td>to hit</td>
</tr>
</tbody>
</table>

There are very good reasons for the irregular full grade here. For example, the regularly built passive form from nam is not nam-ya-tê but na-ya-tê ← *n\(\circ\)m- (where a derives from syllabic \(\circ\). And na-ya-tê might easily be understood nay-a-tê from n\(\circ\) (“to lead”).

C.4.8. Desideratives

Reduplication

Desideratives and frequentatives (next subsection) use reduplication. Additionally, reduplications are found in three other grammatical instances as well:

126
C.4. Past participle and other zero-grade forms

◊ The reader is invited to compare the verbs of the third class (pp. 86) which also function with reduplication.

◊ Sanskrit perfect forms are mostly formed in a reduplicative fashion (see pp. C.7, pp. 188).

◊ One of the aorist formations is by way of reduplication (see pp. C.8, pp. 196).

◊ Frequentative verbs also use reduplication (see pp. 138).

**Simple examples from the zero grade or, occasionally, the full grade**

Roughly speaking, desideratives are built according to this rule:

\[
\text{ie. root } \rightarrow \text{ desiderative} \\
C_1 F g C_2 \rightarrow C_1 Z g C_1 Z g C_2 - s -
\]

Consider the following quite transparent example *yuj* with

◊ *u*-reduplication,

◊ zero grade, and

◊ *s* marker:

\[
\text{*yu-} yug-s- \\
\rightarrow \text{yu-yuk-s-} \quad (\text{BA}) \\
\rightarrow \text{yu-yuk-s-} \quad (\text{RUKI}) \rightarrow \text{yu-yuk-s-}\text{-ti} \quad \text{he wishes to yoke}
\]

Apart from the verbal desiderative, a corresponding adjective and a corresponding noun are (often) formed. For example, the root *yudh* ("to fight") yields the desideratives

\[
\text{*yu-yudh-s-} \\
\rightarrow \text{yu-yuth-s-} \quad (\text{BA})
\]

\[
\rightarrow \text{yu-yut-s-} \quad (\text{ASh}, \text{but s cannot be aspirated}) \rightarrow \text{yu-yut-s-}\text{-ti} \quad \text{he wishes to fight} \\
\rightarrow \text{yu-yut-s-}\text{-u} \quad \text{combative} \\
\rightarrow \text{yu-yut-s-}\text{-ā} \quad \text{desire to fight}
\]

Instead of the reduplication with *u*, we find reduplication with *i* which is more common. This is the rule:

Desiderative reduplication with *u* if *u* is the root vowel

with *i* otherwise

In these examples reduplication means repeating the root-initial consonant but not the root-final one. Similarly, we have
C. Grammar: verbal system

<table>
<thead>
<tr>
<th>√</th>
<th>3. pers. sg.</th>
<th>adjective</th>
<th>noun</th>
</tr>
</thead>
<tbody>
<tr>
<td>jñā</td>
<td>ji-jñā-s-a-tē</td>
<td>ji-jñā-s-u</td>
<td>ji-jñā-s-ā</td>
</tr>
<tr>
<td></td>
<td>he wants to know</td>
<td></td>
<td></td>
</tr>
<tr>
<td>tyaj (2)</td>
<td>ti-tyak-ṣ-a-ti (2)</td>
<td>ti-tyak-ṣ-u (5)</td>
<td>enduring patiently (5)</td>
</tr>
<tr>
<td></td>
<td>he wants to abandon</td>
<td></td>
<td></td>
</tr>
<tr>
<td>pā</td>
<td>pī-pā-s-a-tē</td>
<td>pī-pā-s-u</td>
<td>pī-pā-s-ā</td>
</tr>
<tr>
<td></td>
<td>he wants to drink</td>
<td></td>
<td></td>
</tr>
<tr>
<td>man</td>
<td>mū-māṃ-s-a-tē (1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>he examines</td>
<td></td>
<td></td>
</tr>
<tr>
<td>mī ś (“to mix”)</td>
<td></td>
<td>mī-mik-ṣu</td>
<td>desirous for mixing</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>muc</td>
<td>mū-muk-ṣ-a-ti</td>
<td>mū-muk-ṣ-u</td>
<td>mū-muk-ṣ-ā</td>
</tr>
<tr>
<td></td>
<td>he wants to liberate</td>
<td></td>
<td>desire for liberation</td>
</tr>
<tr>
<td>vac (2)</td>
<td>vi-vak-ṣ-a-ti (2)</td>
<td>vi-vak-ṣ-a (2)</td>
<td>vi-vak-ṣ-ā (2)</td>
</tr>
<tr>
<td></td>
<td>he wants to say</td>
<td></td>
<td>desire to speak</td>
</tr>
<tr>
<td>vṛt</td>
<td>vi-vṛt-s-a-ti (3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>he wishes to turn</td>
<td></td>
<td></td>
</tr>
<tr>
<td>vṛdh</td>
<td>vi-vṛt-s-a-ti (3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>he wants to grow</td>
<td></td>
<td></td>
</tr>
<tr>
<td>var dhay (6)</td>
<td>vi-var dhay-ṣ-a-ti (4)</td>
<td>vi-var dhay-ṣ-u (4)</td>
<td>wishing to augment</td>
</tr>
<tr>
<td></td>
<td>he wants to grow</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. **mi-māṃ-s-a-tē** seems irregular. Theoretically, the zero-grade desiderative of **man** is u.at. *mi-ma-s-a-tē* where syllabic  was would have turned into  . See p. 134. For  before  , compare the future **māṃ-sy-a-ti**.

2. **vi-vak-ṣ-a-ti** is irregular in that it builds on the full grade. Theoretically, the zero-grade desiderative of **vac** is u.at. *vy-ak-ṣ-a-ti*. In the syllabic conflict between  and  the latter would win by **SY_Conf**.

3. These desideratives from roots **vṛt** and **vṛdh** coincide (backward assimilation,  not aspiratable).

4. In order to avoid difficult forms, quasi-thematic **i** is sometimes introduced.
5. Semantically difficult
6. Causative of vrđh

**Applying Grassmann’s deaspiration**

We look at a few desiderative examples in some detail. The following examples involve Grassmann’s deaspiration. From ie. *bheid* one obtains

\[
\begin{align*}
*bhi\text{-}bh\dot{\text{i}}d-s\rightarrow bhi\text{-}bh\dot{\text{i}}d-s & \quad (DA) \\
& \rightarrow bh\dot{\text{i}}\text{-}bh\dot{\text{i}}t-s & \quad (BA) \\
& \rightarrow bh\dot{\text{i}}\text{-}bh\dot{\text{i}}t-s\text{-}a-ti & \quad \text{he wishes to split} \\
& & \rightarrow bh\dot{\text{i}}\text{-}bh\dot{\text{i}}t-s-u & \quad \text{wishing to split} \\
& & \rightarrow bh\dot{\text{i}}\text{-}bh\dot{\text{i}}t-s\text{-}\tilde{a} & \quad \text{desire to split}
\end{align*}
\]

from ie. *bheug:

\[
\begin{align*}
*bhu\text{-}bhug-s\rightarrow bu\text{-}bhug-s & \quad (DA) \\
& \rightarrow bu\text{-}bhuk-s & \quad (BA) \\
& \rightarrow bu\text{-}bhuk-s\text{-}t & \quad \text{he wishes to eat} \\
& & \rightarrow bu\text{-}bhuk-s-u & \quad \text{hungry} \\
& & \rightarrow bu\text{-}bhuk-s\text{-}\tilde{a} & \quad \text{hunger}
\end{align*}
\]

and from ie. *bheuH:

\[
\begin{align*}
*bhu\text{-}bh\dot{u}H-s\rightarrow bu\text{-}bh\dot{u}H-s & \quad (DA) \\
& \rightarrow bu\text{-}bh\dot{u}\text{-}kh-s & \quad (BA) \\
& \rightarrow bu\text{-}bh\dot{u}\text{-}kh-s\text{-}t & \quad \text{he wishes to be} \\
& & \rightarrow bu\text{-}bh\dot{u}\text{-}kh-s-u & \quad \text{wishing to be} \\
& & \rightarrow bu\text{-}bh\dot{u}\text{-}kh-s\text{-}\tilde{a} & \quad \text{desire of being}
\end{align*}
\]

We now consider a few example that involve root-final velars and palatals, such as ie. *gheuğ:

\[
\begin{align*}
*ghu\text{-}ghu\dot{u}g\text{-}h-s\rightarrow gu\text{-}ghu\dot{u}g\text{-}h-s & \quad (DA) \\
& \rightarrow gu\text{-}ghuk-s & \quad (BA) \\
& \rightarrow gu\text{-}ghuk-s\text{-}t & \quad \text{he wishes to hide} \\
& & \rightarrow gu\text{-}ghuk-s-u & \quad \text{wishing to hide} \\
& & \rightarrow gu\text{-}ghuk-s\text{-}\tilde{a} & \quad \text{desire of hiding}
\end{align*}
\]

duh (“to milk”) ← ie. *dheugh:
C. Grammar: verbal system

\[ *\text{dhu-dhugh-s-} \]
\[ \rightarrow \text{du-dhugh-s-} \ (DA) \]
\[ \rightarrow \text{du-dhuk-s-} \ (\text{ASH, BA}) \]
\[ \rightarrow \text{du-dhuk-s-} \ (\text{RUKI}) \]
\[ \rightarrow \text{du-dhuk-s-} \ (\text{RUKI}) \]
\[ \rightarrow \text{du-dhuk-s-} \ (\text{RUKI}) \]
\[ \rightarrow \text{du-dhuk-s-} . -a-ti \ \text{he wishes to milk} \]
\[ \rightarrow \text{du-dhuk-s-} . u \ \text{wishing to milk} \]
\[ \rightarrow \text{du-dhuk-s-} . -a \ \text{desire of milking} \]

and \( \text{lih} \) (“to milk”) \( \rightarrow \) ie. \( *\text{leigh}: \)

\[ *\text{li-leigh-s-} \]
\[ \rightarrow \text{li-lik-s-} \ (\text{ASH, BA}) \]
\[ \rightarrow \text{li-lik-s-} \ (\text{RUKI}) \]
\[ \rightarrow \text{li-lik-s-} \ (\text{RUKI}) \]
\[ \rightarrow \text{li-lik-s-} . -a-ti \ \text{he wishes to lick} \]

From ie. \( *\text{ghrebh} \rightarrow \text{oi. ghrah} \ (\text{Lar_CH}) \) one obtains the desiderative \( \text{ji-ghr} . k-s . -u \) which is a bit more complicated because the root-final is labial:

\[ *\text{ghi-ghr} . h-s- \]
\[ \rightarrow \text{gi-ghr} . h-s- \ (\text{DA}) \]
\[ \rightarrow \text{ji-ghr} . h-s- \ (\text{SPal}) \]
\[ \rightarrow \text{ji-ghr} . h-s- \ (\text{RUKI}) \]
\[ \rightarrow \text{ji-ghr} . k-s . -a-ti \ \text{he wishes to grab} \]
\[ \rightarrow \text{ji-ghr} . k-s . -u \ \text{wishing to rob} \]
\[ \rightarrow \text{ji-ghr} . k-s . -a \ \text{desire to rob} \]

Later desideratives may not contain the root-initial aspiration, undoubtedly by levelling. An example is \( \text{du-duk-s-} \) in contrast to \( \text{du-dhuk-s-} \) from the root \( \text{dnh} \).

Merging of the reduplication syllable with the zero-grade root

In contrast to these examples, despiration does not take place for \( \text{bhaj} \) (“to allot, to divide”) \( \leftarrow \) ie. \( *\text{bheq} \), gain with zero grade:

\[ *\text{bhi-bhug-s-} \]
\[ \rightarrow \text{bhi-hij-s-} \ (\text{SH}, \text{but s cannot be aspirated}) \]
\[ \rightarrow \text{bhi-pk-s-} \ (\text{BA}) \]
\[ \rightarrow \text{bhi-k-s-} \ (\text{CCL}) \]
\[ \rightarrow \text{bhi-k-s-} \ (\text{RUKI}) \]
\[ \rightarrow \text{bhi-k-s-} \ (\text{RUKI}) \]
\[ \rightarrow \text{bhi-k-s-} . -a-ti \ \text{he wishes to share} \]
\[ \rightarrow \text{bhi-k-s-} . u \ \text{beggar} \]
\[ \rightarrow \text{bhi-k-s-} . -a \ \text{the act of begging} \]

Here are quite a few other examples (and see \( \text{him-s-} \) below) where the reduplication syllable merges with the z.g. root. Consider \( \text{\text{\=s}ak} \) (“to be able”) \( \leftarrow \) ie. \( *\text{kek}: \)
C.4. Past participle and other zero-grade forms

\[ \overset{*}{\text{š}}\text{i-šk-s- (PPal)} \]
\[ \rightarrow \overset{*}{\text{š}}\text{-k-s- (CCI)} \]
\[ \rightarrow \overset{*}{\text{š}}\text{-k-s- (RUKI)} \rightarrow \overset{*}{\text{š}}\text{k-s-a-ti} \text{ he learns} \]
\[ \rightarrow \overset{*}{\text{š}}\text{k-s-u} \text{ desirous of learning} \]
\[ \rightarrow \overset{*}{\text{š}}\text{k-s-ā} \text{ science} \]

\[ \overset{\text{āp}}{\text{“to obtain”}} \leftarrow \text{ ie. } \overset{\text{h}}{\text{1ep}}: \]
\[ \overset{\text{h}}{\text{1}}\overset{\text{i-}}{\text{p-s-}} \]
\[ \rightarrow \overset{\text{ī}}{\text{p-s- (ie. } iH \rightarrow \overset{\text{o}}{\text{i. i)}} \rightarrow \overset{\text{ī}}{\text{p-s-a-ti} \text{ he wishes to obtain}} \]
\[ \rightarrow \overset{\text{ī}}{\text{p-s-u} \text{ desirous of}} \]
\[ \rightarrow \overset{\text{ī}}{\text{p-s-ā} \text{ desire to obtain}} \]

\text{ie. } \overset{\text{h}}{\text{3ek}}^{\text{w}}:\]
\[ \overset{\text{h}}{\text{3}}\overset{\text{i-}}{\text{h}_{\text{3}}\text{k^{w}}-s-} \]
\[ \rightarrow \overset{\text{i}}{\text{k^{w}-s- (ie. } iH \rightarrow \overset{\text{o}}{\text{i. i)}} \]
\[ \rightarrow \overset{\text{i}}{\text{k-s- (see pp. 35)}} \]
\[ \rightarrow \overset{\text{i}}{\text{k-s- (RUKI)}} \rightarrow \overset{\text{i}}{\text{k-s-a-ti} \text{ he watches over}} \]
\[ \rightarrow \overset{\text{i}}{\text{k-s-ā} \text{ sight}} \]

\text{ie. } \overset{\text{h}}{\text{2nēk}}:\]
\[ \overset{\text{h}}{\text{2}}\overset{\text{i-}}{\text{h}_{\text{2nēk}}-s-} \]
\[ \rightarrow \overset{\text{i}}{\text{ak-s- (Lar}_\text{ _V, SY}_\text{ _N, SY}_\text{ _Conf, PPal)}} \]
\[ \rightarrow \overset{\text{i}}{\text{yak-s- (V + hV)}} \]
\[ \rightarrow \overset{\text{i}}{\text{yak-s- (RUKI)}} \rightarrow \text{ved. } \overset{\text{i}}{\text{yak-s-a-ti} \text{ he wishes to reach}} \]

\text{ie. } \overset{\text{h}}{\text{2enh}}_{\text{1}}:\]
\[ \overset{\text{h}}{\text{2i-}}\overset{\text{h}}{\text{2nh}_{\text{1}}-s-} \]
\[ \rightarrow \overset{\text{i}}{\text{nē-s- (twice Lar}_\text{ _V)}} \]
\[ \rightarrow \overset{\text{i}}{\text{nē-s- (RUKI)}} \]
\[ \rightarrow \overset{\text{anini-s- (by levelling)}} \rightarrow \overset{\text{anini-s-a-ti} \text{ he wishes to breathe}} \]

\text{ie. } \overset{\text{deh}}{\text{3}}:\]
\[ \overset{\text{d}}{\text{h}}\overset{\text{3i-}}{\text{d}_{\text{3}}-s-} \]
\[ \rightarrow \overset{\text{di-d-s-}} \]
\[ \rightarrow \overset{\text{di-d-s- (BA)}} \rightarrow \overset{\text{dīt-s-a-ti} \text{ he wishes to give}} \]
\[ \rightarrow \overset{\text{dīt-s-u} \text{ desirous of giving}} \]
\[ \rightarrow \overset{\text{dīt-s-ā} \text{ desire to give}} \]

131
C. Grammar: verbal system

ie. *dheh₁:

\[ *dheh₁-i-dh₁-s- \rightarrow dh₁-dh-s- \rightarrow dh₁-th-s- \quad (BA) \rightarrow dh₁-t-s- \quad (ASh) \rightarrow dh₁-t-s-a-ti \quad \text{he wishes to set} \]

and ie. *dhebh:

\[ *dhebh-s- \rightarrow dhi-dhebh-s- \quad (DA) \rightarrow dhi-bh-s- \quad (CCl) \rightarrow dhi-ph-s- \quad (BA) \rightarrow dhi-p-s- \quad (ASh) \rightarrow dhip-s-a-ti \quad \text{he wishes to injure} \]

(besides levelled dipsati)

And finally ie. *deiṅ' :

\[ *diṅ'-s- \rightarrow dīṅ'-s- \quad (CCl) \rightarrow dīṅ'-s-a-ti \quad \text{he consecrates} \rightarrow dīṅ'-s-a \quad \text{consecration} \]

where compensatory lengthening occurs in contrast to bhik-s-a-ti (p. 130).

and ie. *ped :

\[ *pi-ped-s- \rightarrow pi-ped-s- \quad (CCl) \rightarrow pi-t-s- \quad (BA) \rightarrow pit-s-a-ti \quad \text{he wishes to go} \rightarrow pit-s-u \quad \text{desirous of going} \rightarrow pit-s-a \quad \text{desire to go} \]

Secondary palatalization

Some desideratives are instances of secondary palatalization:

<table>
<thead>
<tr>
<th>/</th>
<th>3. pers. sg.</th>
<th>adjective</th>
<th>noun</th>
</tr>
</thead>
<tbody>
<tr>
<td>kṛ</td>
<td>ci-kṛ-ṣ-a-ti (1)</td>
<td>ci-kṛ-ṣ-a (1)</td>
<td>ci-kṛ-ṣ-a (1)</td>
</tr>
<tr>
<td></td>
<td>he wants to make</td>
<td>intending to make</td>
<td>desire to make</td>
</tr>
<tr>
<td>gam</td>
<td>ji-gam-i-ṣ-a-ti (2, 3)</td>
<td>ji-gam-i-ṣ-a (2, 3)</td>
<td>ji-gam-i-ṣ-a (2, 3)</td>
</tr>
<tr>
<td></td>
<td>he wants to go</td>
<td>inteninng to go</td>
<td>inteninng to go</td>
</tr>
<tr>
<td>granth</td>
<td>ji-granth-i-ṣ-a-ti (2, 3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>he wants to string together</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ghas</td>
<td>ji-ghat-s-a-ti (2, 4)</td>
<td>ji-ghat-s-a (2, 4)</td>
<td>ji-ghat-s-a (2, 4)</td>
</tr>
<tr>
<td></td>
<td>he wants to consume</td>
<td>inteninng to consume</td>
<td>desire to consume</td>
</tr>
</tbody>
</table>
C.4. Past participle and other zero-grade forms

1. *ci-kīr-š-a-ti* etc. show surprising lengthening (perhaps due to analogy, see immediately below for *ti-tūr-š-u*).
2. *ji-ghat-s-a-ti* and others show full grade of the root.
3. *ji-gam-i-š-a-ti* etc. use “thematic” *i* without etymological justification.
4. SIB

Laryngeal roots ending on *rH*

Roots with long syllabic *r* ← *ie. rH* form the desiderative from the full grade or from the zero grade.

<table>
<thead>
<tr>
<th>√ CerH</th>
<th>3. pers. sg.</th>
<th>adjective</th>
</tr>
</thead>
<tbody>
<tr>
<td>k̚r̚</td>
<td><em>ci-kar-i-š-a-ti</em> (1, 2) he wants to throw out</td>
<td><em>ci-kar-i-š-u</em> (1, 2) desirous to throw out</td>
</tr>
<tr>
<td>t̚r̚</td>
<td><em>ti-tūr-š-a-ti</em> ← <em>ti-tr°H-s</em> (3) he wants to cross</td>
<td><em>ti-tūr-š-u</em> (3) desirous of crossing</td>
</tr>
<tr>
<td>d̚r̚</td>
<td><em>di-dūr-š-a-ti</em> (3) he wants to tear</td>
<td><em>di-dūr-š-u</em> (3) desirous of tearing</td>
</tr>
<tr>
<td>p̚r̚</td>
<td><em>pi-par-i-š-a-ti</em> (2) he wants to spend completely (time)</td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>pu-pūr-š-a-ti</em> ← <em>pu-pr°H-s</em> (4) he wants to spend completely (time)</td>
<td></td>
</tr>
</tbody>
</table>

1. SPa1
2. As *ji-gam-i-š-a-ti* above, full grade plus “thematic” *i*.
3. Lar_SY after non-labial consonant
4. Lar_SY after labial consonant

Laryngeal suffix

It seems that instead of the desiderative suffix *s*, alternatively a desiderative suffix *Hs* was employed:

133
C. Grammar: verbal system

<table>
<thead>
<tr>
<th>√ in z.g.</th>
<th>3. pers. sg.</th>
<th>adjective</th>
<th>noun</th>
</tr>
</thead>
<tbody>
<tr>
<td>ji</td>
<td>ji-gī-ṣ-a-ti (1)</td>
<td>ji-gī-ṣ-u (1)</td>
<td>ji-gī-ṣ-ā (1)</td>
</tr>
<tr>
<td></td>
<td>he wants to conquer</td>
<td>imperialist</td>
<td>desire to conquer</td>
</tr>
<tr>
<td>mṛ</td>
<td>mu-mūr-ṣ-a-ti (2)</td>
<td>mu-mūr-ṣ-u (2)</td>
<td>mu-mūr-ṣ-ā (2)</td>
</tr>
<tr>
<td></td>
<td>he wants to die</td>
<td>wanting to die</td>
<td>desire to die</td>
</tr>
<tr>
<td>śru</td>
<td>śu-śṛū-ṣ-a-tē (1)</td>
<td>śu-śṛū-ṣ-u (1)</td>
<td>śu-śṛū-ṣ-ā (1)</td>
</tr>
<tr>
<td></td>
<td>he wants to hear</td>
<td>obedient</td>
<td>obedience</td>
</tr>
<tr>
<td>sr</td>
<td>si-śīr-ṣ-a-ti (3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>he wants to run</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. Long ī in ji-gī-ṣ-a-ti may be explainable by a suffix Hs rather than just s. Similarly, long ā in śu-śṛū-ṣ-a-tē may also be due to suffix Hs.

2. The same laryngeal is responsible for mu-mūr-ṣ-a-ti. Similar to pu-pūr-ṣ-a-ti above, the labial (!) m is responsible for producing mūr in the main syllable and hence mu as the reduplicative syllable.

3. Similar to ti-tūr-ṣ-a-ti above, one obtains īr-ṣ from rHs, but note
   a) ie. root *teṛH and desiderative *ti-traHs- → ti-tūr-ṣ- versus
   b) ie. root *ser and desiderative *si-sraHs- → si-śīr-ṣ-

Perhaps, this explanation overuses laryngeals. Analogy may be an alternative explanation.

There exist several desideratives for man (“to think”) ← ie. *meṇ with desiderative suffix s, a few of which have been mentioned above. Employing the desiderative suffix Hs one may, with too many tricks, arrive at the name for one of the six philosophical systems:

*mi-mṇ₁°-Hs-
→ *mi-mṇ₁° H-s-
→ mi-mā-s- (laryngeal after syllabic ī) 
→ mi-māṃ-s- (lev. from maṃ-sy-a-ti?)
→ mi-māṃ-s- (long ī for unclear reasons) → mā-māṃ-s-a-tē he doubts
   → mā-māṃ-s-ā investigation

There exist two different desideratives for han (“to kill”) ← ie. *g when, depending on the suffix. On the one hand, we have the Hs desiderative:
C.4. Past participle and other zero-grade forms

\[ *g^w hi-g^w h\textcircled{\text{}}-Hs. \]
\[ \rightarrow g^w hi-g^w h\textcircled{\text{}}-s. \text{ (laryngeal after syllabic } n) \]
\[ \rightarrow g^w i-g^w h\textcircled{\text{}}-s. \text{ (DA)} \]
\[ \rightarrow ji gh\textcircled{\text{}}-s. \text{ (SPal)} \]
\[ \rightarrow ji gh\textcircled{\text{}}m-s. \text{ (lev. from ham-sy-a-ti?)} \]
\[ \rightarrow ji gh\textcircled{\text{}}m-s-a-ti \text{ he wishes to kill} \]
\[ \rightarrow ji gh\textcircled{\text{}}m-s-u \text{ revengeful} \]
\[ \rightarrow ji gh\textcircled{\text{}}m-s\text{'a} \text{ revenge} \]

On the other hand, the \( s \) suffix yields:

\[ *g^w hi-g^w h\textcircled{\text{}}-s. \]
\[ \rightarrow hi g^w h\textcircled{\text{}}-s. \text{ (SPal)} \]
\[ \rightarrow hi n-s. \text{ (CCI)} \]
\[ \rightarrow hi m-s. \]
\[ \rightarrow him-s-a-ti \text{ he injures} \]
\[ \rightarrow him-s\text{'a} \text{ injury} \]

Apparently, cluster simplification occurred before \( n \) between consonants turns into \( \textcircled{\text{}} \) and then into \( a \) (SY_\text{-}N).

C.4.9. Compound-final “zero grades”

At the end of compounds, we often find forms like \( dvi-ja \) that look like zero grades. Mostly, they are formed with short \( a \) (rarely than short \( i \) or \( u \)) which cannot be explained by the zero grade. Let us call these forms ultra-zero grades. A few are best understood as zero grades:

◊ \( \text{gam, gacch-a-ti ("to go")} \) with PPP \( ga-ta \)
  * \( \text{kha-ga ("moving in the ether \( \rightarrow \) bird/sun")} \)
  * \( \text{a-ga ("not going \( \rightarrow \) tree")} \)

◊ \( \text{dh\text{’}a, dadh\text{’}ati ("to set") with PPP \( *dhh_1\text{-}to \rightarrow hi-ta \)} \)
  * \( \text{ab-dhis m. ("holding water \( \rightarrow \) ocean") } \leftarrow \text{ap ("water") with apparent backward assimilation} \)

◊ \( \text{n\text’t, nagati ("to lead") with PPP \( *niH\text{-}to \rightarrow n\text’t-a \)} \)
  * \( \text{pat-n\text’t f. ("lead by husband \( \rightarrow \) wife")} \)
  * \( \text{sena-n\text’t m. ("army leader, general")} \)
  * \( \text{gr\text’tama-n\text’t m. ("village leader")} \)
  * \( \text{agra-n\text’t m. ("leader")} \)

◊ \( \text{vid, v\text’eti ("to know") with PPP vit-ta, vid-i-ta} \)
  * \( \text{veda-vit ("Veda knowing")} \)

135
C. Grammar: verbal system

- ātma-vit (“knower of the self”)

Two odd examples add t (perhaps in analogy to vēda-vit):

- ji, jayati (“to lead”) with PPP ji-ta
  - indrā-jit m. (“conqueror of Indra”)
  - apsu-jit (“conquering the waters”), with loc. pl. of ap (“water”) instead of stem form (analogy with apsu-ja where the loc. makes sense)

- bhṛ, bharati (“to bear”) with PPP bhṛ-ta
  - sastra-bhṛt (“weapon bearer → warrior”)

The other examples presented below do not use the zero grade, but just short a:

- chad, chadati (“to cover”) with PPP *channa
  - a-cha (“uncovered”) (gemination by some sandhi rule)

- jan, jāyatē (“to beget, to be born”) with PPP *jñ- H-to → jā-ta
  - dvi-ja (“twice-born”) with dvi-ja m. (“brahmin, bird, tooth”)
  - ātma-ja (“self-produced”) with ātma-ja m. (“son”) and ātma-jā f. (“daughter”)
  - pra-ja (“bringing forth”) with pra-jā f. (“progeny (!), offspring”)
  - apsu-ja (“born in the waters”) with loc. pl. of ap (“water”) instead of stem form

- jñā, jānati (“to know”) with PPP *jñ-H3-to → jñā-ta
  - sarva-jña (“all-knowing”)

- dā, dadāti (“to give”) with PPP *dh3-to → di-ta besides dat-ta
  - vara-dā (“giving boons”) with vara-das m. (“Brahmā”)
  - ab-da m. (“water giver → cloud”, “when clouds reappear → year”) ← ap (“water”) with apparent backward assimilation

- pā, pibati, 1. class (“to drink”) with PPP *ph3i-to → *pib3-to → pī-ta
  - sōma-pa (“drinking Soma”)
  - pāda-pa (“foot-drinker → tree”)

- pā, pā-ti (“to protect”) with PPP pā-na
  - pra-jā-pa (“protecting the subjects”)
  - ny-pa (“man protecting, king”)

- sthā, ti-th-a-ti (“to stand”) with PPP *sth2-to → sthī-ta
  - gṛha-stha (“householder”)
  - sattva-stha (“established in sattva, firm in purity”)

36
C.5. Lengthened-grade forms and forms using several grades

-  *granta-stha* (“knowledge present in a book”)
-  *kantha-stha* m. (“knowledge present in the throat” → “knowledge known by heart”)

One might try to explain

-  *pra-bhu* m. (“lord, master”) ← ie. root *bhuvH*, but here just *bhu*
-  *a-bhva* (“not being (good) → monstrous, powerful”) ← ie. root *bhuvH*, but here just *bhu*
-  *dvi-ja* (ie. root *jenH*) ← ie. root *janH*, but here just *jə*

by positing the zero grade without the laryngeal (i.e., just the first syllable-closing consonant remains).

C.5. Lengthened-grade forms and forms using several grades

C.5.1. Agent nouns, instrument nouns, and action nouns

In section C.3.5, we have seen derivatives on a like

-  *jay-a* (“victory”) ← *ji* (“to conquer”)
-  *bhav-a* (“being, state”) ← *bhū* (“to be”) ← ie. *bhuH*

Building on the same verbal roots, we also find lengthened-grade words:

-  *jājā* f. (“she who has been captured, the wife”)
-  *bhāv-a* (“being, state”)

Sometimes, the oi. root is not in zero grade. Then, the lengthened grade becomes more likely, as in

-  *anu-tāpa* m. (“remorse”) ← *tāp, tapati* (“to heat”)
-  *vi-sāda* m. (“sorrow”) ← *sād, sādati* (“to sit”)
-  *bhāga* m. (“part”) ← *bhaj, bhajati* (“to divide, to allot”)

C.5.2. Derivatives

Derivative adjectives regularly use the lengthened grade. Examples abound:

-  *mānas-a* (“mental”) ← *manas, n. (“mind”) ← man (“to think”)
-  *tāpas-a* (“ascetic”) ← *tapas, n (“asceticism”) ← tap (“to burn”)
-  *pāca-ka* (“cook”) ← *pāc (“to cook”)

137
C. Grammar: verbal system

C.5.3. Frequentatives

Two patterns and six constructions

Frequentative verbs work with reduplication similar to desideratives. However, the reduplicated syllable is “emphasized” more strongly. Frequentatives mostly follow one of two patterns:

<table>
<thead>
<tr>
<th>marker</th>
<th>frequentative</th>
</tr>
</thead>
<tbody>
<tr>
<td>ya marker</td>
<td>reduplication syllable + root + ya + ātm.</td>
</tr>
<tr>
<td>ī marker</td>
<td>reduplication syllable + root + ī + par.</td>
</tr>
</tbody>
</table>

Observe:

◇ Any given verb typically exhibits both patterns.
◇ With these two patterns, frequentatives usually follow either of six (or so) different constructions.

Without any of the two markers, adjectives are occasionally formed.

First construction

For each of the six constructions, the general construction method is described together with a few examples. The first construction involves half vowels:

<table>
<thead>
<tr>
<th>1. construction</th>
<th>ie. root</th>
<th>→</th>
<th>frequentative</th>
</tr>
</thead>
<tbody>
<tr>
<td>ya marker</td>
<td>C₁FgC₂ → C₁Fg-C₁ZgC₂-ya + ātm.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ī marker</td>
<td>C₁FgC₂ → C₁Fg-C₁ZgC₂-ī + par.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

example

<table>
<thead>
<tr>
<th>marker</th>
<th>reud</th>
<th>→</th>
<th>rō-rud-ya-tē</th>
</tr>
</thead>
<tbody>
<tr>
<td>ya marker</td>
<td>read</td>
<td>→</td>
<td>rō-rud-ya-tē</td>
</tr>
<tr>
<td>ī marker</td>
<td>read</td>
<td>→</td>
<td>rō-rud-ī-ti</td>
</tr>
</tbody>
</table>

For example, with expected Grassmann deaspiration,

<table>
<thead>
<tr>
<th></th>
<th>3. sg. ātm. (ya suffix)</th>
<th>3. sg. par. (ī suffix)</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>budh</td>
<td>bō-budh-ya-tē</td>
<td>bē-budh-ī-ti</td>
<td>to know</td>
</tr>
<tr>
<td>bhid</td>
<td>bē-bhid-ya-tē</td>
<td>bē-bhid-ī-ti</td>
<td>to split</td>
</tr>
<tr>
<td>lih</td>
<td>lē-lih-ya-tē</td>
<td>lē-lih-ī-ti</td>
<td>to lick</td>
</tr>
<tr>
<td>śćuc</td>
<td>śō-śuc-ya-tē</td>
<td>śō-śuc-ī-ti</td>
<td>to grieve</td>
</tr>
<tr>
<td>śubh</td>
<td>śō-śubh-ya-tē</td>
<td>śō-śubh-ī-ti</td>
<td>to shine</td>
</tr>
<tr>
<td>svap (f.g.)</td>
<td>sō-śvap-ya-tē</td>
<td>see second construction</td>
<td>to sleep</td>
</tr>
</tbody>
</table>
C.5. Lengthened-grade forms and forms using several grades

1. **car** (“to go, to stir”) ← ie. *kʷel* has the frequentive adjective *ca-kr-a* (“unsteady” → “wheel”). Secondary palatalization is seen in the root and in the reduplication syllable, but not, any more, before *r*.

Second construction

The first construction uses the sequence *Fg-Zg*, the second construction employs higher grades, i.e., *Lg-Fg*:

- **Second construction**

<table>
<thead>
<tr>
<th>2. construction</th>
<th>ie. root</th>
<th>frequentative</th>
</tr>
</thead>
<tbody>
<tr>
<td>ya marker</td>
<td>$C_1 Fg C_2$</td>
<td>$C_1 Lg - C_1 Fg C_2\cdot ya + \text{ atm.}$</td>
</tr>
<tr>
<td>i marker</td>
<td>$C_1 Fg C_2$</td>
<td>$C_1 Lg - C_1 Fg C_2\cdot i + \text{ par.}$</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>example</th>
<th>ie. root</th>
<th>frequentative</th>
</tr>
</thead>
<tbody>
<tr>
<td>ya marker</td>
<td><em>sed</em></td>
<td><em>sā-sad-ya-tē</em></td>
</tr>
<tr>
<td>i marker</td>
<td><em>sed</em></td>
<td><em>sā-sad-ī-ti</em></td>
</tr>
</tbody>
</table>

All the examples are transparent:

<table>
<thead>
<tr>
<th>√</th>
<th>3. sg. atm. (ya suffix)</th>
<th>3. sg. par. (ī suffix)</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>jval</td>
<td><em>jvā-jval-ya-tē</em></td>
<td><em>jvā-jval-ī-ti</em></td>
<td>to burn</td>
</tr>
<tr>
<td>pac</td>
<td><em>pā-pac-ya-tē</em></td>
<td><em>pā-pac-ī-ti</em></td>
<td>to cook</td>
</tr>
<tr>
<td>yac</td>
<td><em>yā-yac-ya-tē</em></td>
<td><em>yā-yac-ī-ti</em></td>
<td>to sacrifice</td>
</tr>
<tr>
<td>vad</td>
<td><em>vā-vad-ya-tē</em></td>
<td><em>vā-vad-ī-ti</em></td>
<td>to speak</td>
</tr>
<tr>
<td>smr</td>
<td><em>smā-smar-ya-tē</em></td>
<td><em>smā-smar-ī-ti</em></td>
<td>to remember</td>
</tr>
<tr>
<td>svap</td>
<td>see first construction</td>
<td><em>sā-svap-ī-ti</em></td>
<td>to sleep</td>
</tr>
</tbody>
</table>

As in desideratives like *śu-śrū-š-u*, only the first root-initial consonant gets reduplicated in *jval* and *svap*.

Third construction

In contrast to the first and second construction, the third one uses the root-final consonants in reduplication:

<table>
<thead>
<tr>
<th>3. construction</th>
<th>ie. root</th>
<th>frequentative</th>
</tr>
</thead>
<tbody>
<tr>
<td>ya marker</td>
<td>$C_1 Fg C_2$</td>
<td>$C_1 Fg C_2\cdot C_1 Fg C_2\cdot ya + \text{ atm.}$</td>
</tr>
<tr>
<td>i marker</td>
<td>$C_1 Fg C_2$</td>
<td>$C_1 Fg C_2\cdot C_1 Fg C_2\cdot i + \text{ par.}$</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>example</th>
<th>ie. root</th>
<th>frequentative</th>
</tr>
</thead>
<tbody>
<tr>
<td>ya marker</td>
<td><em>nem</em></td>
<td><em>nam-nam-ya-tē</em></td>
</tr>
<tr>
<td>i marker</td>
<td><em>nem</em></td>
<td><em>nam-nam-ī-ti</em></td>
</tr>
</tbody>
</table>

Here are a few examples:
C. Grammar: verbal system

<table>
<thead>
<tr>
<th></th>
<th>3. sg. ətm. (ya suffix)</th>
<th>3. sg. par. (i suffix)</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>kram</td>
<td>ca-i-kram-ya-tê (1, 2)</td>
<td>ca-i-kram-i-ti (1, 2)</td>
<td>to walk</td>
</tr>
<tr>
<td>gam</td>
<td>ja-i-gam-ya-tê (2)</td>
<td>ja-i-gam-i-ti (2)</td>
<td>to go</td>
</tr>
<tr>
<td>car</td>
<td>car-car-i-ti (2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>bhram</td>
<td>ba-m-bhram-ya-tê (1, 3)</td>
<td>ba-m-bhram-i-ti (1, 3)</td>
<td>to roam</td>
</tr>
</tbody>
</table>

1. Regularly, only the first word-initial consonant gets reduplicated. Therefore: ca-i-kram-ya-tê and ba-m-bhram-ya-tê.

2. Secondary palatalization is seen in ca-i-kram-ya-tê and ja-i-gam-ya-tê. This shows that the root vowel is truly reduplicated for the case of frequentatives. For example, *kem-krem- → ca-i-kram. These verbs also show expected backward assimilation where the suitable class nasal (here: the velar one) is used. Secondary palatalization is also present in car-car-i-ti, but here the palatalization is seen already in the oi root.

3. Grassmann deaspiration

Note that most of the above examples are nasal stems. Its construction could have been misunderstood in this manner:

<table>
<thead>
<tr>
<th>3. construction</th>
<th>ie. root</th>
<th>→ frequentative</th>
</tr>
</thead>
<tbody>
<tr>
<td>ya marker</td>
<td>C₁FgC₂</td>
<td>C₁Fg-N.C₁FgC₂-ya + ətm.</td>
</tr>
<tr>
<td>i marker</td>
<td>C₁FgC₂</td>
<td>C₁Fg-N.C₁FgC₂-î + par.</td>
</tr>
</tbody>
</table>

example

| ya marker | bhrem | → ba-m-bhram-ya-tê |
| i marker | bhrem | → ba-m-bhram-i-ti |

where a nasal is infixed after the reduplication syllable without root-final consonant. This is relevant for understanding frequentatives like

<table>
<thead>
<tr>
<th></th>
<th>3. sg. ətm. (ya suffix)</th>
<th>3. sg. par. (i suffix)</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>cal</td>
<td>ca-i-cal-ya-tê</td>
<td></td>
<td>to stir, to quiver</td>
</tr>
<tr>
<td>jap</td>
<td>ja-i-jap-ya-tê</td>
<td>ja-i-jap-i-ti</td>
<td>to recite</td>
</tr>
<tr>
<td>dah</td>
<td>da-i-dah-ya-tê</td>
<td>da-i-dah-i-ti</td>
<td>to burn</td>
</tr>
</tbody>
</table>

Fourth construction

According to the fourth construction, long i is inserted after the reduplication syllable:

<table>
<thead>
<tr>
<th>4. construction</th>
<th>ie. root</th>
<th>→ frequentative</th>
</tr>
</thead>
<tbody>
<tr>
<td>ya marker</td>
<td>C₁erC₂</td>
<td>C₁ar-i-C₁erC₂-ya + ətm.</td>
</tr>
<tr>
<td>i marker</td>
<td>C₁erC₂</td>
<td>C₁ar-i-C₁erC₂-î + par.</td>
</tr>
</tbody>
</table>

example

| ya marker | serp | → sar-i-serp-ya-tê |
| i marker | serp | → sar-i-serp-i-ti |
Consider these examples that are exactly formed like sar-ī-sṛp-ī-ti:

<table>
<thead>
<tr>
<th>√</th>
<th>3. sg. ātm. (ya suffix)</th>
<th>3. sg. par. (ī suffix)</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>vṛt</td>
<td>nar-ī-vṛt-ya-tē</td>
<td>see fifth construction</td>
<td>to dance</td>
</tr>
<tr>
<td>vṛt</td>
<td>var-ī-vṛt-ya-tē</td>
<td>var-ī-vṛt-ī-ti</td>
<td>to turn</td>
</tr>
</tbody>
</table>

**Fifth construction**

The fifth construction is similar to the fourth one. It shows up only in parasmaipada, but without the immediately preceding ī suffix:

<table>
<thead>
<tr>
<th>5. construction</th>
<th>ie. root</th>
<th>frequentative</th>
</tr>
</thead>
<tbody>
<tr>
<td>C₁erC₂</td>
<td>C₁ar-ī-C₁arC₂- + par.</td>
<td></td>
</tr>
</tbody>
</table>

**Sixth construction**

The sixth construction is applied to long ā roots:

<table>
<thead>
<tr>
<th>√</th>
<th>3. sg. ātm. (ya suffix)</th>
<th>3. sg. par.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>dā</td>
<td>dé-dā-ya-a-tē</td>
<td>dā-dā-ti</td>
<td>to give</td>
</tr>
<tr>
<td>pā</td>
<td>pē-pā-ya-a-tē</td>
<td>pā-pā-ti</td>
<td>to drink</td>
</tr>
</tbody>
</table>

Similarly, compare jē-jār-ya-a-tē from root jā (to decay).

**C.5.4. Gerundives**

Gerundives are formed with tavya, añīya, or ya. They occur in all grades. Consider

<table>
<thead>
<tr>
<th>√</th>
<th>translation</th>
<th>f.g.</th>
<th>z.g.</th>
<th>l.g.</th>
</tr>
</thead>
<tbody>
<tr>
<td>kr</td>
<td>to make</td>
<td>kar-tavya (1), kar-añīya</td>
<td>kr-tya</td>
<td>kār-ya</td>
</tr>
<tr>
<td>gam</td>
<td>to go</td>
<td>gan-tavya (1), gam-añīya, gam-ya</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ji</td>
<td>to conquer</td>
<td>jē-tavya (1), jē-ya, jay-ya (2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>tyaj</td>
<td>to abandon</td>
<td>tyaj-ya</td>
<td></td>
<td></td>
</tr>
<tr>
<td>dvīṣ</td>
<td>to hate</td>
<td>dvēṣ-ya</td>
<td></td>
<td></td>
</tr>
<tr>
<td>bhū</td>
<td>to be</td>
<td>bhav-ī-tavya (1, 3), bhav-ya</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. All tavya-forms are built on the full grade as the infinitives on -tum or the agent nouns on -tar (pp. 91).
C. Grammar: verbal system

2.  *jê-ya versus jay-ya* is not totally clear. If the *ya*-forms begin with a consonant, *jê-ya* is expected and *jay-ya* in need of an explanation.

3.  *bhav-i-tavya* is regular as is the infinitive *bhav-i-tum* due to the laryngeal root ie. *bhuH*.

Some gerunds surprisingly exhibit *ê*, such as

<table>
<thead>
<tr>
<th>√</th>
<th>translation</th>
<th>f.g.</th>
</tr>
</thead>
<tbody>
<tr>
<td>dā</td>
<td>to give</td>
<td>dê-ya</td>
</tr>
<tr>
<td>dhā</td>
<td>to set, to place</td>
<td>dhê-ya</td>
</tr>
<tr>
<td>jñā</td>
<td>to know</td>
<td>jñê-ya</td>
</tr>
<tr>
<td>pā</td>
<td>to drink</td>
<td>pê-ya</td>
</tr>
<tr>
<td>sthā</td>
<td>to stand</td>
<td>sthê-ya</td>
</tr>
</tbody>
</table>

Perhaps, *pê-ya* is regularly formed in the following manner:

*peh3i-yo
→ pāi-ya (Lar V)
→ pe-ya (MVS, pp. 36)

while the other long *ā* verbs do not exhibit *i* in the root and are built by analogy with *pê-ya*.

C.6. Thematic and athematic verbs

C.6.1. Thematic verbs

Short introduction

Verbal classes 1, 4, 6, and 10 are thematic, the others athematic. The endings between thematic and athematic verbs are quite similar. Compare some forms of the thematic first-class verb *bhr* (“to carry”) with the athematic third-class verb *bhā* (“to be afraid”):

<table>
<thead>
<tr>
<th></th>
<th>thematic: √bhṛ</th>
<th>athematic: √bhī</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>bhar-ā-mi</td>
<td>bi-bhé-mi</td>
</tr>
<tr>
<td>2</td>
<td>bhar-a-si</td>
<td>bi-bhé-sī</td>
</tr>
<tr>
<td>3</td>
<td>bhar-a-ti</td>
<td>bi-bhé-ti</td>
</tr>
<tr>
<td>1</td>
<td>a-bhar-a-m</td>
<td>a-bi-bhay-a-m</td>
</tr>
<tr>
<td>2</td>
<td>a-bhar-a-s</td>
<td>a-bi-bhé-s</td>
</tr>
<tr>
<td>3</td>
<td>a-bhar-a-t</td>
<td>a-bi-bhé-t</td>
</tr>
</tbody>
</table>

There are two sets of endings, primary and secondary. Primary endings are used for the present tense and the future tense. Secondary endings are used for imperfect, imperative, and optative.

142
Endings for thematic verbs, parasmāipada

The thematic endings are given in the following table:

<table>
<thead>
<tr>
<th>thematic verbs parasmāipada</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 mi (1, 2)</td>
<td>vas (1)</td>
<td>mas (1)</td>
<td>present</td>
</tr>
<tr>
<td>2 si (1, 2)</td>
<td>thas</td>
<td>thas</td>
<td>tense</td>
</tr>
<tr>
<td>3 ti (1, 2)</td>
<td>tas</td>
<td>n-ti (1, 3)</td>
<td>(primary ending)</td>
</tr>
<tr>
<td>1 m (1)</td>
<td>va (1)</td>
<td>ma (1)</td>
<td>imperfect</td>
</tr>
<tr>
<td>2 s (1)</td>
<td>tam</td>
<td>ta</td>
<td>effect</td>
</tr>
<tr>
<td>3 t (1)</td>
<td>tām</td>
<td>n (3, 4)</td>
<td>(secondary ending)</td>
</tr>
<tr>
<td>1 ni (5)</td>
<td>va (1)</td>
<td>ma (1)</td>
<td>imperfect</td>
</tr>
<tr>
<td>2 ∅ (5)</td>
<td>tam</td>
<td>ta</td>
<td>active</td>
</tr>
<tr>
<td>3 tu (1)</td>
<td>tām</td>
<td>n-tu (1, 3)</td>
<td>(secondary ending)</td>
</tr>
</tbody>
</table>

1. $m$, $s$, and $t$ characterize the 1., 2., and 3. pers., respectively. This holds for both thematic and athematic, both parasmāipada and ātmanēpada verbs. It is tempting to derive $m$, $s$, and $t$ from personal pronouns. For the 1. pers., this seems clear:
   a) $m$ (imperfect) or $mi$ (pres. tense) is also seen in oi. gen. sg. $mama$ and oi. gen./dat./acc. enclitic $mē$ (and even in e. $me$).
   b) pl. $mas ←$ ie. *$mes$ is the ie. 1. pers. pl. pronoun
   c) dual $vas$ is still seen in the oi. gen./dat./acc. enclitic $vas$

2. Both the thematic and athematic verbal classes show $i$ in the present tense sg. It is sometimes called the “here and now” particle. Secondary endings are older than primary ones.

3. From the oi. perspective, $n$ indicates 3. pers. pl. as a comparison with sg. shows. Historically, $nt$ may go back to the present participle.

4. Imperfect 3. pers. pl. ending is $n$ instead of $nt$ by CCI. The drop of $t$ is regular: at the end of a word, only the first consonant of a consonant cluster remains (p. 44).

5. $∅$ indicates the zero ending.

I now turn to a specific paradigm where we forms are built according to the formula

$$\text{present stem} \ + \ \text{theme vowel} \ + \ \text{ending}$$
C. Grammar: verbal system

This pattern is of ie. origin:

<table>
<thead>
<tr>
<th></th>
<th>ie. root bher</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>sg.</td>
<td>pl.</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>bher-ō (1)</td>
<td>bher-o-mes (2)</td>
</tr>
<tr>
<td>2</td>
<td>bher-e-sī</td>
<td>bher-e-te</td>
</tr>
<tr>
<td>3</td>
<td>bher-e-tī</td>
<td>bher-o-n-tī</td>
</tr>
<tr>
<td>1</td>
<td>e-bher-o-m</td>
<td>e-bher-o-me (2)</td>
</tr>
<tr>
<td>2</td>
<td>e-bher-e-s</td>
<td>e-bher-e-te</td>
</tr>
<tr>
<td>3</td>
<td>e-bher-e-t</td>
<td>e-bher-o-n't</td>
</tr>
</tbody>
</table>

The numbers are explained after the next table. While the thematic vowel was e or o in ie., it is, of course, a in Sanskrit:

<table>
<thead>
<tr>
<th>√bhr parasmāipada</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>sg.</td>
<td>dual</td>
<td>pl.</td>
</tr>
<tr>
<td>1</td>
<td>bhar-ā-mi (1)</td>
<td>bhar-ā-vas (2)</td>
</tr>
<tr>
<td>2</td>
<td>bhar-a-si</td>
<td>bhar-a-thas</td>
</tr>
<tr>
<td>3</td>
<td>bhar-a-tī</td>
<td>bhar-a-tas</td>
</tr>
<tr>
<td>1</td>
<td>a-bhar-a-m</td>
<td>a-bhar-ā-va (2)</td>
</tr>
<tr>
<td>2</td>
<td>a-bhar-a-s</td>
<td>a-bhar-a-tam</td>
</tr>
<tr>
<td>3</td>
<td>a-bhar-a-t</td>
<td>a-bhar-a-tām</td>
</tr>
<tr>
<td>1</td>
<td>bhar-ā-ni (2)</td>
<td>bhar-ā-va (2)</td>
</tr>
<tr>
<td>2</td>
<td>bhar-a</td>
<td>bhar-a-tam</td>
</tr>
<tr>
<td>3</td>
<td>bhar-a-tu</td>
<td>bhar-a-tām</td>
</tr>
</tbody>
</table>

1. Instead of theme vowel o, we have ā in bhar-ā-mi. Historically, ie. *ā indicates 1. pers. sg. for thematic verbs. See the table for ie. forms above. In contrast, mi was present in athematic verbs, only. From these athematic verbs, mi spread to thematic ones. Thus, the 1. pers. sg. has two markers.


**Endings for thematic verbs, ātmanēpada**

The ātmanēpada endings are difficult in that they are often amalgamated with the thematic vowel. For that reason, we now present the thematic vowel a together with the thematic endings in the following table:

144
C.6. Thematic and athematic verbs

<table>
<thead>
<tr>
<th>Thematic verbs ātmanēpada</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 é (1, 2)</td>
<td>ā-vahê (3)</td>
<td>mahê (1, 3)</td>
<td>present</td>
</tr>
<tr>
<td>2 a-sê (1, 2)</td>
<td>ēthê</td>
<td>a-dhvê</td>
<td>tense</td>
</tr>
<tr>
<td>3 a-tê (1, 2)</td>
<td>ētê</td>
<td>a-n-tê (1)</td>
<td>(primary ending)</td>
</tr>
</tbody>
</table>

| 1 é (4)                  | ā-vahai (3) | ā-mahi (1) | imperfect |
| 2 a-thās (1)             | ēthām     | a-dhvam  | effect   |
| 3 a-tā (1)               | ētām      | a-n-tā (1) | (secondary ending) |

| 1 āi                      | ā-vahāi (3) | ā-mahāi (1, 3) | imperfect |
| 2 a-sva                  | ēthām     | a-dhvam  | active   |
| 3 a-tām (1)              | ētām      | a-n-tām (1) | (secondary ending) |

1. Similar to the parasmāipada endings, we again have m, s, and t to characterize the 1., 2., and 3. pers., respectively. However, we have just é rather than mē in the 1. pers. sg.

2. Similar to the parasmāipada endings, we again encounter the “here and now” particle i in the present tense sg.; é goes back to ie. oi.

3. As in the parasmāipada case, we see ā, i.e., the operation of Brugmann’s law in several forms.

4. Think of 1. pers. imperfect é as a-i (in the athematic paradigm we have just i).

Presenting a paradigm, we use

- present stem
- + theme vowel a together with ending

and obtain:

<table>
<thead>
<tr>
<th>√labh ātmanēpada</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 labh-ē</td>
<td>labh-ā-vahê</td>
<td>labh-mahê</td>
<td>present</td>
</tr>
<tr>
<td>2 labh-a-sê</td>
<td>labh-ēthê</td>
<td>labh-a-dhvê</td>
<td>tense</td>
</tr>
<tr>
<td>3 a-labh-ē</td>
<td>a-labh-ā-vahi</td>
<td>a-labh-ā-mahi</td>
<td>imperfect</td>
</tr>
</tbody>
</table>

| 1 a-labh-a-thās  | a-labh-ēthām | a-labh-a-dhvam | (secondary ending) |
| 3 a-labh-a-tā    | a-labh-ētām  | a-labh-a-n-tā | with augment a |

| 1 labh-āi        | labh-ā-vahāi (3) | labh-ā-mahāi (1, 3) | imperfect |
| 2 labh-a-sva     | labh-ēthām     | labh-a-dhvam     | active   |
| 3 labh-a-tām (1) | labh-ētām      | labh-a-n-tām (1)  | (secondary ending) |
C. Grammar: verbal system

Parasmaipada     Atmanepada

<table>
<thead>
<tr>
<th></th>
<th>sing.</th>
<th>dual</th>
<th>plural</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Present tense**

<table>
<thead>
<tr>
<th></th>
<th>sing.</th>
<th>dual</th>
<th>plural</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Imperfect**

<table>
<thead>
<tr>
<th></th>
<th>sing.</th>
<th>dual</th>
<th>plural</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Imperative**

<table>
<thead>
<tr>
<th></th>
<th>sing.</th>
<th>dual</th>
<th>plural</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Optative**

<table>
<thead>
<tr>
<th></th>
<th>sing.</th>
<th>dual</th>
<th>plural</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure C.2.: Strong forms in the athematic verbs

C.6.2. Athematic verbs

**Distribution of weak and strong forms**

Athematic verbs (classes 2, 3, 5, 7, 8, and 9) distinguish between weak forms and strong forms. Consider fig. C.2 where the strong forms are marked. The others are weak. If you are not the graphical type, try to remember that strong forms are present

- in parasmâipada present tense sg.
- in parasmâipada imperfect sg.
- in 1. pers. imperative, both parasmâipada and ātmanêpada
- in parasmâipada 3. pers. sg. imperative

Weak and strong forms are important because
C.6. Thematic and athematic verbs

- weak forms are defined by the zero grade
- strong forms are defined by the normal grade

Endings for athematic verbs, parasmâipada

The athematic endings are very similar to the thematic ones:

<table>
<thead>
<tr>
<th>them. v. par.</th>
<th>athem. v. par.</th>
</tr>
</thead>
<tbody>
<tr>
<td>sg.</td>
<td>dual</td>
</tr>
</tbody>
</table>

1. **mi** | **vas** | **mas** | **mi** | **vas** | **mas** |
2. **si** | **thas** | **tha** | **si** | **thas** | **tha** |
3. **ti** | **tas** | **n-ti** | **ti** | **tas** | (a)n-ti (2) |

1. **va** | **ma** | **am** (1) | **va** | **ma** |
2. **s** | **tam** | **ta** | **s** | **tam** | **ta** |
3. **t** | **tâm** | **n** | **tâm** | (a)n (2) / us (3) |

<table>
<thead>
<tr>
<th>them. v. par.</th>
<th>athem. v. par.</th>
</tr>
</thead>
<tbody>
<tr>
<td>sg.</td>
<td>dual</td>
</tr>
</tbody>
</table>

1. **ni** | **va** | **ma** | **āni** (4) | **āva** (4) | **āma** (4) |
2. **∅** | **tam** | **ta** | **∅** | **tam** | **ta** |
3. **tu** | **tâm** | **n-tu** | **tu** | **tâm** | (a)n-tu (2) |

1. Although we are now dealing with athematic verbs, the 1. pers. sg. imperfect ending is always am. (This holds for Sanskrit, but in ie. times, the ending was just m as might be expected.) There is a good reason for this ending. With m instead of am, we would encounter recognizable forms due to m◦ → a:

<table>
<thead>
<tr>
<th>1. pers. sg. imperfect</th>
</tr>
</thead>
<tbody>
<tr>
<td>ending m → a</td>
</tr>
</tbody>
</table>

| √yu (7. class) | n.at. a-yu-na-j-a | a-yu-na-j-am |
|√vid (2. class) | n.at. a-vēd-a | a-vēd-am |

2. Spreading of the thematic a often occurs in the parasmâipada 3. pers. pl. forms. In fact, this is true for all athematic classes but the third class and the 2. class verb śās (“to rule”).

3. The variant us is often seen in 3. pers. pl. imperfect.

4. The imperative 1. pers. endings do **not** differ between
   a) “lengthened theme vowel” + “thematic ending” and
   b) athematic ending.

This observation holds for parasmâipada (here) and ātmanēpada (below). Thus, the thematic vowel has also spread in these cases.
C. Grammar: verbal system

5. The ∅-ending is also seen in athematic verbs where you find kur- ∅ (“make!”) or su-
∅-num (“press!”). Otherwise, the paramāipada impv. 2. pers. sg. for the athematic
classes can be dhi or hi:

<table>
<thead>
<tr>
<th>√</th>
<th>class</th>
<th>translation</th>
<th>imperative</th>
</tr>
</thead>
<tbody>
<tr>
<td>dhi</td>
<td>yuj</td>
<td>7 to join</td>
<td>yu-n-g-dhi</td>
</tr>
<tr>
<td>vid</td>
<td>2</td>
<td>to know</td>
<td>vid-dhi</td>
</tr>
<tr>
<td>hu</td>
<td>3</td>
<td>to sacrifice</td>
<td>ju-hu-dhi</td>
</tr>
<tr>
<td>hi</td>
<td>ṛp</td>
<td>5 to obtain</td>
<td>ṛp-nu-hi</td>
</tr>
<tr>
<td>pā</td>
<td>9</td>
<td>to purify</td>
<td>pā-nī-hi</td>
</tr>
<tr>
<td>bhī</td>
<td>3</td>
<td>to be afraid</td>
<td>hi-bhī-hi</td>
</tr>
<tr>
<td>yā</td>
<td>2</td>
<td>to go</td>
<td>yā-hi</td>
</tr>
</tbody>
</table>

In Old Greek we find thā (in i-thā, “go!”). Thus, we know that oi. dhi is the original
one, not oi. hi. hi could have developed from dhi through forms like these:

a) vid-dhi which could (in the speakers’ minds) have developed from *vid-hi by
way of a sandhi rule.

b) i-hi may be dialectal development from older n.at. i-dhi (see p. 53). From
forms like i-hi the new ending hi may have spread to other verbs.

Endings for athematic verbs, ātmanēpada

Compare the ātmanēpada endings for thematic verbs (endings again amalgamated with
the thematic vowel, left-hand side) and for athematic verbs (without, usually, thematic
vowel, right-hand side):

<table>
<thead>
<tr>
<th>them. v. ātm.</th>
<th>athem. v. ātm.</th>
</tr>
</thead>
<tbody>
<tr>
<td>sg.</td>
<td>dual</td>
</tr>
<tr>
<td>1 e</td>
<td>ā-vahē</td>
</tr>
<tr>
<td>2 a-sē</td>
<td>ēthē</td>
</tr>
<tr>
<td>3 a-tē</td>
<td>ētē</td>
</tr>
<tr>
<td>1 ē</td>
<td>ā-vahi</td>
</tr>
<tr>
<td>2 a-thās</td>
<td>ēthām</td>
</tr>
<tr>
<td>3 a-ta</td>
<td>ētām</td>
</tr>
<tr>
<td>1 āi</td>
<td>ā-vahāi</td>
</tr>
<tr>
<td>2 a-sva</td>
<td>ēthām</td>
</tr>
<tr>
<td>3 a-tām</td>
<td>ētām</td>
</tr>
</tbody>
</table>

1. Within the ātmanēpada paradigm, many athematic endings are the same as the
 corresponding thematic ones, but, of course, the athematic ones do without the
thematic vowel a (or ā before 1. pers. m- or v-endings).
2. We have \( e \) and \( a \) in both thematic and athematic 1. pers. sg., pres. tense and imperative, respectively.

3. The 2. and 3. pers. dual forms,
   a) begin with \( e \) (including the thematic vowel) in thematic paradigms, but
   b) begin with \( a \) in athematic paradigms.

4. 1. pers. sg. imperfect \( i \) (athematic) clearly corresponds to the thematic \( e \leftarrow a-i \).

5. The imperative 1. pers. endings do not differ between
   a) “(lengthened) theme vowel" + “thematic ending" (endings amalgamated with the thematic vowel, left-hand side) and
   b) athematic ending (right-hand side).

This observation holds for \( \text{ātmanēpada} \) (here) and \( \text{parasmāipada} \) (below). Thus, the thematic vowel has also spread in these cases.

Learners may find the 2. and 3. person duals confusing. It may be helpful to compare the present tense with its primary endings with the imperfect where we have secondary endings:

<table>
<thead>
<tr>
<th></th>
<th>thematic verbs</th>
<th></th>
<th>athematic verbs</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>pres. tense</td>
<td>athm.</td>
<td>impf.</td>
<td>athm.</td>
</tr>
<tr>
<td>par.</td>
<td></td>
<td></td>
<td>par.</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>( a-thas )</td>
<td>( a \rightarrow e )</td>
<td>( e-thē )</td>
<td>( a-tam )</td>
</tr>
<tr>
<td></td>
<td>( \downarrow ) no ( h )</td>
<td>( \downarrow ) no ( h )</td>
<td>( \downarrow ) no ( h )</td>
<td>( \downarrow ) no ( h )</td>
</tr>
<tr>
<td>3</td>
<td>( a-tas )</td>
<td>( a \rightarrow e )</td>
<td>( e-tē )</td>
<td>( a-tām )</td>
</tr>
<tr>
<td></td>
<td>( \downarrow ) no vowel</td>
<td>( \downarrow ) ( a ) for ( e )</td>
<td>( \downarrow ) no vowel</td>
<td>( \downarrow ) ( a ) for ( e )</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>thematic verbs</th>
<th></th>
<th>athematic verbs</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>pres. tense</td>
<td>athmanēp.</td>
<td>impf.</td>
<td>athmanēp.</td>
</tr>
<tr>
<td>par.</td>
<td></td>
<td></td>
<td>parasm.</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>( thas )</td>
<td>( \emptyset \rightarrow ā )</td>
<td>( ā-thē )</td>
<td>( tam )</td>
</tr>
<tr>
<td></td>
<td>( \downarrow ) no ( h )</td>
<td>( \downarrow ) no ( h )</td>
<td>( \downarrow ) no ( h )</td>
<td>( \downarrow ) no ( h )</td>
</tr>
<tr>
<td>3</td>
<td>( tas )</td>
<td>( \emptyset \rightarrow ā )</td>
<td>( ā-tē )</td>
<td>( tām )</td>
</tr>
</tbody>
</table>

For example, we have
C. Grammar: verbal system

<table>
<thead>
<tr>
<th></th>
<th>pres. tense</th>
<th>imperfect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ātmanépada</td>
<td>parasmāipada</td>
<td>parasmāipada</td>
</tr>
<tr>
<td>2 bhar-a-thas</td>
<td>bhar-ē-thē</td>
<td>a-bhar-a-tām</td>
</tr>
<tr>
<td>3 bhar-a-tas</td>
<td>bhar-ē-tē</td>
<td>a-bhar-a-tām</td>
</tr>
<tr>
<td>2 kur-&amp;thas</td>
<td>kurv-ē-thē</td>
<td>a-kuru-tām</td>
</tr>
<tr>
<td>3 kur-tas</td>
<td>kurv-ē-tē</td>
<td>a-kuru-tām</td>
</tr>
</tbody>
</table>

C.6.3. The second class

Introductory remark and overview

The 3. pers. sg. is often characterized by t and the 3. pers. pl. by nt. In the athematic classes in Ātmanépada, the n in the pl. marker nt becomes syllabic so that the n seems to have been dropped. Compare the thematic paradigm

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>√bhr.</td>
<td>1. class, ātm., 3. pers.</td>
<td></td>
</tr>
<tr>
<td>sg.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>bhar-a-tē</td>
<td>bhar-a-n-tē ← *bher-o-n-toi</td>
<td>present tense</td>
</tr>
<tr>
<td>a-bhar-a-ta</td>
<td>a-bhar-a-n-ta</td>
<td>imperfect</td>
</tr>
<tr>
<td>bhar-a-tām</td>
<td>bhar-a-n-tām</td>
<td>imperative</td>
</tr>
</tbody>
</table>

with the athematic one

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>√vas.</td>
<td>2. class, ātm., 3. pers.</td>
<td></td>
</tr>
<tr>
<td>sg.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>vas-tē</td>
<td>vas-a-tē ← *ves-ṇ-toi</td>
<td>present tense</td>
</tr>
<tr>
<td>a-vas-ta</td>
<td>a-vas-a-ta</td>
<td>imperfect</td>
</tr>
<tr>
<td>vas-tām</td>
<td>vas-a-tām</td>
<td>imperative</td>
</tr>
</tbody>
</table>

It is clearly seen how n-tē in the thematic verbs contrasts with a-tē in the athematic ones. However, this holds true only for Ātmanépada. In contrast, the parasmāipada athematic 3. pers. pl. PRII forms borrow the thematic a from the thematic classes, in particular nearly always in the 2. class:

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>√vac.</td>
<td>2. class, par., 3. pers.</td>
<td></td>
</tr>
<tr>
<td>sg.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>vak-ti</td>
<td>vac-a-n-tī ← *ves-ṇ-toi</td>
<td>present tense</td>
</tr>
<tr>
<td>a-vak ← n.at. *a-vak-t</td>
<td>a-vac-a-n ← n.at. *a-vac-a-n-t</td>
<td>imperfect</td>
</tr>
<tr>
<td>vas-tu</td>
<td>vac-a-n-tu</td>
<td>imperative</td>
</tr>
</tbody>
</table>
Second-class verbs produce many challenging forms where the verbal root directly gets into contact with the personal endings. We consider in detail

- **vac** (“to speak”) on pp. 151
- **yā** (“to go”) on pp. 152
- **vid** (“to know”) on pp. 153
- **as** (“to be”) on pp. 153
- **i** (“to go”) on pp. 154
- **duh** (“to milk”) on pp. 155
- **lih** (“to lick”) on pp. 157
- **vaś** (“to wish”) on pp. 160
- **han** (“to hit, to kill”) on pp. 161
- **brū** (“to speak”) on pp. 162
- **sās** (“to rule, to instruct”) on pp. 163
- **nu** (“to praise”) on pp. 164

**vac** (“to speak”)

Our first verb, **vac** (“to speak”), is special in not distinguishing weak and strong forms. We have only strong forms:

<table>
<thead>
<tr>
<th>vak ← ie. &quot;vek&quot;, parasmāipada</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1 vac-mi (4)</td>
<td>vac-vas (4)</td>
<td>vac-mas (4)</td>
<td>present</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 vak-si (2)</td>
<td>vak-thas (1)</td>
<td>vak-tha (1)</td>
<td>tense</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 vak-ti (1)</td>
<td>vak-tas (1)</td>
<td>vac-an-ti (6)</td>
<td>(primary ending)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 a-vac-am (6)</td>
<td>a-vac-va (4)</td>
<td>a-vac-ma (4)</td>
<td>imperfect</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 a-vak (5)</td>
<td>a-vak-tam (1)</td>
<td>a-vak-la (1)</td>
<td>(secondary ending)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 a-vak (5)</td>
<td>a-vak-lām (1)</td>
<td>a-vac-an (6)</td>
<td>with augment a</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 vac-Āni (4)</td>
<td>vac-Āva (4)</td>
<td>vac-Āma (4)</td>
<td>imperative</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 vag-dhi (3)</td>
<td>vak-tam (1)</td>
<td>vak-la (1)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 vak-tu</td>
<td>vak-lām (1)</td>
<td>vac-an-tu (6)</td>
<td>(secondary ending)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. **No Spal** before endings beginning with voiceless t
2. **RUKI**
C. Grammar: verbal system

3. In *vag-dhi*, we have expected BA before dhi, the regular ending.

4. In the above paradigm, we have c (as in the oï. root *vac*) in all forms where the endings start with a vowel (SPa1), a nasal, or a liquid.

5. In the imperfect sg., we have
   - 3. pers. a-vak ← ie. *vek*-t and
   - 2. pers. a-vak ← ie. *vek*-s
   by CCI.

6. In all verbs of the second class (except sās ("to rule, to instruct")), parasmâipada
   - 3. pers. pl. forms borrow a from the thematic class, as we see here with *vac-a-n-ti*.

*yā ("to go")*

Let us now turn to a second verb without alternation of weak and strong forms: yā ("to go"). yā belongs to the class of consequentials, as do some other second-class verbs like mnā or ghrā (see pp. 79). yā ("to go") has the second peculiarity in that the root ends in a vowel. This makes consonant-initial endings transparent.

<table>
<thead>
<tr>
<th>yā</th>
<th>parasmâipada</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>yā-mi</td>
<td>yā-vas</td>
<td>yā-mas</td>
<td>present</td>
</tr>
<tr>
<td>2</td>
<td>yā-sī</td>
<td>yā-thas</td>
<td>yā-tha</td>
<td>tense</td>
</tr>
<tr>
<td>3</td>
<td>yā-tī</td>
<td>yā-las</td>
<td>yā-n-ti (1)</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>a-yā-m (1)</td>
<td>a-yā-va</td>
<td>a-yā-ma</td>
<td>imperfect</td>
</tr>
<tr>
<td>2</td>
<td>a-yā-s</td>
<td>a-yā-lam</td>
<td>a-yā-la</td>
<td>(sec. end.)</td>
</tr>
<tr>
<td>3</td>
<td>a-yā-ś</td>
<td>a-yā-lām</td>
<td>a-yā-n (1)/a-y-ś (2)</td>
<td>with augm.</td>
</tr>
<tr>
<td>1</td>
<td>yā-nī (1)</td>
<td>yā-va (1)</td>
<td>yā-ma (1)</td>
<td>imperative</td>
</tr>
<tr>
<td>2</td>
<td>yā-hī (3)</td>
<td>yā-lam</td>
<td>yā-lā</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>yā-tī</td>
<td>yā-lām</td>
<td>yā-n-tu (1)</td>
<td>(sec. end.)</td>
</tr>
</tbody>
</table>

1. In some forms, the ā from root yā is confounded with an ending that (by analogy or other) begins with a or ā. Then, the obvious effect results.

2. a-y-ś sometimes uses the alternative ending us (instead of (a)n) is used. And, we just have a-y-ś, not a-yāus (which would be difficult to understand).

3. Note the hi rather than the dhi imperative.
C.6. Thematic and athematic verbs

vid ("to know")

We now turn to *vid ("to know") which shows the expected distribution of strong and weak forms:

<table>
<thead>
<tr>
<th>√/vid ← ie. *veid, parasmāipada</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 vēd-mi</td>
<td>vid-vas</td>
<td>vid-ma</td>
<td>present</td>
</tr>
<tr>
<td>2 vēl-ṣī (1)</td>
<td>vit-thās (1)</td>
<td>vit-tha (1)</td>
<td>tense</td>
</tr>
<tr>
<td>3 vēl-ṭī (1)</td>
<td>vit-tās (1)</td>
<td>vid-an-ti</td>
<td>(prim. end.)</td>
</tr>
<tr>
<td>1 a-vēd-am</td>
<td>a-vid-va</td>
<td>a-vid-ma</td>
<td>imperfect</td>
</tr>
<tr>
<td>2 a-vēt/a-vēs (2)</td>
<td>a-vit-tam (1)</td>
<td>a-vit-ta (1)</td>
<td>(sec. end.)</td>
</tr>
<tr>
<td>3 a-vēt (2)</td>
<td>a-vit-tām (1)</td>
<td>a-vid-us (4)</td>
<td>with augm.</td>
</tr>
<tr>
<td>1 vēd-āni</td>
<td>vēd-āva</td>
<td>vēd-āma</td>
<td>imperative</td>
</tr>
<tr>
<td>2 vid-dhī (3)</td>
<td>vit-tām (1)</td>
<td>vit-ta (1)</td>
<td></td>
</tr>
<tr>
<td>3 vēl-tū (1)</td>
<td>vit-tām (1)</td>
<td>vid-an-tu</td>
<td>(sec. end.)</td>
</tr>
</tbody>
</table>

1. The backward assimilation *d → t* is clearly seen before the many endings with *t* or *th* and before (voiceless) *s* in *vēt-sī*.

2. In the imperfect sg., we have
   - ◇ 3. pers. a-vēt ← ie. *e-veid-t* and
   - ◇ 2. pers. a-vēt ← ie. *e-veid-s*

   where backward assimilation (making the dental voiceless) and then the drop of *t* or *s*, respectively, are to be expected (p. 44). *a-vēs* is an alternative 2. pers. sg. which is clearly due to analogy with forms like *a-yā-s*.

3. *vid-dhī* is the regular 2. pers. sg. imperative.

4. *a-vid-us* shows the alternative ending *us* (instead of *(a)n*).

as ("to be")

Next comes *as ("to be")*:
### C. Grammar: verbal system

<table>
<thead>
<tr>
<th>√as ← ie. *Hes, parasmāipada</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 as-mi</td>
<td>s-vas</td>
<td>s-mas</td>
<td>present</td>
</tr>
<tr>
<td>2 asi (1)</td>
<td>s-thas</td>
<td>s-tha (1)</td>
<td>tense</td>
</tr>
<tr>
<td>3 as-ti</td>
<td>s-tas</td>
<td>s-an-ti (prim. end.)</td>
<td></td>
</tr>
</tbody>
</table>

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1 ās-am (2)</td>
<td>ās-va (3)</td>
<td>ās-ma (3)</td>
<td>imperfect</td>
</tr>
<tr>
<td>2 ās-i-s (4)</td>
<td>ās-lam (3)</td>
<td>ās-ta (3)</td>
<td>(sec. end.)</td>
</tr>
<tr>
<td>3 ās-i-t (4)</td>
<td>ās-lām (3)</td>
<td>ās-an (3)</td>
<td>with augm.</td>
</tr>
</tbody>
</table>

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1 as-āni</td>
<td>as-āva</td>
<td>as-āma</td>
<td>imper-</td>
</tr>
<tr>
<td>2 ē-dhi (5)</td>
<td>s-lam</td>
<td>s-ta</td>
<td>ative</td>
</tr>
<tr>
<td>3 as-tu</td>
<td>s-lām</td>
<td>s-an-tu (sec. end.)</td>
<td></td>
</tr>
</tbody>
</table>

1. We have degemination asi ← as-si.
2. Long ā in strong ās-am is to be understood as
   ◊ a as imperfect augment plus
   ◊ a from the root of as.
   Compare a-vēd-am with a-as-am → ās-am ("I was").
3. Imperfect dual and pl. forms are also strong, in contradiction to fig. C.2
4. Originally, ās-i-s and ās-i-t are aorist forms that migrated to the imperfect.
5. We have ē-dhi ← n.at. as-dhi (see pp. 30) and again a strong form in contradiction to fig. C.2

**i ("to go")**

Another parasmāipada example from the second class is the Sanskrit word for "to go":

<table>
<thead>
<tr>
<th>√i ← ie. *ei, parasmāipada</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 ē-mi (1)</td>
<td>i-vas</td>
<td>i-mas (2)</td>
<td>present</td>
</tr>
<tr>
<td>2 ē-ṣi (1)</td>
<td>i-thas</td>
<td>i-tha (2)</td>
<td>tense</td>
</tr>
<tr>
<td>3 ē-ti (1)</td>
<td>i-tas</td>
<td>y-an-ti (2) (prim. end.)</td>
<td></td>
</tr>
</tbody>
</table>

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1 āy-am (3)</td>
<td>āi-va (4)</td>
<td>āi-ma (4)</td>
<td>imperfect</td>
</tr>
<tr>
<td>2 āi-s (3)</td>
<td>āi-lam (4)</td>
<td>āi-ta (4)</td>
<td>(sec. end.)</td>
</tr>
<tr>
<td>3 āi-t (3)</td>
<td>āi-lām (4)</td>
<td>āy-an (5)</td>
<td>with augm.</td>
</tr>
</tbody>
</table>

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1 ay-āni (1)</td>
<td>ay-āva</td>
<td>ay-āma (1)</td>
<td>imper-</td>
</tr>
<tr>
<td>2 i-hi (2, 6)</td>
<td>i-tam (2)</td>
<td>i-ta (2)</td>
<td>ative</td>
</tr>
<tr>
<td>3 ē-tu (1)</td>
<td>i-lām (2)</td>
<td>y-an-tu (2) (sec. end.)</td>
<td></td>
</tr>
</tbody>
</table>
C.6. Thematic and athematic verbs

1. Strong forms (imperfect see below) regularly differ between vowel ending (ay-āni) and consonant ending (ē-mi).

2. Weak forms (imperfect see below) regularly show i before a consonant (see i-mas) in and y before a vowel (y-an-ti).

3. Imperfect forms seem not to obey the prescribed distribution of weak and strong forms. However, most of them do, in fact: We have the strong forms
   ◦ āy-am ← a-ay-am before a vowel ending
   ◦ āi-t ← a-ēt before a consonant ending

4. The weak forms before consonant endings are similar to the strong forms, but produced by a different rule:
   āi-ma ← a-i-ma is regular by a MVS sound law (pp. 30).

5. Not clear. Could a similar rule as the one applied in 4. be responsible for ā in āy-an ← a-i-an before a vowel ending?

6. i-hi may be regular from older *i-dhī (p. 53). From forms like i-hi the new ending hi spread to other verbs.

_duh_ ("to milk")

We now turn to the oi. root _duh_ ("to milk"). The ie. full-grade root is ie. *dheugh. The distribution of strong and weak forms is regular. Weak forms have the zero grade _u_ and strong forms show the full grade _ô_ (see pp. 23). Here is the parasmāipada paradigm:

<table>
<thead>
<tr>
<th>√duh ← ie. *dheugh, parasmāipada</th>
</tr>
</thead>
<tbody>
<tr>
<td>sg.</td>
</tr>
<tr>
<td>1 dôh-mi (3)</td>
</tr>
<tr>
<td>2 dhôk-śi (2a, 6)</td>
</tr>
<tr>
<td>3 dôg-dhî (1a)</td>
</tr>
</tbody>
</table>

| 1 a-dôh-am (3) | a-duh-va (3) | a-duh-ma (3) | imperfect |
| 2 a-dhôk (5) | a-dug-dham (1a) | a-dug-dha (1a) | (sec. end.) |
| 3 a-dhôk (5) | a-dug-dhâm (1a) | a-duh-an (3, 4a) | with augm. |

| 1 dôh-āni (3) | dôh-āva (3) | dôh-āma (3) | imper- |
| 2 dug-dhi (1c) | dug-dham (1a) | dug-dha (1a) | ative |
| 3 dôg-dhu (1a) | dug-dhâm (1a) | duh-an-tu (3, 4a) | (sec. end.) |

1. Many forms show the application of both deaspiration of initial ie. _dh_ and of aspiration shift (Bartholomae’s law, pp. 37). In particular, we have three cases:
   a. _gh-t_ → _g-dh_ (aspiration shift and forward assimilation) is seen in ie. *dheugh-ti → dôg-dhi._
C. Grammar: verbal system

b. gh-th → g-dh (no double aspiration and forward assimilation) is seen in ie. *dhugh-th → dug-th (for example 2. dual pres. tense dug-dhas).

c. gh-dh → g-dh (no double aspiration and no forward assimilation) is seen in 2. sg. impv. ie. *dhugh-dhi → dug-dhi (and, in ātmanēpada below, dhug-dhvē).

dug-dhas is an example of either 1a (3. pers. dual pres. tense) or 1b (2. pers. dual pres. tense).

2. Grassmann’s deaspiration is seen in most forms. But it has been undone (or, rather, has not been carried out) in these cases:

a. before s as in parasmāipada pres. tense 2. pers. sg. dhôk-sī where
   ◇ the root-final gh lost its aspiration and became voiceless before voiceless s,
   ◇ this s cannot assume the aspiration (which would otherwise occur by Bartholomae’s law), and
   ◇ hence aspiration dissimilation (according to Grassmann) cannot occur.

b. before dhv as in ātmanēpada pres. tense 2. pers. pl. dhug-dhvē where
   ◇ the root-final gh lost its aspiration,
   ◇ dh is aspirated already so that not further aspiration was possible,
   ◇ v cannot assume this aspiration and dhv is not aspirated,
   ◇ hence aspiration dissimilation (according to Grassmann) cannot occur.

3. Before an ie. front vowel, we have secondary palatalization gh → h as seen in fig. B.2 (p. 36). This is most clearly seen in a-duh-i. However, h spread to many forms where an ie. front vowel was not present as in duh-an-ti. In the above paradigm, we have h (as in the oi. root duh) in all forms where the endings start with a vowel, a nasal, or a liquid.

4. In both thematic and athematic 3. pers. pl. forms, we have a. Note, however:

a. In parasmāipada 3. pers. pl. forms like duh-an-ti, we have an due to borrowing of a from the thematic classes.

b. In contrast, ātmanēpada forms like duh-a-tē do without this borrowing and a goes back to syllabic n: duh-a-tē ← ie. *dhugh-n-toi.

5. In imperfect sg. forms a-dhôk, aspiration shift is not possible and we see expected backward assimilation (similar to 2a.) before ie. s or t in the 2. pers. and 3. pers., respectively. Both forms show the impossibility of having more than one consonant at the end of a word (section B.3.5 p. 44): In the 2. pers., s has been dropped, and in the third, t.

6. In dhôk-sī, after the newly formed k (very similar to 5.), RUKI applies.

And here you see the ātmanēpada paradigm where the numbers are explained above:
C.6. Thematic and athematic verbs

<table>
<thead>
<tr>
<th>√/duh ← ie. *dheugh, ātmanēpada</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>duh-ē (3)</td>
<td>duh-vahe (3)</td>
<td>duh-mahē (3)</td>
</tr>
<tr>
<td>2</td>
<td>dhuk-se (2a, 6)</td>
<td>duh-āthē (1b)</td>
<td>dhug-āvē (1c, 2b)</td>
</tr>
<tr>
<td>3</td>
<td>duγ-dhē (1a)</td>
<td>duh-ātē (3)</td>
<td>duh-a-tē (3, 4b)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>√/duh ← ie. *dheugh, ātmanēpada</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>a-duh-i (3)</td>
<td>a-duh-vahi (3)</td>
<td>a-duh-mahi (3)</td>
</tr>
<tr>
<td>2</td>
<td>a-dug-dhās (1b)</td>
<td>a-duh-āthām (3)</td>
<td>a-dhug-dhvam (1c, 2b)</td>
</tr>
<tr>
<td>3</td>
<td>a-dug-dha (1a)</td>
<td>a-duh-ātām (3)</td>
<td>a-duh-a-ta (3, 4b)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>√/duh ← ie. *dheugh, ātmanēpada</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>dōh-āi (3)</td>
<td>dōh-āvāhāi (3)</td>
<td>dōh-āmahāi (3)</td>
</tr>
<tr>
<td>2</td>
<td>dhuk-sva (2a, 6)</td>
<td>duh-āhām (3)</td>
<td>dhug-dhvam (1c, 2b)</td>
</tr>
<tr>
<td>3</td>
<td>duγ-dhām (1a)</td>
<td>duh-ātām (3)</td>
<td>duh-a-tām (3, 4b)</td>
</tr>
</tbody>
</table>

**lih (“to lick”)**

A somewhat more complicated (and hence even more interesting) example is lih (“to lick”):

<table>
<thead>
<tr>
<th>√/lih ← ie. *leiγh, parasmāpada</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>lēh-mi</td>
<td>lih-va</td>
<td>lih-ma</td>
</tr>
<tr>
<td>2</td>
<td>lek-ṣi (2)</td>
<td>lī-ghas (5b)</td>
<td>lī-gha (5a)</td>
</tr>
<tr>
<td>3</td>
<td>lē-ṛ̺i (1)</td>
<td>lī-ṛ̺ (5a)</td>
<td>lī-an-ti (6a)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>√/lih ← ie. *leiγh, parasmāpada</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>a-leγh-am</td>
<td>a-lih-va</td>
<td>a-lih-ma</td>
</tr>
<tr>
<td>2</td>
<td>a-leγ (4)</td>
<td>a-liγ-ham (5a)</td>
<td>a-liγ-ha (5a)</td>
</tr>
<tr>
<td>3</td>
<td>a-leγ (3)</td>
<td>a-liγ-hām (5a)</td>
<td>a-liγ-an (6a)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>√/lih ← ie. *leiγh, parasmāpada</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>lēh-āmī</td>
<td>lēh-āva</td>
<td>lēh-āma</td>
</tr>
<tr>
<td>2</td>
<td>lī-ṛ̺i</td>
<td>lī-ṛ̺ham (5a)</td>
<td>lī-ṛ̺ha (5a)</td>
</tr>
<tr>
<td>3</td>
<td>lē-ṛ̺hu (1)</td>
<td>lī-ṛ̺ham (5a)</td>
<td>lī-an-tu (6a)</td>
</tr>
</tbody>
</table>

Notes are given below. The ātmanēpada paradigm reads:

157
C. Grammar: verbal system

<table>
<thead>
<tr>
<th>/lih ← ie. *lei̯gh, ātmanēpada</th>
</tr>
</thead>
<tbody>
<tr>
<td>sg.</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>3</td>
</tr>
</tbody>
</table>

1. The parasmāipada 3. pers. sg. present tense can be explained by

   ie. *lei̯gh-tē (full grade)
   → lēg-dhi (ASh)
   → lēz-dhi (sz before voiced stop)
   → lēz-dhi (RUKI)
   → lēz-dhi (CerD)
   → lē-dhi (CpLz, but ē already long)

2. The parasmāipada 2. pers. sg. present tense is lēk-si which has developed regularly:

   ie. *lei̯gh-si (full grade)
   → lēg-si (ASh, but s cannot be aspirated)
   → lēk-si (BA)
   → lēk-si (RUKI)

3. Parasmāipada imperfect sg. has a-lēf in both the 2. and 3. pers.. For the 3. pers., we have

   ie. *e-lei̯gh-t (f.g. with ie. impf. marker e)
   → a-lēg-dh (ASh)
   → a-lēz-dh (sz before voiced stop)
   → a-lēz-dh (RUKI)
   → a-lēz-dh (CerD)
   → a-lē-dh (CpLz, but ē already long)
   → a-lē-t (AFP, p. 45)

4. Remember madhu-liṭ ← ie. *medhu-li̯gh-s on p. 15 The 2. pers. is also regular.

158
C.6. Thematic and athematic verbs

ie. *a-leîgh-s
→ a-leîgh-s (ASh, but s cannot be aspirated)
→ a-leîk-s (BA)
→ a-leîk-s (RUKI)
→ a-lêt (AFP)

5. Quite a few regular (!) forms have long i plus cerebralization of a dental ending. We have three cases:

a. igh-t → î-dh as, for example, the ātmanēpada 3. pers. sg. present tense î-dhē:
   ie. *liîgh-toi (z.g. with toi-marker)
   → liîgh-tê
   → liîg-dhê (ASh)
   → lîz-dhê (sz before voiced stop)
   → lîz-dhê (RUKI)
   → lîz-dhê (CerD)
   → lît-dhê (CpLz)

b. igh-th → î-dh as, for example paraśmāipada 2. pers. dual lî-dhas:
   *liîgh-thas (z.g. with oi. (!) thas-marker)
   → liîg-dhas (ASh, but no further aspiration)
   → lîz-dhas (sz before voiced stop)
   → lîz-dhas (RUKI)
   → lîz-dhê (CerD)
   → lît-dhas (CpLz)

c. igh-dhv → î-dhv as, for example ātmanēpada 2. pers. dual lî-dhvē:
   *liîgh-dhvē (z.g. with oi. (!) dhvē-marker)
   → liîg-dhvē (ASh, but no further aspiration)
   → lîz-dhvē (sz before voiced stop)
   → lîz-dhvē (RUKI)
   → lîz-dhvē (CerD)
   → lît-dhvē (CpLz)

2. and 3. dual pres. tense are identical: lî-dhas (b) with oi. ending thas and lî-dhas (a) with oi. ending tas.

6. In both thematic and athematic 3. pers. pl. forms, we have a. Note, however:

a. In paraśmāipada 3. pers. pl. forms like lih-an-ti, we have an due to borrowing of a from the thematic classes.

b. In contrast, ātmanēpada forms like lih-a-tē do without this borrowing and a goes back to syllabic ŭ: lih-a-tē ← ie. *liîgh-û-toi.
C. Grammar: verbal system

vaś ("to wish")

Now, let us turn to vaś ("to wish"):

\[
\begin{array}{|c|c|c|c|}
\hline
\text{verbal system} & \text{ie. *vek, parasmāipada} \\
\hline
\text{sg.} & \text{dual} & \text{pl.} & \\
\hline
1 & \text{vaś-mi} & \text{uś-vas} & \text{uś-mas} & \text{present} \\
2 & \text{vak-śi} (3) & \text{uś-thas} (2) & \text{uś-tha} (2) & \text{tense} \\
3 & \text{vaś-śi} (1) & \text{uś-tas} (2) & \text{uś-an-śi} (7) & \text{(prim. end.)} \\
\hline
1 & \text{a-vaś-am} & \text{āuś-va} (6) & \text{āuś-ma} (6) & \text{imperfect} \\
2 & \text{a-vaś} (5) & \text{āuś-tam} (2, 6) & \text{āuś-ta} (2, 6) & \text{(sec. end.)} \\
3 & \text{a-vaś} (4) & \text{āuś-tām} (2, 6) & \text{āuś-an} (6, 7) & \text{with augm.} \\
\hline
1 & \text{vaś-āni} & \text{vaś-āva} & \text{vaś-āma} & \text{imper-} \\
2 & \text{ud-dhi} (8) & \text{uś-tam} (2) & \text{uś-ta} (2) & \text{ative} \\
3 & \text{vaś-țu} (1) & \text{uś-țām} (2) & \text{uś-an-țu} (7) & \text{(sec. end.)} \\
\hline
\end{array}
\]

1. vaś-śi and vaś-țu follow CerD.

2. Similarly, but in zero grade, we have forms like uś-thas (present tense 2. pers. dual).

3. SIB

4. Parasmāipada imperfect sg. has a-vaś in both the 2. and 3. pers.. For the 3. pers., we have

   \[
   \text{ie. *e-vek-ś (f.g. with ie. impf. marker e)}
   \rightarrow \text{a-vaś-t}
   \rightarrow \text{a-vaś-t (as in vaś-śi)}
   \rightarrow \text{a-vaś (AFP)}
   \]

5. The 2. pers. is also regular:

   \[
   \text{ie. *e-vek-ś (f.g. with ie. impf. marker e)}
   \rightarrow \text{a-vaś-t}
   \rightarrow \text{a-vaś-s}
   \rightarrow \text{a-vaś}
   \rightarrow \text{a-vaś (AFP)}
   \]

6. Luckily, the other imperfect forms present no great mystery. They are weak (zero grade) and then, in line with the sound law

   \[
   \text{imperfect marker a} + \ u/ū \rightarrow \ ău
   \]

   we obtain

   a) forms like āuś-va with ș from ie. k ș and

160
b) forms like *aus-tam where the cerebralization rule CerD has been applied again.

7. 3. pers. pl. forms show an-, the thematic a is borrowed from thematic classes.

8. ud-dhi, the imperative 2. pers. sg. is difficult, but explainable:
   ie. *uk-dhi (z.g. with impv. ending dhi)
   → uğ-dhi (BA)
   → uz-dhi (sz)
   → uz-dhi (RUKI)
   → uğ-dhi (CerD)
   → ő-dhi (CpLz)
   → ud-dhi (LawOfMorae)

han (“to hit, to kill”)

As another example, we present han (“to hit, to kill”):

<table>
<thead>
<tr>
<th></th>
<th>han-mi (1)</th>
<th>han-vas (2)</th>
<th>han-mas (2)</th>
<th>present</th>
<th>dual</th>
<th>ha-tha (4)</th>
<th>ha-thas (4)</th>
<th>ha-tha (4)</th>
<th>tense</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>han-mi (1)</td>
<td>han-vas (2)</td>
<td>han-mas (2)</td>
<td>present</td>
<td>dual</td>
<td>ha-tha (4)</td>
<td>ha-thas (4)</td>
<td>ha-tha (4)</td>
<td>tense</td>
</tr>
<tr>
<td>2</td>
<td>han-sembi (1)</td>
<td>ha-thas (4)</td>
<td>ha-tha (4)</td>
<td>(prim. end.)</td>
<td>dual</td>
<td>ghn-an-ti (3)</td>
<td>(sec. end.)</td>
<td>(sec. end.)</td>
<td>(prim. end.)</td>
</tr>
<tr>
<td>3</td>
<td>a-han-am (1)</td>
<td>a-han-va (2)</td>
<td>a-han-ma (2)</td>
<td>imperfect</td>
<td>dual</td>
<td>a-ha-ta (4)</td>
<td>a-ghn-an-tu (3)</td>
<td>(sec. end.)</td>
<td>(prim. end.)</td>
</tr>
<tr>
<td>4</td>
<td>a-han (5)</td>
<td>a-ha-tam (4)</td>
<td>a-ha-ta (4)</td>
<td>(sec. end.)</td>
<td>dual</td>
<td>a-ghn-an (3)</td>
<td>(sec. end.)</td>
<td>(sec. end.)</td>
<td>(sec. end.)</td>
</tr>
</tbody>
</table>

1. Secondary palatalization (section B.3.2, pp. 35) produces han-ti from g"\textit{h}en-\textit{ti}.

2. The strong forms also migrated to present tense and imperfect both dual and pl. where they should not be seen according to p. 146.

3. In contrast, the correct zero grade is seen in the 3. pers. pl. forms like ghn-an-ti, after borrowing of thematic a. Here, secondary palatalization does not work (g"\textit{h} does not stand before a front vowel).

4. If the zero-grade stem came in immediate contact with a t-ending (for the other endings, see 2.), the n had to become syllabic. Then, we should have expected n.at. gha-tas (present tense, 3. pers. dual) and the like. However, we see ha-tas, undoubtedly due to leveling. This is similar to the (zero grade!) PPP ha-ta in subsection C.4.3 (p. 111).
C. Grammar: verbal system

5. Identical parasmâipada imperfect 2. and 3. pers. sg. are common in athematic verbs. Due to inadmissable word-final consonant clusters \((CCl)\), the endings \(s\) (2. pers.) and \(t\) (3. pers.) are lost:

- \(a\-han \leftarrow a\-han-s\)
- \(a\-han \leftarrow a\-han-t\)

6. \(ja\-hi\) (with ending \(hi\) rather than \(dhî\)) shows secondary palatalization. Perhaps, the \(i\) from the ending make the syllabic nasal also a front vowel? In any case, we seem to have got

\[ *gw^h_ö\-hi \ (z.g. \ with \ impv. \ marker \ hi) \]
\[ \rightarrow gw^a\-hi \ (DA) \]
\[ \rightarrow ja\-hi \ (difficult \ SPal) \]

\(brū\) ("to speak")

For \(brū\) ("to speak"), the ie. root is \(brevH\) whence obtain

- the strong forms with \(brav\) (DIPH)
- the weak forms \((V+hV)\)
  - before vowel endings \(bruv\) according to the rules on pp. 20
  - before consonant endings \(brū\).

With these comments in mind, the declension pattern is not too surprising:

<table>
<thead>
<tr>
<th>parasmâipada</th>
<th>ātmanēpada</th>
</tr>
</thead>
<tbody>
<tr>
<td>(bruv)</td>
<td></td>
</tr>
<tr>
<td>(bruv)</td>
<td>(bruv)</td>
</tr>
</tbody>
</table>

| \(brav\-ī\-mi\) (1) | \(bruv\-vas\) | \(bruv\-mas\) | \(bruv\-ē\) | \(bruv\-vahē\) | \(bruv\-mahē\) |
| \(brav\-ī\-gi\) (1) | \(bruv\-thas\) | \(bruv\-tha\) | \(bruv\-sē\) | \(bruv\-āthē\) | \(bruv\-āhvē\) |
| \(brav\-ī\-ti\) (1) | \(bruv\-tas\) | \(bruv\-an-ti\) (3) | \(bruv\-tē\) (1) | \(bruv\-ātē\) | \(bruv\-a-tē\) (3) |
| \(a\-brav\-am\) | \(a\-bruv\-i\) | \(a\-bruv\-vahi\) | \(a\-bruv\-mahī\) |
| \(a\-brav\-ī\-s\) (2) | \(a\-bruv\-thās\) | \(a\-bruv\-āthām\) | \(a\-bruv\-āhvam\) |
| \(a\-brav\-ī\-l\) (2) | \(a\-bruv\-ta\) | \(a\-bruv\-ātām\) | \(a\-bruv\-a-tām\) (3) |
| \(brav\-ā\-ni\) | \(brav\-ā\-va\) | \(brav\-ā\-ma\) | \(brav\-ā\) | \(brav\-ā-vahāi\) | \(brav\-ā-mahāi\) |
| \(brū\-hi\) | \(bruv\-ta\) | \(bruv\-sva\) | \(bruv\-āthām\) | \(bruv\-āhvam\) |
| \(bruv\-ī\-tu\) (1) | \(bruv\-tām\) | \(bruv\-an-ti\) (3) | \(bruv\-tām\) | \(bruv\-ātām\) | \(bruv\-a-tām\) |

1. The long \(i\) in present sg. like \(brav\-ī\-ti\) is surely connected to the laryngeal. However, we should have expected short \(i\) instead.
2. Imperfect sg. *a-brav-īs* and *a-brav-īt* are somewhat mysterious. We should expect n.at. *a-brā-s* and n.at. *a-brā-t*. These forms may have been too alien compared with the rest of the paradigm. Also, we see long ī in the sg. Perhaps, these are aorist forms as in ās-īt from *as* (“to be”, see pp. 154).  

3. Par. *bruv-an-ti* versus ātm. *bruv-a-tē* is well-known by now.

śās (*“to rule, to instruct”*)

śās is the oi. root in full grade. By Lar_V, ie. *kēHs* leads to

◇ the strong forms with śās
◇ the weak forms śis and, after applying RUKI, finally śīś.

We find

<table>
<thead>
<tr>
<th>√śās ← ie. <em>kēHs</em>, parasmāipada</th>
</tr>
</thead>
<tbody>
<tr>
<td>sg.</td>
</tr>
<tr>
<td>1 śās-mi</td>
</tr>
<tr>
<td>2 śās-si</td>
</tr>
<tr>
<td>3 śās-ti</td>
</tr>
</tbody>
</table>

| 1 a-śās-am                      | a-śis-va (1)     | a-śis-ma (1)      |
| 2 a-śās/ā-śāt (3)              | a-śis-ṭam (2)    | a-śis-ṭa (2)      |
| 3 a-śāt (3)                    | a-śis-ṭām (2)    | a-śās-us (4)      |

| 1 śās-āni                      | śās-āva          | śās-āma          |
| 2 śā-dhī (5)                   | śis-ṭam (2)      | śis-ṭa (2)       |
| 3 śās-tu                       | śis-ṭām (2)      | śās-a-tu (6)     |

1. RUKI

2. By forward assimilation CerD, one obtains śis-ṭas and the like.

3. In the imperfect, CCI should produce

◇ 2. pers. sg. a-śās ← a-śās-s
◇ 3. pers. sg. a-śās ← a-śās-t

The forms a-śāt for both 2. and 3. pers. sg. is probably formed by analogy, presumably with a-veṭ from vid (“to know”) which is regular. Note that teaching leads to knowing so that the analogy was also helped by close association.

4. Impf. 3. pers. pl. a-śās-us is special in using the more rare ending us instead of (a)n.

5. Irregularly, impv. 2. pers. sg. śādhi is strong:  

163
C. Grammar: verbal system

ie. *kes-dhi (full grade with ie. impv. marker dhi)
→ sās-dhi
→ sāz-dhi (sz before voiced stop)
→ sā-dhi (CpLz, but ā long already)

6. Quite unusual for the 2. class, we do not have the thematic a in parasmaipada 3. pers. pl. forms. Also the 3. pers. pl. forms are strong.

Narten verbs

The so-called Narten presents exhibit the lengthened grade rather than the full grade in some forms:

\[ \sqrt{nu} \leftarrow ie. *vekw \], parasmaipada

<table>
<thead>
<tr>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 nau-mi (1)</td>
<td>nu-vas (3)</td>
<td>nu-mas (3)</td>
</tr>
<tr>
<td>2 nau-ši (1)</td>
<td>nu-thas</td>
<td>nu-tha</td>
</tr>
<tr>
<td>3 nau-ti (1)</td>
<td>nu-tas</td>
<td>nuv-an-ti (4)</td>
</tr>
</tbody>
</table>

| 1 a-nau-ami (2) | a-nau-va (3) | a-nau-ma (3)      |
| 2 a-nau-s (1)   | a-nau-tam    | a-nau-ta          |
| 3 a-nau-t (1)   | a-nau-tām    | a-nauv-an (4)      |

| 1 nav-āni (2)   | nav-āva (2)  | nav-āma (2)       |
| 2 nu-hi         | nu-tam       | nu-ta             |
| 3 nau-tu (1)    | nu-tām       | nuv-an-tu (4)      |

1. The very strong forms āu (lengthened grade) is visible in present tense sg. and also in some forms imperfect and imperative forms.

2. The other strong forms exhibit expected full grade av.

3. The weak forms in nu like nu-mas are perfectly regular.

4. Forms like nuv-a-n-ti exhibit the intervening v according to the rule

\[ V+hV \rightarrow CRyV \rightarrow CRiyV \rightarrow CRyV \rightarrow CRuv \rightarrow āp-nuv-an-ti \]

Additional comments on a few other verbs

We now briefly comment on a two verbs a sēt-root. The i acts as a sort of thematic vowel in case of consonant endings. Compare
C.6. Thematic and athematic verbs

- **svap-i-ti** ("he sleeps") with **svap-a-n-ti** ("they sleep") with strong forms throughout the paradigm
- **rōdi-ti** ("he weeps"), **rud-a-n-ti** ("they weep") with regular distribution of strong and weak forms

C.6.4. The third class

**Introductory remark and overview**

Third-class verbs are characterized by reduplication. Here, typically, the initial consonant plus *i* is placed before the full-grade root (strong forms) or the zero-grade root (weak forms). Two exceptions:

- **a**-roots (such as **hu** ("to sacrifice")) always reduplicate with *a*.
- Roots ending in *ā* use *e* (or *a*) as the reduplication vowel. This concerns **dā** ("to give"), **dhā** ("to set, to put"), and **hā** ("to abandon").

We have close looks at

- **bhr** ("to support, to hold") on pp. 165
- **bhī** ("to be afraid") on pp. 167
- **hu** ("to sacrifice") on pp. 169
- **hā** ("to abandon") on pp. 170
- **dā** ("to give") on pp. 170
- **dhā** ("to set") on pp. 172

**bhr** ("to support, to hold")

We begin with **bhr** ("to support"). The strong forms are **bi-bhar** and the weak ones **bi-bhī**. We obtain the quite regular pattern:
C. Grammar: verbal system

<table>
<thead>
<tr>
<th>Grammatical Person</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>bi-bhar-mi</td>
<td>bi-bhr-vas</td>
<td>bi-bhr-mas</td>
</tr>
<tr>
<td>2</td>
<td>bi-bhar-śi</td>
<td>bi-bhr-thas</td>
<td>bi-bhr-tha</td>
</tr>
<tr>
<td>3</td>
<td>bi-bhar-ti</td>
<td>bi-bhr-thas</td>
<td>bi-bhr-a-ti (2)</td>
</tr>
<tr>
<td>1</td>
<td>a-bi-bhar-am</td>
<td>a-bi-bhr-va</td>
<td>a-bi-bhr-ma</td>
</tr>
<tr>
<td>2</td>
<td>a-bi-bhar (3)</td>
<td>a-bi-bhr-tam</td>
<td>a-bi-bhr-ta</td>
</tr>
<tr>
<td>3</td>
<td>a-bi-bhar (3)</td>
<td>a-bi-bhr-tām</td>
<td>a-bi-bhar-us (1)</td>
</tr>
<tr>
<td>1</td>
<td>bi-bhar-ānī</td>
<td>bi-bhar-āva</td>
<td>bi-bhar-āma</td>
</tr>
<tr>
<td>2</td>
<td>bi-bhr-ēi</td>
<td>bi-bhr-tam</td>
<td>bi-bhr-ta</td>
</tr>
<tr>
<td>3</td>
<td>bi-bhar-tu</td>
<td>bi-bhr-tām</td>
<td>bi-bhr-a-tu (2)</td>
</tr>
</tbody>
</table>

1. As is usual in the third class, the parasmāipada 3. pers. pl. imperfect a-bi-bhar-us is characterized by two features:
   a) Its form is strong.
   b) Its ending is us rather than the more usual (among all classes) (a)n. The ending us, by the way, is common in the reduplicative perfect.

2. In contrast to all the other classes, there is no borrowing of thematic vowel a in the 3. pers. pl. PRII in the third class. Of course, the consonant clusters bh-r-n-t are way too long to survive without vowels. Both r and n might become syllabic. By the rule

\[ \text{SY_Conf} \quad \text{Make the last syllabifiable sound syllabic!} \]

we obtain

\[ \text{bi-bhr-}_n\text{-t}i \rightarrow \text{bi-bhr-a-ti} \]

3. By simplification of consonant clusters (CCI), the imperfect forms are regular:
   a) 2. pers. sg. a-bi-bhar ← a-bi-bhar-s
   b) 3. pers. sg. a-bi-bhar ← a-bi-bhar-t

Apart from imperative 1. pers., the ātmanēpada forms are all weak:
C.6. Thematic and athematic verbs

<table>
<thead>
<tr>
<th>√bhr ← ie. *bher, ātmanēpada</th>
</tr>
</thead>
<tbody>
<tr>
<td>sg.</td>
</tr>
<tr>
<td>1 bī-bhr-ē (2)</td>
</tr>
<tr>
<td>2 bī-bhr-śē (1, 4)</td>
</tr>
<tr>
<td>3 bī-bhr-ṭē (1)</td>
</tr>
<tr>
<td>1 a-bi-bhr-i (2)</td>
</tr>
<tr>
<td>2 a-bi-bhr-thās (1)</td>
</tr>
<tr>
<td>3 a-bi-bhr-ta (1)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>√bhē ← ie. *bheiH</th>
</tr>
</thead>
<tbody>
<tr>
<td>sg.</td>
</tr>
<tr>
<td>1 bī-bhar-āi</td>
</tr>
<tr>
<td>2 bī-bhr-śva (1, 4)</td>
</tr>
<tr>
<td>3 bī-bhr-tām (1)</td>
</tr>
</tbody>
</table>

1. We have syllabic r in the weak forms before consonant endings, for example bī-bhr-ṭē.

2. We have just r in the weak forms before vowel endings, for example bī-bhr-ē.

3. Compare 3. pers. pl. forms of ātmanēpada (here) with parasmāipada (above).

4. RUKI.

bhē (“to be afraid”)

If one knows how to deal with bhr, bi-bhar-ti (“to support”), it is not difficult to learn the forms for bhē, bi-bhē-ti (“to be afraid”). The ie. root is bheiH. Do you see that the full grade and the zero grade of both roots are formed regularly:

<table>
<thead>
<tr>
<th>√bhē ← ie. *bhē</th>
</tr>
</thead>
<tbody>
<tr>
<td>full grade</td>
</tr>
<tr>
<td>zero grade</td>
</tr>
</tbody>
</table>

This, then, is the parasmāipada paradigm:
C. Grammar: verbal system

\[ \sqrt{bh} \leftarrow \text{ie. } *bheiH, \text{ parasmáipada} \]

<table>
<thead>
<tr>
<th></th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>bi-bhê-mi</td>
<td>bi-bhê-vas (4)</td>
<td>bi-bhê-mas (4)</td>
</tr>
<tr>
<td>2</td>
<td>bi-bhê-śi</td>
<td>bi-bhê-thas (4)</td>
<td>bi-bhê-tha (4)</td>
</tr>
<tr>
<td>3</td>
<td>bi-bhê-li (1)</td>
<td>bi-bhê-tas (4)</td>
<td>bi-bhy-a-ti (5)</td>
</tr>
<tr>
<td></td>
<td>a-bi-bhay-am (3)</td>
<td>a-bi-bhê-va (4)</td>
<td>a-bi-bhê-ma (4)</td>
</tr>
<tr>
<td>2</td>
<td>a-bi-bhê-s (2, 7)</td>
<td>a-bi-bhê-tam (4)</td>
<td>a-bi-bhê-ta (4)</td>
</tr>
<tr>
<td>3</td>
<td>a-bi-bhê-t (7)</td>
<td>a-bi-bhê-lâm (4)</td>
<td>a-bi-bhay-us (6)</td>
</tr>
<tr>
<td></td>
<td>bi-bhay-āni (3)</td>
<td>bi-bhay-āva (3)</td>
<td>bi-bhay-āma (3)</td>
</tr>
<tr>
<td>2</td>
<td>bi-bhê-hi (4)</td>
<td>bi-bhê-tam (4)</td>
<td>bi-bhê-ta (4)</td>
</tr>
<tr>
<td>3</td>
<td>bi-bhê-tu (1)</td>
<td>bi-bhê-ām (4)</td>
<td>bi-bhy-a-tu (5)</td>
</tr>
</tbody>
</table>

1. bi-bhê-ti is the expected full-grade form before a consonant (DIPH).

2. bi-bhê-śi shows the regular application of RU Ki, while a-bi-bhê-s does not admit RU Ki because the s is word-final.

3. Before a vowel, DIPH produces forms like a-bi-bhay-a-m with ay rather than ē.

4. All weak forms exhibit the sound law i ← iH. However, all these forms admit an irregular alternative with a short i, for example bi-bhê-vas.

5. bi-bhy-a-ti is 3. pers. pl. (!). Indeed, we have

   ie. *bhi-bhiH-ŋ-ti \( \text{(reduplication, zero grade)} \)

   \[ \rightarrow \text{bi-bhê-ŋ-ti \( \text{\(DA, \text{Lar}_V\)} \)} \]

   \[ \rightarrow \text{bi-bhy-a-ti \( \text{\(SY\_Conf\)} \)} \]

6. Again, parasmáipada 3. pers. pl. imperfect
   a) uses the strong form in violation of fig. C.2 and
   b) exhibits the ending us.

7. In spite of all the similarities between bhā and bhṛ, the imperfect sg. 2. and 3. persons differ:

<table>
<thead>
<tr>
<th>imperative singular</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 pers.</td>
</tr>
<tr>
<td>√/bhṛ ← ie. *bher</td>
</tr>
<tr>
<td>√/bhā ← ie. *bheiH</td>
</tr>
</tbody>
</table>

All four forms are regular!
C.6. Thematic and athematic verbs

**hu (”to sacrifice”)**

The paradigm for the oî. root *hu (”to sacrifice”) looks bewildering. The ie. root is *gheu and we obtain the 3. pers. sg. pres. tense

\[
\text{ie. } *\text{gheu-}g\text{heu-ti} \text{ (reduplication, full grade)} \\
\rightarrow \text{g}\text{h}-\text{g}\text{heu-ti} \text{ (DA, DIPH)} \\
\rightarrow \text{j}\text{u-}h\text{ô-ti} \text{ (PPal, pp. 35)}
\]

We now present the paradigm:

<table>
<thead>
<tr>
<th></th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>sg.</strong></td>
<td><strong>present</strong></td>
<td><strong>tense</strong></td>
</tr>
<tr>
<td>1</td>
<td><em>ju-hô-mi</em></td>
<td><em>ju-hu-vas</em> (4)</td>
</tr>
<tr>
<td>2</td>
<td><em>ju-hô-si</em> (2)</td>
<td><em>ju-hu-thas</em> (4)</td>
</tr>
<tr>
<td>3</td>
<td><em>ju-hô-ti</em> (1)</td>
<td><em>ju-hu-tas</em> (4)</td>
</tr>
<tr>
<td><strong>1</strong></td>
<td><em>a-ju-hav-am</em> (3)</td>
<td><em>a-ju-hu-va</em> (4)</td>
</tr>
<tr>
<td>2</td>
<td><em>a-ju-hô-s</em> (2)</td>
<td><em>a-ju-hu-tam</em> (4)</td>
</tr>
<tr>
<td>3</td>
<td><em>a-ju-hô-t</em> (2)</td>
<td><em>a-ju-hv-a-tâm</em> (4)</td>
</tr>
<tr>
<td><strong>1</strong></td>
<td><em>ju-hav-âni</em> (3)</td>
<td><em>ju-hav-âva</em> (3)</td>
</tr>
<tr>
<td>2</td>
<td><em>ju-hu-dhi</em> (4)</td>
<td><em>ju-hu-tam</em> (4)</td>
</tr>
<tr>
<td>3</td>
<td><em>ju-hô-llu</em> (1)</td>
<td><em>ju-hu-tâm</em> (4)</td>
</tr>
</tbody>
</table>

Contrasting *bhê (”to be afraid”) and hu (”sacrifice”), we find:

1. The present tense 3. pers. sg. *bi-bhê-ti* and *ju-hô-ti* are both full-grade forms.
2. The present tense 2. pers. sg. *bi-bhê-si* and *ju-hô-si* show RUKI, while their imperfect counterparts *a-bi-bhê-s* and *a-ju-hô-s* do not (at the end of words).
3. For vowel endings, the imperfect 1. pers. sg. *a-bi-bhay-a-m* and *a-ju-hav-a-m* have ay and av rather than ê or ô, respectively.
4. The present tense 1. pers. pl. *bi-bhî-vas* and *ju-hu-vas* use the zero grade (with laryngeal explanation of long ù).
5. The present tense 3. pers. pl. *bi-bhy-a-ti* corresponds very nicely to *ju-hv-a-ti*, both showing the sound law *n* → *a* and the sandhi rule HV given on p. 20.
6. The imperfect 3. pers. pl. *a-bi-bhay-us* is full grade as is *a-ju-hav-us* (peculiarity of the 3. class).
7. The only real difference is imperative 2. pers. sg. *ju-hu-dhi* in contrast to *bi-bhê-hi.*
C. Grammar: verbal system

**hā (“to abandon”)**

The paradigm for the oi. root *hā (“to abandon”) from ie. root *gʰeH works similar to the one for *hu (“to sacrifice”). This is how to derive the 3. pers. sg. pres. tense of hā:

ie. *gʰe-ǵʰeH-ti (reduplication with ie. e, zero grade)
→ ǵe-ǵhāH-ti (DA)
→ ja-hā-ti (PPal)

We now present the paradigm:

<table>
<thead>
<tr>
<th></th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ja-hā-mi</strong></td>
<td>ja-hi-vas (2)</td>
<td>ja-hi-mas (2)</td>
<td>present</td>
</tr>
<tr>
<td><strong>ja-hā-si</strong></td>
<td>ja-hi-thas (2)</td>
<td>ja-hi-tha (2)</td>
<td>tense</td>
</tr>
<tr>
<td><strong>ja-hā-ti</strong></td>
<td>(1) ja-hi-tas (2)</td>
<td>ja-h-a-ti (4)</td>
<td>(prim. end.)</td>
</tr>
<tr>
<td><strong>ja-hā-ni</strong></td>
<td>ja-hā-va</td>
<td>ja-hā-ma</td>
<td>imper.</td>
</tr>
<tr>
<td><strong>ja-hā-tu</strong></td>
<td>ja-hi-tam (2)</td>
<td>ja-hi-ta (2)</td>
<td>(sec. end.)</td>
</tr>
</tbody>
</table>

1. The present tense 3. pers. sg. ja-hā-ti is explained above the table.

2. ja-hi-mas is regular where the laryngeal is represented by i (Lar V). Again difficult are alternative forms with long ñ like ja-hi-ma.

3. The 2. pers. sg. imperative uses the hi-marker.

4. The present tense 3. pers. pl. ja-h-a-ti is yet another example of the sound law ň → a. The laryngeal would regularly drop after a consonant and before a vowel.

5. Similarly, the laryngeal drops in the imperfect 3. pers. pl. a-ja-h-us. Note the zero grade in contrast to the full grade a-ju-hav-us in the *hu paradigm.

**dā (“to give”)**

Let us now turn to dā (“to give”):
C.6. Thematic and athematic verbs

<table>
<thead>
<tr>
<th></th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>da-dā-mi</td>
<td>da-d-vas</td>
<td>da-d-mas (2)</td>
</tr>
<tr>
<td>2</td>
<td>da-dā-si</td>
<td>da-t-thas</td>
<td>da-t-tha (2, 6)</td>
</tr>
<tr>
<td>3</td>
<td>da-dā-ti</td>
<td>da-t-thas</td>
<td>da-d-a-ti (4) (prim. end.)</td>
</tr>
<tr>
<td>1</td>
<td>a-da-dā-m</td>
<td>a-da-d-va</td>
<td>a-da-d-ma (2)</td>
</tr>
<tr>
<td>2</td>
<td>a-da-dā-s</td>
<td>a-da-t-tam</td>
<td>a-da-t-ta (2, 6) (sec. end.)</td>
</tr>
<tr>
<td>3</td>
<td>a-da-dā-t</td>
<td>a-da-t-tam</td>
<td>a-da-d-us (5) with augm.</td>
</tr>
<tr>
<td>1</td>
<td>da-dā-ni</td>
<td>da-dā-va</td>
<td>da-dā-ma</td>
</tr>
<tr>
<td>2</td>
<td>dē-hi (3)</td>
<td>da-t-tam (2, 6)</td>
<td>da-t-ta (2, 6)</td>
</tr>
<tr>
<td>3</td>
<td>da-dā-tu</td>
<td>da-t-tam (2, 6)</td>
<td>da-d-a-tu (4) (sec. end.)</td>
</tr>
</tbody>
</table>

1. The long a go back to a laryngeal. The ie. full-grade root is deh₃ → dā. The reduplication vowel is oi. a so that we find da-dā-ti etc.

2. Between consonants, laryngeals mostly turn into i, but are lost without trace occasionally (Lar V). Here, the second alternative holds, as in many weak forms, for example in present tense 1. pers. pl. da-d-mas ← de-dh₃-mes. Alternatively, one may assume that da-d-mas was formed by the analogy with other verbs like:
   ◇ tan-mas from tan, tan-ō-ti (“he stretches”) (8. class)
   ◇ sun-mas from su, su-nō-ti (“he presses”) (5. class)

Indeed, the speakers may have thought in terms of a root dad. Then, 1. pers. sg. dad-ā-mi could be regular as a thematic verb. Compare p. 117 for the PPP datta.

3. Parasmāipada imperative 2. pers. sg. dē-hi is difficult, but quite regular:
   ie. *de-dh₃-dhi
   → da-d-dhi (Lar V, no i)
   → da-dzdhi (DzD)
   → da-zdhi (CCl)
   → daz-dhi
   → dē-dhi (Cplz before consonant + i)
   → dē-hi (analogy)

4. da-d-a-ti reflects the sound law ŋ → a. If speakers assumed a full-grade root dad, the 3. pers. pl. pres. tense dad-a-ti (!) is formed similar to the 2. class sās-a-ti (compare p. 164).

5. The imperfect 3. pers. pl. often uses the full grade with ending us in the 3. class (see a-bi-bhay-us from bhā or a-bi-bhar-us from bhr). However, a-da-d-us is clearly zero grade.
C. Grammar: verbal system

6. In the weak forms, one sees the expected backward assimilation.

**dhā (“to set”)**

And, now, the similar root *dhā*:

<table>
<thead>
<tr>
<th></th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>da-dhā-mi</td>
<td>da-dh-vas (2)</td>
<td>da-dh-mas (2)</td>
</tr>
<tr>
<td>2</td>
<td>da-dhā-si</td>
<td>dha-t-thas (2, 6)</td>
<td>dha-t-tha (2, 6)</td>
</tr>
<tr>
<td>3</td>
<td>da-dhā-ti</td>
<td>dha-t-thas (2, 6)</td>
<td>da-dh-a-ti (4)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>a-da-dhā-m</td>
<td>a-da-dh-va (2)</td>
<td>a-da-dh-ma (2)</td>
</tr>
<tr>
<td>2</td>
<td>a-da-dhā-s</td>
<td>a-dha-t-tam (2, 6)</td>
<td>a-dha-t-ta (2, 6)</td>
</tr>
<tr>
<td>3</td>
<td>a-da-dhā-t</td>
<td>a-dha-t-tam (2, 6)</td>
<td>a-da-dh-us (5)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>da-dhā-ni</td>
<td>da-dhā-va</td>
<td>da-dhā-ma</td>
</tr>
<tr>
<td>2</td>
<td>dhē-hi (3)</td>
<td>dha-t-tam (2, 6)</td>
<td>dha-t-ta (2, 6)</td>
</tr>
<tr>
<td>3</td>
<td>da-dhā-tu (1)</td>
<td>dha-t-tam (2, 6)</td>
<td>da-dh-a-tu (4)</td>
</tr>
</tbody>
</table>

1. *dhā* is full grade from ie. *dheh₁*. The reduplication vowel is oi. a. By deaspiration, we obtain *da-dhā-ti* etc.

2. It seems that the laryngeal is lost without trace in *da-dh-ma* (“we set”) here as in *da-d-ma* (“we give”) above.

3. Parasmāipada imperative 2. pers. sg. *dhē-hi* may be regular:

   ie. *dhe-dh₁-dhe*
   
   → dha-dh-dhe *(Lar V: loss of laryngeal, no DA in the closed syllable dha-dh)*
   
   → dha-d-dhe *(ASh, but dh cannot be aspirated any further)*
   
   → dha-dz-dhe *(DzD)*
   
   → dha-z-dhe *(CCl)*
   
   → dhaz-dhe
   
   → dhē-dhe *(CPLz before consonant + i)*
   
   → dhē-hi (analogy)

   Alternatively, analogy with *dē-hi* may be relevant:

<table>
<thead>
<tr>
<th>dē</th>
<th>with imperative: dē-hi</th>
</tr>
</thead>
<tbody>
<tr>
<td>dhē</td>
<td>just as dhē-hi</td>
</tr>
</tbody>
</table>

4. *da-dh-a-ti* is due to the sound law *n* → a, just as *da-d-a-ti.*
C.6. Thematic and athematic verbs

5. *a-da-dh-us* is parallel to *a-da-d-us*.

6. Compare *da-t-tas* (“the two give”) with *dha-t-tas* (“the two set”). After the laryngeal dropped, deaspiration could not work in the closed syllable *dha-d*. Grassmann’s law states: If aspirated consonants occur in the beginning of two subsequent syllables, the first aspirated consonant loses its aspiration. The second problem is the non-application of ASH. If both DA and ASH would have done their work, we should expect ∗*da-dhh₁-t-* → ∗*da-d-dh-* instead of observed *dha-t-t-*.

C.6.5. The fifth class

Introductory remark and overview

In subsection C.2.5 (pp. 87), we have explained how the nasal classes 5, 8, and 9 can be considered special subcases of the seventh class. There, we have also printed the class signs for strong and weak forms:

<table>
<thead>
<tr>
<th>class</th>
<th>strong gaṇa sign</th>
<th>3. pers. sg.</th>
<th>weak gaṇa sign</th>
<th>3. pers. pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>nō</td>
<td>sr-nō-ti</td>
<td>nu</td>
<td>sr-nu-mas</td>
</tr>
<tr>
<td>7</td>
<td>na</td>
<td>yu-na-k-ti</td>
<td>n</td>
<td>yu-n-j-mas</td>
</tr>
<tr>
<td>8</td>
<td>ō</td>
<td>tan-ō-ti</td>
<td>u</td>
<td>tan-i-mas</td>
</tr>
<tr>
<td>9</td>
<td>nā</td>
<td>pu-nā-ti</td>
<td>nī</td>
<td>pu-nī-mas</td>
</tr>
</tbody>
</table>

Before dealing with concrete verbs of the 5. class, we point out three features.

1. In line with sound law DIPH (pp. 22), the strong class sign nō turn into nav when a vowel follows:

<table>
<thead>
<tr>
<th></th>
<th>1. pers. sg. pres. tense</th>
<th>1. pers. sg. impf.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>√</td>
<td>āp</td>
<td>āp-nō-mi</td>
<td>to obtain</td>
</tr>
<tr>
<td></td>
<td>śak</td>
<td>śak-nō-mi</td>
<td>a-śak-nav-am</td>
</tr>
<tr>
<td></td>
<td>su</td>
<td>su-nō-mi</td>
<td>to press</td>
</tr>
</tbody>
</table>

2. The weak class sign nu shows predictable variations (see hV) depending on whether a consonant or a vowel follows:

<table>
<thead>
<tr>
<th></th>
<th>3. pers. dual pres. tense</th>
<th>3. pers. pl. pres. tense</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>√</td>
<td>āp</td>
<td>āp-nu-tas</td>
<td>to obtain</td>
</tr>
<tr>
<td></td>
<td>śak</td>
<td>śak-nu-tas</td>
<td>to be able</td>
</tr>
<tr>
<td></td>
<td>su</td>
<td>su-nu-tas</td>
<td>to press</td>
</tr>
</tbody>
</table>

While su-nu-tas is very clear, the other two examples are more difficult. Note that n.at. śak-ne-an-ti would be quite impossible. n would by syllabified, with difficult-to-understand outcome. Hence, the rule
C. Grammar: verbal system

example

\[ V + hV \quad CRyV \rightarrow CRiyV \quad mr-iq-a-tê \]

\[ CRuV \rightarrow CRuvV \quad āp-nuv-an-ti \]

is applied and śak-nuv-an-ti results.

3. The weak class sign \( n u \) is often to \( n \) in the 1. pers. dual and pl., present and past tenses:

<table>
<thead>
<tr>
<th>√</th>
<th>1. pers. pl. pres. tense</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>āp</td>
<td>āp-nu-mas</td>
<td>not āp-n-mas</td>
</tr>
<tr>
<td>śak</td>
<td>śak-nu-mas</td>
<td>not śak-n-mas</td>
</tr>
<tr>
<td>su</td>
<td>su-nu-mas</td>
<td>su-n-mas</td>
</tr>
</tbody>
</table>

It is clear that forms like śak-n-mas do not work.

We now turn to some verbs of the 5. class, in particular to

 biçim.

◇ su ("to press") on pp. 174
◇ śru ("to hear") on pp. 175
◇ āp ("to get") on pp. 175
◇ aš ("to get, to enjoy") on pp. 176

**su ("to press")**

We now turn to su ("to press").

<table>
<thead>
<tr>
<th>su ← ie. *seu, parasmâipada</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 su-nô-mi (1)</td>
<td>su-n(u)-vas (4)</td>
<td>su-n(u)-mas (4)</td>
</tr>
<tr>
<td>2 su-nô-si (1, 6)</td>
<td>su-nu-thas</td>
<td>su-nu-tha</td>
</tr>
<tr>
<td>3 su-nô-ti (1)</td>
<td>su-nu-thas</td>
<td>su-nu-an-ti (3)</td>
</tr>
<tr>
<td>1 a-su-nav-am (2)</td>
<td>a-su-n(u)-va (4)</td>
<td>a-su-n(u)-ma (4)</td>
</tr>
<tr>
<td>2 a-su-nô-s (1)</td>
<td>a-su-nu-tam</td>
<td>a-su-nu-ta</td>
</tr>
<tr>
<td>3 a-su-nô-l (1)</td>
<td>a-su-nu-lâm</td>
<td>a-su-nu-an (3)</td>
</tr>
<tr>
<td>1 su-nav-āni (2)</td>
<td>su-nav-āva (2)</td>
<td>su-nav-āma (2)</td>
</tr>
<tr>
<td>2 su-nu (5)</td>
<td>su-nu-tam</td>
<td>su-nu-ta</td>
</tr>
<tr>
<td>3 su-nô-tu (1)</td>
<td>su-nu-lâm</td>
<td>su-nu-an-tu (3)</td>
</tr>
</tbody>
</table>

1. The strong forms have the strong class sign \( nô \) before consonant endings (see DIPH).

2. The strong forms have the strong class sign \( nav \) before vowel endings (see DIPH).
C.6. Thematic and athematic verbs

3. The weak forms before vowel endings are *ν (see $hV$).

4. In the four weak forms with $m$ and $v$ endings, we alternatively have $n$ for $nu$, i.e., $su-n-vas$ besides $su-nu-vas$ etc.

5. Thematic parasmēipada paradigms show the stem as sec. pers. sg. impv., as in $bham$ (“carry!”). This holds for some verbs from the 5. class, but not for all:

   ◇ $su-nu$ (“press!”) and $śru-ṇu$ (“hear!”) versus
   ◇ $āp-ṇu-hi$ (“get!”) and $śak-ṇu-hi$ (“be able!”)

6. RUKI.

$śr$ (“to hear”)

Maybe, you like to consult section [C.2.5 (p. 88)] once again. For the purpose of the following paradigm, we work with $śr$ (“to hear”) rather than $śru$. The paradigm for $śr$ closely follows the $su$ paradigm above. For the numbers, see under the $su$ table above. Observe, however, cerebralization of the class signs after $ṛ$.

\[
\begin{array}{|c|c|c|}
\hline
\text{sg.} & \text{dual} & \text{pl.} \\
\hline
1 & śṛ-ṇō-mi (1) & śṛ-ṇ(u)-vas (4) & śṛ-ṇ(u)-mas (4) \\
2 & śṛ-ṇō-sī (1, 6) & śṛ-ṇu-thas & śṛ-ṇu-tha \\
3 & śṛ-ṇō-ti (1) & śṛ-ṇu-tas & śṛ-ṇu-an-ti (3) \\
\hline
1 & a-śṛ-ṇav-am (2) & a-śṛ-ṇ(u)-va (4) & a-śṛ-ṇ(u)-ma (4) \\
2 & a-śṛ-ṇō-s (1) & a-śṛ-ṇu-tam & a-śṛ-ṇu-ta \\
3 & a-śṛ-ṇō-t (1) & a-śṛ-ṇu-tām & a-śṛ-ṇu-an (3) \\
\hline
1 & śṛ-ṇav-āni (2) & śṛ-ṇav-āva (2) & śṛ-ṇav-āma (2) \\
2 & śṛ-ṇu (5) & śṛ-ṇu-tam & śṛ-ṇu-ta \\
3 & śṛ-ṇō-tu (1) & śṛ-ṇu-tām & śṛ-ṇu-an-tu (3) \\
\hline
\end{array}
\]

$āp$ (“to get”)

And here the somewhat similar paradigm for $āp$: 

175
1. The strong forms have the strong class sign nô before consonant endings (see DIPH).

2. The strong forms have the strong class sign nav before vowel endings (see DIPH).

3. The weak forms before vowel endings are nuv. See V+hV on pp. 21 for a discussion of the difference between āp-nuv-an-ti here and su-nuv-an-ti above.

4. In contrast to su, there are not alternative forms. Indeed, while āp-nu-ma is quite transparent, āp-n-ma is not (see p. 174).

5. In contrast to su, we witness the (nearly) regular sec. pers. sg. imp. of parasmâipada verbs hi.

6. RUKI.

āś ("to get, to enjoy")

We now turn to an ātmanēpada verb:
C.6. Thematic and athematic verbs

1. Expectedly, the weak forms before consonantal endings are nu, for example aš-nu-tê.

2. The weak forms before vowel endings are nuv, for example aš-nuv-ê. See V + hV (pp. B.2.2).

3. A specific example of nuv before vowel endings is provided by 3. pers. pl. aš-nuv-atê where a goes back to ē.

4. The strong forms like aš-nav-âi have the class sign nav before vowel endings (DIPH).

5. RUKI

C.6.6. The seventh class

Introductory remark and overview

Historically, the 7. class is the most primitive one of the four nasal classes 5, 7, 8, and 9 (pp. 87). We consider in detail the verbs from the following table:

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>yuj</td>
<td>yu-na-k-ti</td>
<td>yu-ni-j-mas</td>
<td>178</td>
</tr>
<tr>
<td>rudh</td>
<td>ru-na-d-dhi</td>
<td>ru-n-dh-mas</td>
<td>179</td>
</tr>
<tr>
<td>bhid</td>
<td>bhi-na-t-ti</td>
<td>bhi-n-d-mas</td>
<td>181</td>
</tr>
<tr>
<td>hi-ṛ-s</td>
<td>hi-ṛ-na-s-ti</td>
<td>hi-ṛ-s-mas</td>
<td>182</td>
</tr>
</tbody>
</table>

Here, the infixes into the root

◇ na for strong forms

◇ n for weak forms
are clearly seen. The oi. root does not, normally, contain the nasal infix, but the desiderative (!) hims (p. 135) is an exception.

**yuj** ("to join")

Oï. **yuj** ("to join") and oï. **bhuj** ("to protect") follow the same pattern. Here is the parasmaïpada paradigm of **yuj** (just replace **y** by **bh** for **bhuj**):

<table>
<thead>
<tr>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 yu-na-j-mi (1)</td>
<td>yu-ñi-j-vas (1)</td>
<td>yu-ñi-j-mas (1)</td>
</tr>
<tr>
<td>2 yu-na-k-si (3)</td>
<td>yu-ñi-k-thas (3)</td>
<td>yu-ñi-k-tha (3)</td>
</tr>
<tr>
<td>3 yu-na-k-li (3)</td>
<td>yu-ñi-k-tas (3)</td>
<td>yu-ñi-j-an-ti (1, 5a)</td>
</tr>
<tr>
<td>1 a-yu-na-j-am (1)</td>
<td>a-yu-ñi-j-va (1)</td>
<td>a-yu-ñi-j-ma (1)</td>
</tr>
<tr>
<td>2 a-yu-na-k (3, 4)</td>
<td>a-yu-ñi-k-tam (3)</td>
<td>a-yu-ñi-k-ta (3)</td>
</tr>
<tr>
<td>3 a-yu-na-k (3, 4)</td>
<td>a-yu-ñi-k-tam (3)</td>
<td>a-yu-ñi-j-an (3, 5a)</td>
</tr>
</tbody>
</table>

1. The final oi. root voiced consonant **j** is found before all endings starting with resonants **m** or **v** or with vowels.

2. Instead of **j**, we find voiced **g** before voiced dentals (**BA**).

3. Instead of **j**, we find nonvoiced **k** before nonvoiced consonants (**BA**).

4. The impv. sg. forms **a-yu-na-k** reflect sound laws **BA** and **CCl**, i.e., **a-yu-na-k** stands in for **a-yu-na-k-s** or **a-yu-na-k-t**, respectively. Alternatively, one would get the same result by applying **CCl** and **AFP**, in that order.

5. In 3. pers. pl. forms, we have **a** in both parasmaïpada and ātmanēpada forms. Note, however:

   a. In parasmaïpada 3. pers. pl. forms like **yu-ñi-j-a-n-ti** (paradigm above), we have **an** due to regularly occurring borrowing of **a** from the thematic classes.

   b. In contrast, ātmanēpada forms like **yu-ñi-j-a-tê** (see below) do without this borrowing and **a** goes back to syllabic **n** : **yu-ñi-j-a-tê** ← ie. \***yu-ni-j-a-n-tê**

And here you see the ātmanēpada paradigm where the numbers are explained above:
C.6. Thematic and athematic verbs

√yuŋ ← ie. *yug, ātmanēpada

<table>
<thead>
<tr>
<th></th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>yu-ŋ-j-ē (1)</td>
<td>yu-ŋ-j-vahē (1)</td>
<td>yu-ŋ-j-mahē (1)</td>
</tr>
<tr>
<td>2</td>
<td>yu-ŋ-ki-sē (3)</td>
<td>yu-ŋ-j-ādhē (1)</td>
<td>yu-ŋ-g-dhvē (2)</td>
</tr>
<tr>
<td>3</td>
<td>yu-ŋ-k-tē (3)</td>
<td>yu-ŋ-j-āṭē (1)</td>
<td>yu-ŋ-j-a-tē (1, 5b)</td>
</tr>
</tbody>
</table>

1 a-yu-ŋ-j-ē (1) a-yu-ŋ-j-vahē (1) a-yu-ŋ-j-mahē (1) imperfect
2 a-yu-ŋ-k-thās (3) a-yu-ŋ-j-ādhām (1) a-yu-ŋ-g-dhvam (2) (sec. end.)
3 a-yu-ŋ-k-tā (3)  a-yu-ŋ-j-āṭām (1)  a-yu-ŋ-j-a-tā (1, 5b) with augm.

1 yu-na-j-ādai (1) yu-na-j-ā-vahāi (1) yu-na-j-ā-mahāi (1) imperative
2 yu-ŋ-ki-sva (3)  yu-ŋ-j-ādhām (1)  yu-ŋ-g-dhvam (2) (sec. end.)
3 yu-ŋ-k-tām (3)   yu-ŋ-j-āṭām (1)   yu-ŋ-j-a-tām (1, 5b) (sec. end.)

rudh (“to obstruct”)

The next verb is rudh (“to obstruct”). While the nasal infix does not change (before the dental endings), we have a few applications of Bartholomae’s law. We begin with the parasmaipada paradigm:

√rudh ← ie. *reudh, parasmaipada

<table>
<thead>
<tr>
<th></th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>ru-ŋa-dh-mi (3)</td>
<td>ru-n-dh-vas (3)</td>
<td>ru-n-dh-mas (3)</td>
</tr>
<tr>
<td>2</td>
<td>ru-ŋa-t-sī (2a)</td>
<td>ru-n-d-dhās (1b)</td>
<td>ru-n-d-dha (1b)</td>
</tr>
<tr>
<td>3</td>
<td>yu-na-d-dhi (1a)</td>
<td>ru-n-d-dhās (1a)</td>
<td>ru-n-d-dhān-ti (3, 4a)</td>
</tr>
</tbody>
</table>

1 a-ru-ŋa-dh-am (3) a-ru-n-dh-va (3) a-ru-n-dh-ma (3) imperfect
2 a-ru-ŋa-s/a-ru-ŋa-t (5) a-ru-n-d-dhām (1a) a-ru-n-d-dha (1a) (sec. end.)
3 a-ru-ŋa-t (5)    a-ru-n-d-dhām (1a)    a-ru-n-d-dhān (3, 4a) with augm.

1 ru-ŋa-dhānī (3)    ru-ŋa-dhāva (3)    ru-ŋa-dhāma (3)    imperative
2 ru-n-d-dhi (1c)    ru-n-d-dhām (1a)    ru-n-d-dha (1a)    (sec. end.)
3 ru-ŋa-d-dhu (1a)    ru-n-d-dhām (1a)    ru-n-d-dhān-tu (3, 4a) (sec. end.)

1. Many forms show aspiration shift ASh (pp. 37). In particular, we have three cases:
   a. dh-t → d-dh (aspiration shift and forward assimilation) is seen in ru-ŋa-d-dhi.
   b. dh-th → d-dh (forward assimilation, but no double aspiration) is seen in ru-n-d-dhas.
   c. dh-dh → d-dh (dh is already voiced and aspirated) is seen in ru-n-d-dhvē (see ātmanēpada paradigm below).

The pres. tense dual form ru-n-d-dhas reflects both endings thas (case b) and tas (case a).
C. Grammar: verbal system

2. *dh* looses its aspiration in these cases:

   a. before *s* as in parasmāipada pres. tense 2. pers. sg. *ra-ṇa-t-si* where

      ◇ the root-final *dh* lost its aspiration and became voiceless before voiceless *s*, and

      ◇ this *s* cannot assume the aspiration (which would otherwise occur by Bartholomae’s law)

   b. before *dhv* as in ātmanēpada pres. tense 2. pers. pl. *ru-n-d-dhvê* where

      ◇ the root-final *dh* lost its aspiration,

      ◇ *dh* is already aspirated so that not further aspiration was possible, and

      ◇ *v* cannot assume this aspiration.

3. The oi. root consonant *dh* is found before all endings starting with resonants *m* or *v* or with vowels.

4. In 3. pers. pl. forms, we have *a* in both parasmāipada and ātmanēpada forms. Note, however:

   a. In parasmāipada 3. pers. pl. forms like *ru-n-dh-a-n-tî* (paradigm above), we have *an* due to borrowing of *a* from the thematic classes.

   b. In contrast, ātmanēpada forms like *ru-n-dh-a-tê* (see below) do without this borrowing and *a* goes back to syllabic *n*.

5. We explain the imperfect 3. pers. sg. by

   \[ *a-ru-ṇa-dh-t \]
   \[ \rightarrow a-ru-ṇa-dh \text{ (CCl)} \]
   \[ \rightarrow a-ru-ṇa-t \text{ (AFP)} \]

   This also works for the 2. pers. However, the 2. pers. admits a variant *a-ru-ṇa-s* which is formed by the wish to restore the usual ending *s*.

And here you see the ātmanēpada paradigm where the numbers are explained above:
C.6. Thematic and athematic verbs

<table>
<thead>
<tr>
<th>√rudh ← ie. *reudh, ātmanēpada</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ru-n-dh-ê (3)</td>
<td>ru-n-dh-vahê (3)</td>
<td>ru-n-dh-mahê (3)</td>
</tr>
<tr>
<td>ru-n-t-sê (2a)</td>
<td>ru-n-dh-āthê (3)</td>
<td>ru-n-dh-vê (1c, 2b)</td>
</tr>
<tr>
<td>ru-n-d-dhê (1a)</td>
<td>ru-n-dh-ātê (3)</td>
<td>ru-n-dh-a-tê (3, 4b)</td>
</tr>
<tr>
<td>a-ru-n-dh-î (3)</td>
<td>a-ru-n-dh-vahi (3)</td>
<td>a-ru-n-dh-mahi (3)</td>
</tr>
<tr>
<td>a-ru-n-d-dhâs (1b)</td>
<td>a-ru-n-dh-āthâm (3)</td>
<td>a-ru-n-d-dhvam (1c, 2b)</td>
</tr>
<tr>
<td>a-ru-n-d-dha (1a)</td>
<td>a-ru-n-dh-ātâm (3)</td>
<td>a-ru-n-dh-a-ta (3, 4b)</td>
</tr>
<tr>
<td>ru-ṇa-dh-âi (3)</td>
<td>ru-ṇa-dh-ā-vahâi (3)</td>
<td>ru-ṇa-dh-ā-mahâi (3)</td>
</tr>
<tr>
<td>ru-n-t-sva (2a)</td>
<td>ru-n-dh-āthâm (3)</td>
<td>ru-n-d-dhvam (1c, 2b)</td>
</tr>
<tr>
<td>ru-n-d-dhâm (1a)</td>
<td>ru-n-dh-ātâm (3)</td>
<td>ru-n-dh-a-tâm (3, 4b)</td>
</tr>
</tbody>
</table>

bhîd (“to break”)

We now turn to bhîd (“to break”):

<table>
<thead>
<tr>
<th>√bhîd ← ie. *bhēid, parasmāipada</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>bhi-na-d-mi (1)</td>
<td>bhi-n-d-vas (1)</td>
<td>bhi-n-d-mas (1)</td>
</tr>
<tr>
<td>bhi-na-l-stî (3)</td>
<td>bhi-n-d-thas (3)</td>
<td>bhi-n-t-tha (3)</td>
</tr>
<tr>
<td>bhi-na-l-tî (3)</td>
<td>bhi-n-t-tas (3)</td>
<td>bhi-n-d-an-tî (1, 5a)</td>
</tr>
<tr>
<td>a-bhi-na-d-adm (1)</td>
<td>a-bhi-n-d-vâ (1)</td>
<td>a-bhi-n-d-ma (1)</td>
</tr>
<tr>
<td>a-bhi-na-s/a-bhi-na-l (3, 4)</td>
<td>a-bhi-n-t-tam (3)</td>
<td>a-bhi-n-t-ta (3)</td>
</tr>
<tr>
<td>a-bhi-na-l (3, 4)</td>
<td>a-bhi-n-t-tâm (3)</td>
<td>a-bhi-n-d-an (3, 5a)</td>
</tr>
<tr>
<td>bhi-na-d-ânî (1)</td>
<td>bhi-na-d-âva (1)</td>
<td>bhi-na-d-âma (1)</td>
</tr>
<tr>
<td>bhi-n-d-dhi (2)</td>
<td>bhi-n-t-tam (3)</td>
<td>bhi-n-t-ta (3)</td>
</tr>
<tr>
<td>bhi-na-l-tu (3)</td>
<td>bhi-n-t-tâm (3)</td>
<td>bhi-n-d-an-tu (3, 5a)</td>
</tr>
</tbody>
</table>

1. The final oi. root consonant d is found before all endings starting with resonants m or v or with vowels.

2. Since the root-final d corresponds to the ending of 2. pers. sg. impv., there is no change in bhi-n-d-dhi.

3. Instead of d, we find nonvoiced t before nonvoiced consonants (BA).

4. The impf. sg. forms a-bhi-na-t reflect sound laws BA and CCl, i.e., a-bhi-na-t stands in for *a-bhi-na-t-s or *a-bhi-na-t-t, respectively. Alternatively, one would get the same result by applying CCl and AFP.
C. Grammar: verbal system

5. In 3. pers. pl. forms, we have a in both parasmâipada and ātmanêpada forms. Note, however:

  a. In parasmâipada 3. pers. pl. forms like bhi-n-d-an-ti (paradigm above), we have an due to borrowing of a from the thematic classes.

  b. In contrast, ātmanêpada forms like bhi-n-d-a-tê (see below) do without this borrowing and a goes back to syllabic n.

And here you see the ātmanêpada paradigm where the numbers are explained above:

<table>
<thead>
<tr>
<th>√bhid ← ie. *bheid, ātmanêpada</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>sg.</td>
<td>dual</td>
<td>pl.</td>
</tr>
<tr>
<td>1 bhi-n-d-ê (1)</td>
<td>bhi-n-d-vahê (1)</td>
<td>bhi-n-d-mahê (1)</td>
</tr>
<tr>
<td>2 bhi-n-t-sê (3)</td>
<td>bhi-n-d-āthê (1)</td>
<td>bhi-n-d-dlvê (2)</td>
</tr>
<tr>
<td>3 bhi-n-t-tê (3)</td>
<td>bhi-n-d-ātê (1)</td>
<td>bhi-n-d-a-tê (1, 5b)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>a-bhi-n-d-i (1)</th>
<th>a-bhi-n-d-rahi (1)</th>
<th>a-bhi-n-d-mahi (1)</th>
<th>imperfect</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>a-bhi-n-t-thâs (3)</td>
<td>a-bhi-n-d-āthâm (1)</td>
<td>a-bhi-n-d-dhväm (2)</td>
<td>(sec. end.)</td>
</tr>
<tr>
<td>2</td>
<td>a-bhi-n-t-ta (3)</td>
<td>a-bhi-n-d-ātâm (1)</td>
<td>a-bhi-n-d-a-ta (1, 5b)</td>
<td>with augm.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>√hims parasmâipada</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>sg.</td>
<td>dual</td>
<td>pl.</td>
</tr>
<tr>
<td>1 hi-na-s-mi</td>
<td>hims-vas</td>
<td>hims-mas</td>
</tr>
<tr>
<td>2 hi-na-s-sî</td>
<td>hims-thas</td>
<td>hims-tha</td>
</tr>
<tr>
<td>3 hi-na-s-tî</td>
<td>hims-tas</td>
<td>hims-an-tî</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>a-hi-na-s-am</th>
<th>a-hims-va</th>
<th>a-hims-ma</th>
<th>imperfect</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>a-hi-na-s/hi-na-t (1)</td>
<td>a-hims-tam</td>
<td>a-hims-ta</td>
<td>(sec. end.)</td>
</tr>
<tr>
<td>2</td>
<td>a-hi-na-t (1)</td>
<td>a-hims-tâm</td>
<td>a-hims-an</td>
<td>with augm.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>hi-na-s-ânî</th>
<th>hi-na-s-âva</th>
<th>hi-na-s-âma</th>
<th>imperative</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>hi-n-dhi (2)</td>
<td>hims-tam</td>
<td>hims-ta</td>
<td>(sec. end.)</td>
</tr>
<tr>
<td>2</td>
<td>hi-na-s-tu</td>
<td>hims-tâm</td>
<td>hims-an-tu</td>
<td></td>
</tr>
</tbody>
</table>
C.6. Thematic and athematic verbs

1. We explain the imperfect 2. pers. sg. by

\[ a-hi-na-s-s \rightarrow a-hi-na-s \ (CCl) \]

The same form should be produced in the 3. pers., \( a-hi-na-s-t \rightarrow a-hi-na-s \). The forms shown in the table would have been produced by analogy with other verbs like bhid. Compensatory lengthening could also have occurred. But if, it has been levelled quickly.

2. The form hi-n-dhi for expected \( hi-\eta-s-dhi \) is mysterious.

C.6.7. The eighth class

Introductory remark and overview

Most paradigms of the 8. class closely resemble those of the 5. class. The reason has been explained on pp. 89. We focus on tan (“to stretch, to extend”) on pp. 183. In presenting the tan paradigms, we assume the gana signs \( \delta \) and \( u \), respectively, in line with traditional Indian grammar.

Additionally, we present the paradigm for the very frequent verb kr (“to do, to make”) on pp. 184.

**tan (“to stretch, to extend”)**

We begin with the parasmaipada paradigm of tan (“to stretch, to extend”):

<table>
<thead>
<tr>
<th>( \sqrt{tan} \rightarrow ) ie. *ten, parasmaipada</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 tan-ô-mi (1)</td>
<td>tan-(u)-vas (4)</td>
<td>tan-(u)-mas (4)</td>
<td>present</td>
</tr>
<tr>
<td>2 tan-ô-śi (1, 6)</td>
<td>tan-u-thas</td>
<td>tan-u-tha</td>
<td>tense</td>
</tr>
<tr>
<td>3 tan-ô-ti (1)</td>
<td>tan-u-tas</td>
<td>tan-v-an-ti (3)</td>
<td>(prim. end.)</td>
</tr>
<tr>
<td>1 a-tan-av-am (2)</td>
<td>a-tan-(u)-va</td>
<td>a-tan-(u)-ma (4)</td>
<td>imperfect</td>
</tr>
<tr>
<td>2 a-tan-ô-s (1)</td>
<td>a-tan-u-tam</td>
<td>a-tan-u-ta</td>
<td>(sec. end.)</td>
</tr>
<tr>
<td>3 a-tan-ô-l (1)</td>
<td>a-tan-u-lâm</td>
<td>a-tan-v-an (3)</td>
<td>with augm.</td>
</tr>
<tr>
<td>1 tan-ar-âni (2)</td>
<td>tan-ar-āva (2)</td>
<td>tan-ar-āma (2)</td>
<td>imperative</td>
</tr>
<tr>
<td>2 tan-u (5)</td>
<td>tan-u-tam</td>
<td>tan-u-ta</td>
<td>(sec. end.)</td>
</tr>
<tr>
<td>3 tan-ô-tu (1)</td>
<td>tan-u-lâm</td>
<td>tan-v-an-tu (3)</td>
<td></td>
</tr>
</tbody>
</table>

1. The strong forms have the strong class sign \( \delta \) before consonant endings (see DIPH).
2. The strong forms have the strong class sign \( av \) before vowel endings (see DIPH).
3. The weak forms before vowel endings are \( v \) (see h\( V \)).

183
C. Grammar: verbal system

4. In the four weak forms with m and v endings, we alternatively have ∅ for u, i.e., tan-mas besides tan-u-mas etc.

5. Thematic parasmáipada paradigms show the stem as sec. pers. sg. impv., as in bhara (“carry”). This holds here for tan-u (“stretch”) as for some verbs from the 5. class class like su-nu.

6. RUKI.

We now turn to the ātmanépada paradigm:

<table>
<thead>
<tr>
<th>√tan ← ie. *ten, ātmanépada</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>sg.</td>
<td>dual</td>
<td>pl.</td>
</tr>
<tr>
<td>1</td>
<td>tan-v-ê (2)</td>
<td>tan-(u-)vahê (1, 5)</td>
</tr>
<tr>
<td>2</td>
<td>tan-u-sê (1, 6)</td>
<td>tan-v-âthê (2)</td>
</tr>
<tr>
<td>3</td>
<td>tan-u-tê (1)</td>
<td>tan-v-âtê (2)</td>
</tr>
</tbody>
</table>

1. a-tan-v-i (2) | a-tan-(u-)vahi (1, 5) | a-tan-(u-)mahî (1, 5) |

2. a-tan-u-thâs (1) | a-tan-v-âthâm (2) | a-tan-u-dhvam (1) |

3. a-tan-u-ta (1) | a-tan-v-âtâm (2) | a-tan-v-a-ta (2, 3) |

1. tan-av-âi (4) | tan-av-ôvahâï (4) | tan-av-ômahâï (4) |

2. tan-u-sva (1, 6) | a-tan-v-ôthâm (2) | tan-u-dhvam (1) |

3. tan-u-tâm (1) | a-tan-v-ôlâm (2) | tan-v-a-tâm (2, 3) |

1. Expectedly, the weak forms before consonants are u, for example tan-u-tê.

2. The weak forms before vowels are tan-v-ê and a-tan-v-i.

3. Other examples of v before vowel endings are provided by 3. pers. pl. tan-v-atê etc. where a goes back to n ∅.

4. The strong forms have the class sign av before vowel endings (see DIPH), for example tan-av-âi.

5. In the four weak forms with m and v endings, we alternatively have no class sign instead of class sign u, similar to some verbs from the 5. class (su-n(u)-mas).

6. RUKI

kr (“to do, to make”)

The paradigms for kr (“to do, to make”) differ somewhat from the nasal verbs like tan:
C.6. Thematic and athematic verbs

\[ /k_r \leftarrow \text{ie. } ^*_w^*_{e^r} \text{ (without SPal), parasmäipada} \]

<table>
<thead>
<tr>
<th></th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>kar-ô-mi (1a)</td>
<td>kur-vas (3)</td>
<td>kur-mas (3)</td>
</tr>
<tr>
<td>2</td>
<td>kar-ô-ši (1a, 5)</td>
<td>kur-u-thas</td>
<td>kur-u-tha</td>
</tr>
<tr>
<td>3</td>
<td>kar-ô-ti (1a)</td>
<td>kur-u-tas</td>
<td>kur-v-an-ti (2)</td>
</tr>
<tr>
<td>1</td>
<td>a-tan-av-am (1b)</td>
<td>a-kur-va (3)</td>
<td>a-kur-ma (3)</td>
</tr>
<tr>
<td>2</td>
<td>a-kar-ô-s (1a)</td>
<td>a-kur-u-tam</td>
<td>a-kur-u-ta</td>
</tr>
<tr>
<td>3</td>
<td>a-kar-ô-t (1a)</td>
<td>a-kur-u-tâm</td>
<td>a-kur-v-an (2)</td>
</tr>
<tr>
<td>1</td>
<td>kar-av-âni (1b)</td>
<td>kar-av-âva (1b)</td>
<td>kar-av-âma (1b)</td>
</tr>
<tr>
<td>2</td>
<td>kar-u (4)</td>
<td>kur-u-tam</td>
<td>kur-u-ta</td>
</tr>
<tr>
<td>3</td>
<td>kar-ô-tu (1a)</td>
<td>kur-u-tâm</td>
<td>kur-v-an-tu (2)</td>
</tr>
</tbody>
</table>

1. The strong forms use the full-grade kar. That is different from the other verbs like tan that, originally, is built on the zero grade (see, again, pp. 89). The class sign

a. ô before consonant endings.

b. av before vowel endings.

2. The weak form is kur-u, but we have v before vowel endings (hV), for example kur-v-a-n-ti.

3. In the four weak forms with m and v endings, we see the zero class sign, exclusively. Thus,

◊ for tan, we have tan-vas besides tan-u-vas

◊ but kr shows only kur-vas.

4. Similar to su-nu (5. class) and tan-u (8. class), we have kur-u (“do!”).

5. **RUKI**

We now turn to the atmanâpada paradigm:

185
C. Grammar: verbal system

\[ \sqrt{kr} \leftarrow \text{ie. } *k\text{v}er \text{ (without SPal), \text{ātmanēpada}} \]

<table>
<thead>
<tr>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 kur-v-ē (2)</td>
<td>kur-v-āhē (1, 5)</td>
<td>kur-mahē (1, 5)</td>
</tr>
<tr>
<td>2 kur-u-še (1, 6)</td>
<td>kur-v-ākhē (2)</td>
<td>kur-u-dhvē (1)</td>
</tr>
<tr>
<td>3 kur-u-tē (1)</td>
<td>kur-v-ātē (2)</td>
<td>kur-v-a-tē (2, 3)</td>
</tr>
</tbody>
</table>

| 1 a-kur-v-ī (2) | a-kur-vahi (1, 5) | a-kur-mahī (1, 5) | imperfect |
| 2 a-kur-u-thās (1) | a-kur-v-āthām (2) | a-kur-u-dhvam (1) | (sec. end.) |
| 3 a-kur-u-tā (1) | a-kur-v-ātām (2) | a-kur-v-a-tā (2, 3) | with augm. |

| 1 kur-av-ā (4) | kur-av-ā-vahāi (4) | kur-av-ā-mahāi (4) | imperative |
| 2 kur-u-svā (1, 6) | a-kur-v-āthām (2) | kur-u-dhvam (1) |         |
| 3 kur-u-tām (1) | a-kur-v-ātām (2) | kur-v-a-tām (2, 3) | (sec. end.) |

1. Expectedly, the weak forms before consonants are ā, for example kur-u-tē.
2. The weak forms before vowels are kur-v-ē, as expected.
3. Forms like 3. pers. pl. kur-v-atē exhibit a \( \overset{\wedge}{n} \).
4. The strong forms have the class sign av before vowel endings (see DIPH), for example kar-av-āi.
5. In the four weak forms with m and v endings, we see the zero class sign, exclusively.
6. RUKI

C.6.8. The ninth class

The class signs for the 9. class are nā (strong forms) and nī (weak forms). Revisit pp. 87. Since both class signs end in a vowel, the forms do not present any particular difficulties. Consider the parasmāipada paradigm of pū (“to purify”):

\[ \sqrt{pū} \leftarrow \text{ie. } *p\text{uH, parasmāipada}} \]

<table>
<thead>
<tr>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 pu-nā-mī</td>
<td>pu-nī-vas</td>
<td>pu-nī-mas</td>
</tr>
<tr>
<td>2 pu-nā-si</td>
<td>pu-nī-thas</td>
<td>pu-nī-tha</td>
</tr>
<tr>
<td>3 pu-nā-tī</td>
<td>pu-nī-tas</td>
<td>pu-n-ān-ti (3)</td>
</tr>
</tbody>
</table>

| 1 a-pu-nā-m (1) | a-pu-nī-va | a-pu-nī-ma | imperfect |
| 2 a-pu-nā-s | a-pu-nī-tam | a-pu-nī-ta | (sec. end.) |
| 3 a-pu-nā-t | a-pu-nī-tām | a-pu-n-ān (3) | with augm. |

| 1 pu-nā-ā (2) | pu-nā-āva (2) | pu-nā-āma (2) | imperative |
| 2 pu-nā-āhi (4) | pu-nī-tam | pu-nī-ta | active |
| 3 pu-nā-tu | pu-nī-tām | pu-n-ān-tu (3) | (sec. end.) |

186
C.6. Thematic and athematic verbs

1. We have a-pu-nā-m: no borrowing of a from the thematic verbs necessary.

2. Think of pu-nāni as pu-nā-āni.

3. The 3. pers. pl. forms (example: pu-n-a-n-ti) have been modelled on the many other athematic forms like duh-a-n-ti (2. class) or kur-v-a-n-ti (8. class). The weak class sign nī is not seen any more.


The ātmanēpada paradigm is not spectacular, either:

<table>
<thead>
<tr>
<th></th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>pu-nē (1)</td>
<td>pu-nē-vaḥē</td>
<td>pu-nē-mahē</td>
</tr>
<tr>
<td>2</td>
<td>pu-nē-sē (5)</td>
<td>pu-nē-āthē (2)</td>
<td>pu-nē-dhēvē</td>
</tr>
<tr>
<td>3</td>
<td>pu-nē-tē</td>
<td>pu-nē-ālē (2)</td>
<td>(prim. end.)</td>
</tr>
</tbody>
</table>

1 a-pu-n-i (4) a-pu-nī-vaḥi a-pu-nī-mahi imperfect (sec. end.)

2 a-pu-nī-thās a-pu-nī-ālēm a-pu-nī-dhāvam with augm.

3 a-pu-nē-tā a-pu-nē-ālām a-pu-n-a-tā (3)

1 pu-nā (6) pu-nā-vaḥāi (6) pu-nā-mahāi (6) imper- (sec. end.)

2 pu-nē-sā (5) a-pu-nā-ālēm (2) pu-nē-dhāvam

3 pu-nē-tām a-pu-nē-ālām (2) pu-n-a-tām (3)

1. The weak class sign nī is not present in pu-nē but “reduced to” just n.

2. Similar in the also weak pu-nā-āthē. This loss of a laryngeal between consonant and vowel may be a regular development (Lar _CH_).

3. The 3. pers. pl. forms (example: pu-n-a-n-ti) have been modelled on the many other athematic forms like duh-a-n-tē (2. class) or kur-v-a-tē (8. class). The weak class sign nī is not seen any more.

4. a-pu-n-i is modelled after forms like a-bi-bhr-i (3. class) or a-bhi-n-d-i (7. class).

5. RUKI

6. The strong forms like pu-nā-mahāi can be thought of as resulting from pu-nā-ā-mahāi.

Verbs like krī (“to buy”) or prī are formed similar to pu, with two exceptions:

◇ cerebral n (due to Cern, pp. 12 in all class signs: krī-ṇā-tī and krī-ṇī-mas

◇ irregular krī (with long ō) in forms with weak or strong class sign:

187
C. Grammar: verbal system

<table>
<thead>
<tr>
<th>√/krī ← ie. *kreiḥ₂, parasmāipada</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1 krī-ṇā-mi</td>
<td>krī-ṇā-vas</td>
<td>krī-ṇā-mas</td>
</tr>
<tr>
<td>2 krī-ṇā-si</td>
<td>krī-ṇā-thas</td>
<td>krī-ṇā-tha</td>
</tr>
<tr>
<td>3 krī-ṇā-ti</td>
<td>krī-ṇā-tas</td>
<td>krī-ṇan-ti</td>
</tr>
<tr>
<td>1 a-krī-ṇā-m</td>
<td>a-krī-ṇā-va</td>
<td>a-krī-ṇā-ma</td>
</tr>
<tr>
<td>2 krī-ṇā-s</td>
<td>a-krī-ṇā-tham</td>
<td>a-krī-ṇā-tha</td>
</tr>
<tr>
<td>3 krī-ṇā-t</td>
<td>a-krī-ṇā-thām</td>
<td>a-krī-ṇan</td>
</tr>
<tr>
<td>1 krī-ṇā-āni</td>
<td>krī-ṇā-āva</td>
<td>krī-ṇā-āma</td>
</tr>
<tr>
<td>2 krī-ṇā-hi</td>
<td>krī-ṇā-tam</td>
<td>krī-ṇā-ta</td>
</tr>
<tr>
<td>3 krī-ṇā-tu</td>
<td>krī-ṇā-tām</td>
<td>krī-ṇan-tu</td>
</tr>
</tbody>
</table>

Many other verbs differ only with respect to parasmāipada 2. pers. impv.:

<table>
<thead>
<tr>
<th>√</th>
<th>pres. tense</th>
<th>3. pers. sg.</th>
<th>impv., 2. pers. sg.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>aḍ (f.g.)</td>
<td>aḍ-ṇā-ti</td>
<td>aḍ-āna (f.g.)</td>
<td>eat!</td>
<td></td>
</tr>
<tr>
<td>kliś</td>
<td>kliś-ṇā-ti</td>
<td>kliś-āna</td>
<td>torment!</td>
<td></td>
</tr>
<tr>
<td>grah (f.g.)</td>
<td>grh-ṇā-ti</td>
<td>grh-āna</td>
<td>grab!</td>
<td></td>
</tr>
<tr>
<td>pus</td>
<td>pus-ṇā-ti</td>
<td>pus-āna</td>
<td>strengthen!</td>
<td></td>
</tr>
<tr>
<td>bandh (f.g.)</td>
<td>badh-ṇā-ti</td>
<td>badh-āna</td>
<td>bind!</td>
<td></td>
</tr>
<tr>
<td>mus</td>
<td>mus-ṇā-ti</td>
<td>mus-āna</td>
<td>rob!</td>
<td></td>
</tr>
<tr>
<td>stambh (f.g.)</td>
<td>stabh-ṇā-ti</td>
<td>stabh-āna</td>
<td>support!</td>
<td></td>
</tr>
</tbody>
</table>

C.7. Reduplicative perfect

C.7.1. General remarks
The reduplicative perfect is mainly attested for the 3. pers. sg. It is

◊ strong for parasmāipada sg.,

◊ weak for dual, pl. or ātmanēpada.

Reduplication for the perfect works similar to that of 3. class verbs (p. 165). Interestingly, the parasmāipada 3. pers. pl. is us

◊ for reduplicative perfect such as da-da-us as also

◊ for imperfect of 3. class verbs, for example a-da-d-us (see p. 166)

Typically, the initial consonant plus a ← ie. e (!) is placed before the full-grade root (strong forms) or the zero-grade root (weak forms). Two exceptions:

◊ u-roots (such as yuj) always reduplicate with u.

◊ i-roots (such as lih) always reduplicate with i.

188
C.7. Reduplicative perfect

C.7.2. Strong forms

Qualitative ablaut

We begin with the strong forms. They are built with the qualitative ablaut, the α-grade, i.e., we have

◇ ie. o → oi. a
◇ ie. oi → oi. ę
◇ ie. ou → oi. ő

Here are a few examples:

<table>
<thead>
<tr>
<th>√</th>
<th>perfect, 3. pers. sg.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>ie. o</td>
<td>bandh (f.g.)</td>
<td>ba-bandh-a (1)</td>
</tr>
<tr>
<td>ie. oi</td>
<td>dviš</td>
<td>di-dvēš-a (2)</td>
</tr>
<tr>
<td>līh</td>
<td>li-lēh-a</td>
<td>to lick</td>
</tr>
<tr>
<td>viš</td>
<td>vi-vēš-a</td>
<td>to cut</td>
</tr>
<tr>
<td>ie. ou</td>
<td>tud</td>
<td>tu-tōd-a</td>
</tr>
<tr>
<td>yuöl</td>
<td>yu-gōj-a</td>
<td>to join</td>
</tr>
<tr>
<td>rud</td>
<td>ru-rōd-a</td>
<td>to weep</td>
</tr>
</tbody>
</table>

1. ba-bandh-a is regular reduplicated perfect with reduplication vowel a.
2. In di-dvēš-a just the initial consonant, not the initial consonant cluster is reduplicated. The reduplication vowel is i in line with the root vowel.

Of course, when the root-initial is an aspirated consonant, we can expect Grassmann’s law, i.e., DA:

<table>
<thead>
<tr>
<th>√</th>
<th>perfect, 3. pers. sg.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>chid</td>
<td>ci-cchēd-a (sandhi)</td>
<td>to cut</td>
</tr>
<tr>
<td>bhid</td>
<td>bi-bhēd-a</td>
<td>to split</td>
</tr>
</tbody>
</table>

An unusual outlier is vēda (“he knows”) from √vid. Sihler [1995, pp. 564-569] explains that vēda has a stativ meaning and stands for a class of ie. perfects without reduplication.

Brugmann’s law

Remember Brugmann’s law Lo:

\[
\text{Lo} \quad \text{oi. } oCV \rightarrow \text{oi. } \ddot{a}CV
\]
C. Grammar: verbal system

In the above examples, this law was not applied. For example, \( o \) in \(^*bhi\text{-}bhoid\text{-}a\) is not in an open syllable because both the half vowel \( i \) and \( d \) count as consonants. However, many other examples show the effect of Brugmann’s law:

<table>
<thead>
<tr>
<th>( \sqrt{\cdot} )</th>
<th>perfect, 3. pers. sg.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>( tan ) (f.g.)</td>
<td>( ta\text{-}tān\text{-}a )</td>
<td>to stretch</td>
</tr>
<tr>
<td>( dah ) (f.g.)</td>
<td>( da\text{-}dāh\text{-}a )</td>
<td>to burn</td>
</tr>
<tr>
<td>( naś ) (f.g.)</td>
<td>( na\text{-}nāś\text{-}a )</td>
<td>to perish</td>
</tr>
<tr>
<td>( pad ) (f.g.)</td>
<td>( pa\text{-}pāṭ\text{-}a )</td>
<td>to fall</td>
</tr>
<tr>
<td>( bhaj ) (f.g.)</td>
<td>( ba\text{-}bhāj\text{-}a )</td>
<td>to worship</td>
</tr>
<tr>
<td>( bhṛ )</td>
<td>( ba\text{-}bhār\text{-}a )</td>
<td>to bear</td>
</tr>
<tr>
<td>( vyadḥ ) (f.g.)</td>
<td>( vi\text{-}vyādh\text{-}a )</td>
<td>to pierce</td>
</tr>
<tr>
<td>( sap ) (f.g.)</td>
<td>( ša\text{-}sāp\text{-}a )</td>
<td>to curse</td>
</tr>
<tr>
<td>( śru )</td>
<td>( śu\text{-}śrāv\text{-}a )</td>
<td>to hear</td>
</tr>
<tr>
<td>( su )</td>
<td>( su\text{-}svāp\text{-}a ) (RUKI)</td>
<td>to press</td>
</tr>
</tbody>
</table>

Due to the ie. ending of the 1. pers. sg., the syllable is not open so that \( Lo \) does not apply (pp. 33).

**Samprasāraṇa**

We now turn to roots with initial vowel or initial halfvowel. They reduplicate with this vowel or halfvowel (samprasāraṇa), totally in line with our general reduplication rule above:

<table>
<thead>
<tr>
<th>( \sqrt{\cdot} )</th>
<th>perfect, 3. pers. sg.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>( i )</td>
<td>( iy\text{-}āy\text{-}a ) (( V+hV, Lo ))</td>
<td>to go</td>
</tr>
<tr>
<td>( īś )</td>
<td>( iy\text{-}ēś\text{-}a ) (( V+hV ))</td>
<td>to wish</td>
</tr>
<tr>
<td>( yaj ) (f.g.)</td>
<td>( iy\text{-}yāj\text{-}a ) (( Lo ))</td>
<td>to sacrifice</td>
</tr>
<tr>
<td>( vac ) (f.g.)</td>
<td>( u\text{-}vāc\text{-}a ) (( Lo ))</td>
<td>to say</td>
</tr>
<tr>
<td>( vad ) (f.g.)</td>
<td>( u\text{-}vād\text{-}a ) (( Lo ))</td>
<td>to say</td>
</tr>
<tr>
<td>( vap ) (f.g.)</td>
<td>( u\text{-}vāp\text{-}a ) (( Lo ))</td>
<td>to sow</td>
</tr>
<tr>
<td>( vas ) (f.g.)</td>
<td>( u\text{-}vās\text{-}a ) (( Lo ))</td>
<td>to dwell</td>
</tr>
<tr>
<td>( vah ) (f.g.)</td>
<td>( u\text{-}vāh\text{-}a ) (( Lo ))</td>
<td>to carry</td>
</tr>
</tbody>
</table>

Root with initial vowels \( a \) or \( ā \) (there would have been a laryngeal before the vowel) reduplicate with \( a \) so that \( ā \) is the expected sandhi result:
C.7. Reduplicative perfect

<table>
<thead>
<tr>
<th>√ full grade</th>
<th>i.e. f.g. root</th>
<th>perfect, 3. pers. sg.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>aš</td>
<td>*HekH (f.g.)</td>
<td>āš-a ← ie. *He-Hok-e</td>
<td>to eat</td>
</tr>
<tr>
<td>aš (z.g.)</td>
<td>*h₂ne(n)k (f.g.)</td>
<td>ānamš-a ← ie. *h₂e-h₂nonk-e</td>
<td>to get</td>
</tr>
<tr>
<td>as</td>
<td>*h₁es (f.g.)</td>
<td>āš-a ← ie. *h₁e-h₁os-e</td>
<td>to be</td>
</tr>
<tr>
<td>ah</td>
<td></td>
<td>āh-a</td>
<td>to say</td>
</tr>
<tr>
<td>āp (redupl.)</td>
<td>*h₁e-h₁p-neu</td>
<td>āp-a ← ie. *h₁e-h₁op-e</td>
<td>to obtain</td>
</tr>
</tbody>
</table>

Palatalization

Palatalization is also relevant for the reduplicative syllable. Indeed, we need to deal with primary palatalization (PPal), secondary palatalization (SPal), and analogical palatalization. For hu (“to sacrifice”), we have

ie. *ghu-ghou-e (reduplication, o-grade)
→ ġu-ghou-e (DA)
→ ju-hou-e (PPal, HV)
→ ju-hōve (Lo)
→ ju-hāv-a (aā)

Similarly,

<table>
<thead>
<tr>
<th>√</th>
<th>perfect, 3. pers. sg.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>has</td>
<td>ja-hās-a</td>
<td>to laugh</td>
</tr>
<tr>
<td>hr (z.g.)</td>
<td>ja-hār-a</td>
<td>to take</td>
</tr>
</tbody>
</table>

You may have noticed that secondary palatalization of the root-final is intact in the perfect forms, for example yu-yōj-a or u-vāc-a. The perfect ending a goes back to a front vowel ie. e (see fig. 2.2, p. 36). For the root-initial consonant, secondary palatalization happens for the reduplication consonants i and a ← ie. e (!). For han (“to hit”), we find

ie. *gʷhe-gʷhon-e (reduplication, o-grade)
→ gʷe-gʷhon-e (DA)
→ je-ghon-e (SPal)
→ ja-ghōn-e (Lo)
→ ja-ghān-a (aā)

Similarly, consider
C. Grammar: verbal system

<table>
<thead>
<tr>
<th>√</th>
<th>perfect, 3. pers. sg.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>kṛ</td>
<td>ca-kār-a ← ie. *kʷe-kʷor-e</td>
<td>to do</td>
</tr>
<tr>
<td>kṛt</td>
<td>ca-karta</td>
<td>to cut</td>
</tr>
<tr>
<td>kṣip</td>
<td>ci-kṣēp-a</td>
<td>to throw</td>
</tr>
<tr>
<td>khan (f.g.)</td>
<td>ca-khān-a for “correct” ca-khan-a (1)</td>
<td>to throw</td>
</tr>
<tr>
<td>gam (f.g.)</td>
<td>ja-gām-a ← ie. *gʷom-e</td>
<td>to go</td>
</tr>
<tr>
<td>ji</td>
<td>ji-ghāy-a ← ie. *ghi-ghoy-e</td>
<td>to conquer</td>
</tr>
</tbody>
</table>

1. khan is a laryngeal root ← ie. *khenH (see PPP khā-ta, p. [118]). Hence, ca-khān-a ← ie. *khe-khonH-e does not work because syllable khonH ends in two consonants and is not open so that Lo does not apply.

Apparently, secondary palatalization spread to other verbs where it did not belong, originally, such as

<table>
<thead>
<tr>
<th>√</th>
<th>perfect, 3. pers. sg.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>kṛudh</td>
<td>cu-kṛādh-a</td>
<td>to be angry</td>
</tr>
<tr>
<td>kṣubh</td>
<td>cu-kṣōbh-a</td>
<td>to be agitated</td>
</tr>
</tbody>
</table>

Here, we have proportional analogy, for example

\[ kṣip \text{ with palatal reduplication: } ci-kṣēp-a \]

just as

\[ kṣubh \text{ with palatal reduplication: } cu-kṣōbh-a \]

Irregular perfect forms

Some verbs have irregular perfect forms:

<table>
<thead>
<tr>
<th>√</th>
<th>perfect, 3. pers. sg.</th>
<th>“correct” form</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>pū</td>
<td>pu-pāva</td>
<td>pu-pāva ← ie. *pu-pouH-e</td>
<td>to clean</td>
</tr>
<tr>
<td>bhī</td>
<td>bi-bhāy-a</td>
<td>bi-bhāy-a ← ie. *bhī-bhoiH-e</td>
<td>to fear</td>
</tr>
<tr>
<td>bhū</td>
<td>ba-bhūva-a</td>
<td>ba-bhūva-a ← ie. *bhū-bhouH-e</td>
<td>to be</td>
</tr>
</tbody>
</table>

where the conditions for Lo (syllables need to be open). On top, ba-bhūva-a exhibits irregular reduplication vowel. bi-bhāy-a means “he fears”, it has no temporal, but a stative meaning. Similarly, veda (“he knows”) is stative and does not even contain a reduplication.

Note also a few (laryngeal!) verbs with 3. pers. sg. ending āu and irregular weak forms:
C.7. Reduplicative perfect

<table>
<thead>
<tr>
<th>√</th>
<th>perfect, 3. pers. sg</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>dā</td>
<td>da-d-āu</td>
<td>to give</td>
</tr>
<tr>
<td>dhā</td>
<td>da-dh-āu</td>
<td>to set, to place</td>
</tr>
<tr>
<td>jāṇā</td>
<td>ja-jī-āu</td>
<td>to know</td>
</tr>
<tr>
<td>pā</td>
<td>pa-p-āu</td>
<td>to drink</td>
</tr>
<tr>
<td>bhā</td>
<td>ba-bh-āu</td>
<td>to shine</td>
</tr>
<tr>
<td>mā</td>
<td>ma-m-āu</td>
<td>to measure</td>
</tr>
<tr>
<td>sthā</td>
<td>ta-sth-āu (1)</td>
<td>to stand</td>
</tr>
</tbody>
</table>

1. *ta-sth-āu* does not reduplicate the initial consonant.

C.7.3. Weak forms

Examples for root vowels *i*, *u* or *a*

The weak forms are built with the zero grade. We begin with root vowel *i*:

<table>
<thead>
<tr>
<th>√</th>
<th>perfect, 3. pers. sg</th>
<th>perfect, 3. pers. pl.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>kṣip</td>
<td>ci-kṣip-a</td>
<td>ci-kṣip-us</td>
<td>to throw</td>
</tr>
<tr>
<td>chid</td>
<td>ci-chid-a (sandhi)</td>
<td>ci-chid-us (sandhi)</td>
<td>to cut</td>
</tr>
<tr>
<td>ji</td>
<td>ji-ghy-a</td>
<td>ji-ghy-us (<em>hV</em>)</td>
<td>to conquer</td>
</tr>
<tr>
<td>dviṣ</td>
<td>di-dviṣ-a</td>
<td>di-dviṣ-us</td>
<td>to hate</td>
</tr>
<tr>
<td>bhid</td>
<td>bi-bhid-a</td>
<td>bi-bhid-us</td>
<td>to split</td>
</tr>
<tr>
<td>lih</td>
<td>li-lêh-a</td>
<td>li-lih-us</td>
<td>to lick</td>
</tr>
<tr>
<td>viś</td>
<td>vi-vêš-a</td>
<td>vi-vêš-us</td>
<td>to cut</td>
</tr>
<tr>
<td>vyadh (f.g.)</td>
<td>vi-vyadh-a</td>
<td>vi-vyadh-us</td>
<td>to pierce</td>
</tr>
</tbody>
</table>

For root vowel *u*, consider these examples

<table>
<thead>
<tr>
<th>√</th>
<th>perfect, 3. pers. sg</th>
<th>perfect, 3. pers. pl.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>krudh</td>
<td>cu-krôdh-a</td>
<td>cu-krudh-us</td>
<td>to be angry</td>
</tr>
<tr>
<td>kṣubh</td>
<td>cu-kṣubh-a</td>
<td>cu-kṣubh-us</td>
<td>to be agitated</td>
</tr>
<tr>
<td>tud</td>
<td>tu-tôd-a</td>
<td>tu-tud-us</td>
<td>to hit</td>
</tr>
<tr>
<td>yuj</td>
<td>yu-yôj-a</td>
<td>yu-yuj-us</td>
<td>to join</td>
</tr>
<tr>
<td>rud</td>
<td>ru-rôd-a</td>
<td>ru-rud-us</td>
<td>to weep</td>
</tr>
<tr>
<td>śru</td>
<td>śu-śrāv-a (<em>Lo</em>)</td>
<td>śu-śrav-us (<em>V+hV</em>)</td>
<td>to hear</td>
</tr>
<tr>
<td>su</td>
<td>su-sāv-a (<em>RUKI, Lo</em>)</td>
<td>su-sav-us (<em>RUKI, V+hV</em>)</td>
<td>to press</td>
</tr>
<tr>
<td>svap (f.g.)</td>
<td>su-śvâp-a (<em>RUKI, Lo</em>)</td>
<td>su-śvap-us (<em>RUKI</em>)</td>
<td>to sleep</td>
</tr>
</tbody>
</table>

Finally, here are some examples for roots without halfvowels:
C. Grammar: verbal system

<table>
<thead>
<tr>
<th></th>
<th>perfect, 3. pers. sg.</th>
<th>perfect, 3. pers. pl.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>√</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>kr</td>
<td>ca-kār-a (Lo)</td>
<td>ca-kṛ-us</td>
<td>to do</td>
</tr>
<tr>
<td>khan (f.g.)</td>
<td>ca-khān-a</td>
<td>ca-khn-us</td>
<td>to dig</td>
</tr>
<tr>
<td>gam (f.g.)</td>
<td>ja-gām-a (Lo)</td>
<td>ja-gm-us</td>
<td>to go</td>
</tr>
<tr>
<td>bhr</td>
<td>ba-bhār-a (Lo)</td>
<td>ba-bhr-us</td>
<td>to bear</td>
</tr>
<tr>
<td>hṛ (f.g.)</td>
<td>ja-hār-a (Lo)</td>
<td>ja-hṛ-us</td>
<td>to take</td>
</tr>
</tbody>
</table>

Exceptionally, one finds full-grade 3. pers. pl.:

<table>
<thead>
<tr>
<th></th>
<th>perfect, 3. pers. sg.</th>
<th>perfect, 3. pers. pl.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>√</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>kṛ</td>
<td>ca-kart-a</td>
<td>ca-kart-us</td>
<td>to cut</td>
</tr>
<tr>
<td>bandh (f.g.)</td>
<td>ba-bandh-a</td>
<td>ba-bandh-us</td>
<td>to bind</td>
</tr>
<tr>
<td>has (f.g.)</td>
<td>ja-hās-a (Lo)</td>
<td>ja-has-us</td>
<td>to laugh</td>
</tr>
</tbody>
</table>

Samprasāraṇa

Here are the verbs with samprasāraṇa. The reduplicative vowel *i* or *u* combines with the same vowel from the zero-grade root to produce *i* or *u*, respectively (MVS).

<table>
<thead>
<tr>
<th></th>
<th>perfect, 3. pers. sg.</th>
<th>perfect, 3. pers. pl.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>√</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>i</em></td>
<td>iy-āy-a</td>
<td>īy-us</td>
<td>to go</td>
</tr>
<tr>
<td><em>iś</em></td>
<td>iy-ēś-a</td>
<td>īś-us</td>
<td>to wish</td>
</tr>
<tr>
<td>yaj (f.g.)</td>
<td>i-yāj-a</td>
<td>īj-us</td>
<td>to sacrifice</td>
</tr>
<tr>
<td>vac (f.g.)</td>
<td>u-vāc-a</td>
<td>uč-us</td>
<td>to say</td>
</tr>
<tr>
<td>vadh (f.g.)</td>
<td>u-vāđ-a</td>
<td>ād-us</td>
<td>to say</td>
</tr>
<tr>
<td>vap (f.g.)</td>
<td>u-vāp-a</td>
<td>āp-us</td>
<td>to sow</td>
</tr>
<tr>
<td>vas (f.g.)</td>
<td>u-vās-a</td>
<td>ās-us</td>
<td>to dwell</td>
</tr>
<tr>
<td>vah (f.g.)</td>
<td>u-vāḥ-a</td>
<td>āḥ-us</td>
<td>to carry</td>
</tr>
</tbody>
</table>

Similarly, one obtains ā in āp-us from oi. root āp (“to obtain”) ← ie. *h₁e*p by
to eat

e. *h₁e-h₁p- (reduplication, zero grade)

→ āp- (Lar V)

In contrast, there are no sound-law excuses for ā in the other three plural (and hence weak) examples:

<table>
<thead>
<tr>
<th></th>
<th>full grade</th>
<th>perfect, 3. pers. sg.</th>
<th>perfect, 3. pers. pl.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>√</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>āp</td>
<td>āp-a</td>
<td>āp-us</td>
<td>to obtain</td>
<td></td>
</tr>
<tr>
<td>aś</td>
<td>āś-a</td>
<td>āś-us (“wrong”)</td>
<td>to eat</td>
<td></td>
</tr>
<tr>
<td>as</td>
<td>āś-a</td>
<td>āś-us (“wrong”)</td>
<td>to be</td>
<td></td>
</tr>
<tr>
<td>ah</td>
<td>āḥ-a</td>
<td>āḥ-us (“wrong”)</td>
<td>to say</td>
<td></td>
</tr>
</tbody>
</table>
Perfect with ê

Finally, we turn to the sizable number of instances where the perfect seems to be formed without reduplication:

<table>
<thead>
<tr>
<th>✓ in f.g.</th>
<th>pf., 3. pers. sg., par.</th>
<th>pf., 3. pers. pl., par.</th>
<th>pf., 3. pers. pl., ātm.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>tan</td>
<td>ta-tān-a</td>
<td>tēn-us</td>
<td></td>
<td>to stretch</td>
</tr>
<tr>
<td>naś</td>
<td>na-nāś-a</td>
<td>nēś-us</td>
<td></td>
<td>to perish</td>
</tr>
<tr>
<td>pat</td>
<td>pa-pāl-a</td>
<td>pēt-us</td>
<td></td>
<td>to fall</td>
</tr>
<tr>
<td>bhaj</td>
<td>ba-bhāj-a</td>
<td>bhēj-us</td>
<td></td>
<td>to worship</td>
</tr>
<tr>
<td>man</td>
<td></td>
<td>mēn-ê</td>
<td></td>
<td>to think</td>
</tr>
<tr>
<td>yat</td>
<td></td>
<td>yēt-ê</td>
<td></td>
<td>to exert</td>
</tr>
<tr>
<td>ram</td>
<td></td>
<td>rēm-ê</td>
<td></td>
<td>to enjoy</td>
</tr>
<tr>
<td>labh</td>
<td></td>
<td>lēbh-ê</td>
<td></td>
<td>to obtain</td>
</tr>
<tr>
<td>ṣap</td>
<td>śa-sāp-a</td>
<td>śēp-us</td>
<td></td>
<td>to curse</td>
</tr>
<tr>
<td>sad</td>
<td>sa-sād-a</td>
<td>sēd-us</td>
<td></td>
<td>to sit</td>
</tr>
</tbody>
</table>

However, regular reduplication is indeed present in sad and yat:

\[
\text{ie. } *se-sd- \text{ (reduplication, zero grade)} \\
\rightarrow \text{ sa-zd- (}\text{aā, sz before voiced consonant)} \\
\rightarrow \text{ sēd- (CpLz perhaps before consonant + i)}
\]

and

\[
\text{ie. } *ye-it- \text{ (reduplication, zero grade)} \\
\rightarrow \text{ yēt- (DIPH)}
\]

The other examples cannot be derived in this manner. Here, proportional analogy does the trick. For example,

<table>
<thead>
<tr>
<th>sad</th>
<th>with ê instead of reduplication: sēd-us</th>
</tr>
</thead>
<tbody>
<tr>
<td>just as</td>
<td></td>
</tr>
<tr>
<td>pat</td>
<td>with ê instead of reduplication: pēt-us</td>
</tr>
</tbody>
</table>

C.7.4. Conjugation

For tud (“to hit”), we have
C. Grammar: verbal system

<table>
<thead>
<tr>
<th></th>
<th>perfect parasmāipada</th>
<th>perfect ātmanēpada</th>
</tr>
</thead>
<tbody>
<tr>
<td>sg.</td>
<td>dual</td>
<td>pl.</td>
</tr>
<tr>
<td>1</td>
<td>tu-tōd-a (1)</td>
<td>tu-tud-i-va (2)</td>
</tr>
<tr>
<td>2</td>
<td>tu-tōd-i-tha (1)</td>
<td>tu-tud-a-thus</td>
</tr>
<tr>
<td>3</td>
<td>tu-tōd-a (1)</td>
<td>tu-tud-a-tus</td>
</tr>
</tbody>
</table>

1. Strong forms in parasmāipada sg., as expected.
2. Compare the perfect forms with the imperfect ones: a-bhar-ā-ma and a-bhar-ā-vā.
3. Compare present tense bhar-ē and bhar-a-sē.
5. Compare present tense bhar-a-dhvē.
6. Compare present tense bhar-ē-thē and bhar-ē-tē.

The conjugation for tud is similar to the one for dā (“to give”) with the notable exception of 1. and 3. pers. sg.:

<table>
<thead>
<tr>
<th></th>
<th>perfect parasmāipada</th>
<th>perfect ātmanēpada</th>
</tr>
</thead>
<tbody>
<tr>
<td>sg.</td>
<td>dual</td>
<td>pl.</td>
</tr>
<tr>
<td>1</td>
<td>da-d-āa (!)</td>
<td>da-d-i-va</td>
</tr>
<tr>
<td>2</td>
<td>da-d-i-tha</td>
<td>da-d-a-thus</td>
</tr>
<tr>
<td>3</td>
<td>da-d-āa (!)</td>
<td>da-d-a-tus</td>
</tr>
</tbody>
</table>

C.8. Aorist

C.8.1. General remarks

Aorist is yet another form of past tense. The aorist formation does not use any class signs. All aorists know the augment a, but otherwise, a wide range of formations exists. The endings are the secondary ones, roughly speaking. For example, we have these aorist 3. sg. forms:
C.8. Aorist

<table>
<thead>
<tr>
<th>aorist</th>
<th>√</th>
<th>augm.</th>
<th>redupl.</th>
<th>root.</th>
<th>infix</th>
<th>them. vow.</th>
<th>end.</th>
</tr>
</thead>
<tbody>
<tr>
<td>reduplicated</td>
<td>pat</td>
<td>a</td>
<td>pa</td>
<td>pt</td>
<td>a</td>
<td>t</td>
<td></td>
</tr>
<tr>
<td>sigmatic sa</td>
<td>diś</td>
<td>a</td>
<td>dik</td>
<td>š</td>
<td>a</td>
<td>t</td>
<td></td>
</tr>
<tr>
<td>sigmatic s</td>
<td>guj</td>
<td>a</td>
<td>yāuk</td>
<td>š</td>
<td>t</td>
<td>t</td>
<td>197</td>
</tr>
</tbody>
</table>

The following table offers examples for seven different aorists with one example each:

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>thematic</td>
<td>yuj-a-yuj-a-t</td>
<td>a-yuj-a-n</td>
<td>197</td>
</tr>
<tr>
<td>reduplicated</td>
<td>pat-a-pa-pt-a-t</td>
<td>a-pa-pt-a-n</td>
<td>197</td>
</tr>
<tr>
<td>root</td>
<td>bhū-a-bhū-t-a-bhūv-an</td>
<td>198</td>
<td></td>
</tr>
<tr>
<td>sigmatic sa</td>
<td>s-a-yāuk-s-š-t</td>
<td>a-yāuk-s-š-us</td>
<td>201</td>
</tr>
<tr>
<td>sigmatic s</td>
<td>s-a-dik-s-š-t-a-dik-s-š-a-n</td>
<td>199</td>
<td></td>
</tr>
<tr>
<td>is vəd</td>
<td>vəd-a-š-t-a-š-vəd-a-š-us</td>
<td>200</td>
<td></td>
</tr>
<tr>
<td>sis snā</td>
<td>snā-a-snā-š-t-a-snā-šiš-us</td>
<td>201</td>
<td></td>
</tr>
</tbody>
</table>

C.8.2. Thematic aorist

The thematic aorist is formed by this formula:

\[ \text{augment} + \text{zero-grade root} + a + \text{ending} \]

Here are three examples for the 3. sg.:

<table>
<thead>
<tr>
<th>thematic aorist</th>
<th>√</th>
<th>augm.</th>
<th>z.g. root</th>
<th>them. vow.</th>
<th>end.</th>
</tr>
</thead>
<tbody>
<tr>
<td>tuš</td>
<td>a</td>
<td>tuš</td>
<td>a</td>
<td>t</td>
<td></td>
</tr>
<tr>
<td>yuj</td>
<td>a</td>
<td>yuj</td>
<td>a</td>
<td>t</td>
<td></td>
</tr>
<tr>
<td>lubh</td>
<td>a</td>
<td>lubh</td>
<td>a</td>
<td>t</td>
<td></td>
</tr>
</tbody>
</table>

and a paradigm:

\[ \sqrt{\text{lubh} \leftarrow \text{ie. } \ast \text{leubh, aorist parasmāipada}} \]

<table>
<thead>
<tr>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>a-lubh-a-m</td>
<td>a-lubh-ā-va</td>
</tr>
<tr>
<td>2</td>
<td>a-lubh-a-s</td>
<td>a-lubh-a-tam</td>
</tr>
<tr>
<td>3</td>
<td>a-lubh-a-t</td>
<td>a-lubh-a-tām</td>
</tr>
</tbody>
</table>

The endings are exactly the thematic secondary parasmāipada ones (p. 143).

C.8.3. Reduplicated aorist

The reduplicated aorist is formed by this formula:

\[ \text{augment} + \text{reduplicated zero-grade root} + a + \text{ending} \]
C. Grammar: verbal system

Consider these three examples for the 3. sg.:

<table>
<thead>
<tr>
<th>reduplicated aorist</th>
<th>in f.g.</th>
<th>augm.</th>
<th>redupl.</th>
<th>root</th>
<th>them. vow.</th>
<th>end.</th>
</tr>
</thead>
<tbody>
<tr>
<td>kath</td>
<td><em>a</em></td>
<td><em>ca</em></td>
<td>kath</td>
<td>(f.g. !)</td>
<td><em>a</em></td>
<td><em>t</em></td>
</tr>
<tr>
<td>pat</td>
<td><em>a</em></td>
<td><em>pa</em></td>
<td><em>pt</em></td>
<td><em>a</em></td>
<td><em>t</em></td>
<td></td>
</tr>
<tr>
<td>vac</td>
<td><em>a</em></td>
<td><em>va</em></td>
<td><em>uc</em></td>
<td><em>a</em></td>
<td><em>t</em></td>
<td></td>
</tr>
</tbody>
</table>

where the last aorist is _a-vôc-a-t_ (MVS).

Here the parasmâipada paradigm for _muc_ that shows difficult lengthening of the reduplication syllable:

<table>
<thead>
<tr>
<th><em>√muc</em>, aorist parasmâipada</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 <em>a-mā-muc-a-m</em></td>
<td><em>a-mū-muc-ā-va</em></td>
<td><em>a-mū-muc-ā-ma</em></td>
</tr>
<tr>
<td>2 <em>a-mū-muc-a-s</em></td>
<td><em>a-mū-muc-ā-tam</em></td>
<td><em>a-mū-muc-a-ta</em></td>
</tr>
<tr>
<td>3 <em>a-mū-muc-a-t</em></td>
<td><em>a-mū-muc-ā-tām</em></td>
<td><em>a-mū-muc-a-n</em></td>
</tr>
</tbody>
</table>

In the following ātmanēpada paradigm for _vac_, we have the thematic secondary ātmanēpada endings (p. 144).

<table>
<thead>
<tr>
<th><em>√vac</em>, aorist ātmanēpada</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 <em>a-vōc-ē</em></td>
<td><em>a-vōc-ā-va</em></td>
<td><em>a-vōc-ā-ma</em></td>
</tr>
<tr>
<td>2 <em>a-vōc-ā-thās</em></td>
<td><em>a-vōc-ēthām</em></td>
<td><em>a-vōc-ā-dhvām</em></td>
</tr>
<tr>
<td>3 <em>a-vōc-ā-ta</em></td>
<td><em>a-vōc-ētām</em></td>
<td><em>a-vōc-ā-n-ta</em></td>
</tr>
</tbody>
</table>

You need to replace _vōc_ by _mū-muc_ if you want to know the ātmanēpada for _muc_.

C.8.4. Root aorist

The root aorist obeys the simple formula of

\[ \text{augment} + \text{ zero-grade or full-grade root } + \text{ ending} \]

Again three examples for the 3. sg.:

<table>
<thead>
<tr>
<th>root aorist</th>
<th>in f.g.</th>
<th>augm.</th>
<th>root</th>
<th>end.</th>
</tr>
</thead>
<tbody>
<tr>
<td>dā (f.g. !)</td>
<td><em>a</em></td>
<td>dā</td>
<td><em>t</em></td>
<td></td>
</tr>
<tr>
<td>bhā</td>
<td><em>a</em></td>
<td>bhā</td>
<td><em>t</em></td>
<td></td>
</tr>
<tr>
<td>sthā (f.g. !)</td>
<td><em>a</em></td>
<td>sthā</td>
<td><em>t</em></td>
<td></td>
</tr>
</tbody>
</table>

We begin with the parasmâipada for _dā_:

198
As observed, on p. 147, secondary athematic endings often have the variant us in 3. pers. pl. This is the case here, also. After all dā, *dā-us and hence *dōs would have been unrecognizable. Instead, we find a-d-us.

Consider, now, the root aorist for bhū. Before vowel endings (am and an, respectively, see 147), V + hV would lead us to expect bhuv, but not the attested bhūv:

<table>
<thead>
<tr>
<th>/bhū, aorist parasmāipada</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 a-bhū-am</td>
<td>a-bhū-va</td>
<td>a-bhū-ma</td>
<td></td>
</tr>
<tr>
<td>2 a-bhū-s</td>
<td>a-bhū-tam</td>
<td>a-bhū-ta</td>
<td></td>
</tr>
<tr>
<td>3 a-bhū-t</td>
<td>a-bhū-tām</td>
<td>a-bhū-tā</td>
<td></td>
</tr>
</tbody>
</table>

**C.8.5. Sigmatic aorist with sa**

There are four sigmatic aorists. We begin with the sa-aorist. It is formed by

\[
\text{augment} + \text{zero-grade root} + s + a + \text{ending}
\]

For example, SIB yields

<table>
<thead>
<tr>
<th>sa-aorist</th>
<th>augm</th>
<th>root</th>
<th>infix</th>
<th>them. vow.</th>
<th>end.</th>
</tr>
</thead>
<tbody>
<tr>
<td>diś</td>
<td>a</td>
<td>dik</td>
<td>ʂ</td>
<td>a</td>
<td>t</td>
</tr>
<tr>
<td>dviś</td>
<td>a</td>
<td>dik</td>
<td>ʂ</td>
<td>a</td>
<td>t</td>
</tr>
<tr>
<td>viś</td>
<td>a</td>
<td>vik</td>
<td>ʂ</td>
<td>a</td>
<td>t</td>
</tr>
</tbody>
</table>

The endings are again the expected ones. The parasmāipada paradigm for diś is given by

<table>
<thead>
<tr>
<th>/diś, aorist parasmāipada</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 a-dik-ʂ-a-m</td>
<td>a-dik-ʂ-ā-va</td>
<td>a-dik-ʂ-ā-ma</td>
<td></td>
</tr>
<tr>
<td>2 a-dik-ʂ-a-s</td>
<td>a-dik-ʂ-a-tam</td>
<td>a-dik-ʂ-a-ta</td>
<td></td>
</tr>
<tr>
<td>3 a-dik-ʂ-a-t</td>
<td>a-dik-ʂ-a-tām</td>
<td>a-dik-ʂ-a-n</td>
<td></td>
</tr>
</tbody>
</table>
C. Grammar: verbal system

C.8.6. Sigmatic aorist with iṣ

We now turn to the iṣ-aorist which is not thematic:

\[
\text{augment} + \text{full-grade root} + \ iṣ + \text{ending}
\]

Originally, iṣ has been used in set verbs, but this formation spread to other verbs, similar to the future tense. For example,

\[
\begin{array}{|c|c|c|c|c|}
\hline
\text{iṣ-aorist} & \sqrt{} & \text{augm.} & \text{root} & \text{inf.} & \text{end.} \\
\hline
\text{aṣ (ātm.)} & a & aṣ & iṣ & ṭa \\
\text{kamp (ātm.)} & a & kamp & iṣ & ṭa \\
\text{kṛt (par.)} & a & kart & ī & t \\
\text{granth (par.)} & a & granth & ī & t \\
\text{tan (par.)} & a & tan & ī & t \\
\text{mud (ātm.)} & a & mōd & iṣ & ṭa \\
\text{rud (par.)} & a & rōd & ī & t \\
\hline
\end{array}
\]

where the first entry is āṣiṣṭa.

The iṣ-aorist has a peculiar 2. sg. Consider, for example,

\[
\begin{array}{|c|c|c|}
\hline
\sqrt{}\text{budh, aorist parasmāipada} & \text{dual} & \text{pl.} \\
\hline
1 & a-bōdh-iṣ-am & a-bōdh-iṣ-vā & a-bōdhiṣ-ma \\
2 & a-bōdh-ī-s (1) & a-bōdh-iṣ-ṭa (3) & a-bōdh-īṭa (3) \\
3 & a-bōdh-ī-t (2) & a-bōdh-iṣ-ṭām (3) & a-bōdh-īṭa-s (4) \\
\hline
\end{array}
\]

In general, the endings are the athematic secondary ones. Note, however:

1. a-bōdh-ī-s is best explained by a-bōdh-is-s plus compensatory lengthening of ī for simplified ss → s.

2. Building on the 2. sg., the 3. sg. a-bōdh-ī-t results from leveling:

\[
\begin{array}{|c|}
\hline
\text{a-bōdh-ī-t} \\
\hline
\text{influenced by} & \text{a-bōdh-ī-s} \text{ with ī by secondary ending} \\
\text{turns into} & \text{a-bōdh-ī-t} \text{ with ī} \\
\hline
\end{array}
\]

These two singular forms with “ī plus secondary ending” are also used in the two remaining aorists (see the two following subsections).

3. Cer D

4. The alternative ending us (instead of (a)n) is used in the 3. pl.
C.8. Aorist

C.8.7. Sigmatic aorist with sīṣ

A few 2. class roots ending in ā use the sīṣ-aorist and obey this formula:

\[
\text{augment} + \text{root} + \text{sīṣ} + \text{ending}
\]

We have these examples:

<table>
<thead>
<tr>
<th>sīṣ-aorist</th>
<th>√</th>
<th>augm.</th>
<th>root</th>
<th>infix</th>
<th>end.</th>
</tr>
</thead>
<tbody>
<tr>
<td>pāṣa</td>
<td></td>
<td>a</td>
<td>pāṣ</td>
<td>sīṣ</td>
<td>t</td>
</tr>
<tr>
<td>yāṣa</td>
<td></td>
<td>a</td>
<td>yāṣ</td>
<td>sīṣ</td>
<td>t</td>
</tr>
<tr>
<td>snāṣa</td>
<td></td>
<td>a</td>
<td>snāṣ</td>
<td>sīṣ</td>
<td>t</td>
</tr>
</tbody>
</table>

The infix sīṣ is not clearly visible in these sg. forms. Compare, however, the budh paradigm above. Here, then, sī (rather than ī) plus par. secondary ending lead to forms like a-yā-sīṣ-t where we might expect *a-yā-sīṣ-t. Perhaps, we have compensatory lengthening in a-yā-sīṣ-t? With these remarks, the paradigm for yā is transparent:

<table>
<thead>
<tr>
<th>√</th>
<th>yāṣa, aorist parasmâipada</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>sg.</td>
</tr>
<tr>
<td>1</td>
<td>a-yā-sīṣ-am</td>
</tr>
<tr>
<td>2</td>
<td>a-yā-sīṣ-s</td>
</tr>
<tr>
<td>3</td>
<td>a-yā-sīṣ-t</td>
</tr>
</tbody>
</table>

C.8.8. Sigmatic aorist with s

Finally, we turn to the s-aorist which is not thematic:

\[
\text{augment} + \text{lengthened root} + \text{s} + \text{ending}
\]

We have these examples:

<table>
<thead>
<tr>
<th>s-aorist</th>
<th>√</th>
<th>augm.</th>
<th>root</th>
<th>infix</th>
<th>end.</th>
</tr>
</thead>
<tbody>
<tr>
<td>kr̥ṣa</td>
<td></td>
<td>a</td>
<td>kr̥ṣ</td>
<td>s (2)</td>
<td>us</td>
</tr>
<tr>
<td>bandh (f.g.)</td>
<td>a</td>
<td>bhānt (4)</td>
<td>s</td>
<td>us</td>
<td></td>
</tr>
<tr>
<td>bhaj (f.g.)</td>
<td>a</td>
<td>bhāk (1)</td>
<td>s (2)</td>
<td>us</td>
<td></td>
</tr>
<tr>
<td>tap (f.g.)</td>
<td>a</td>
<td>tāp</td>
<td>s</td>
<td>us</td>
<td></td>
</tr>
<tr>
<td>yuj</td>
<td>a</td>
<td>yāuk (1)</td>
<td>s (2)</td>
<td>us</td>
<td></td>
</tr>
<tr>
<td>vas (f.g.)</td>
<td>a</td>
<td>vāt (3)</td>
<td>s</td>
<td>us</td>
<td></td>
</tr>
<tr>
<td>vah (f.g.)</td>
<td>a</td>
<td>vāk (1)</td>
<td>s (2)</td>
<td>us</td>
<td></td>
</tr>
<tr>
<td>śap (f.g.)</td>
<td>a</td>
<td>śāp</td>
<td>s</td>
<td>us</td>
<td></td>
</tr>
</tbody>
</table>

1. s is voiceless so that we have expected backward assimilation. k in a-vāk-s-us is due to ie. *vegh.
C. Grammar: verbal system

2. **RUKI**

3. **SIB**, similar to future tense *vat-sy-a-ti*.

4. *a-bhānt-s-us* is explained along the same lines as *bhōt-sy-ati* (see p. 38).

In the above table, we have used the 3. pl. forms rather than the 3. sg. ones. Contrasting these forms yields

<table>
<thead>
<tr>
<th>s-aorist</th>
<th>3. sg.</th>
<th>3. pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>kr</td>
<td>a-kār-sī-t</td>
<td>a-kār-s-us</td>
</tr>
<tr>
<td>bandh (f.g.)</td>
<td>a-bhānt-sī-t</td>
<td>a-bhānt-s-us</td>
</tr>
<tr>
<td>bhaj (f.g.)</td>
<td>a-bhāk-sī-t</td>
<td>a-bhāk-s-us</td>
</tr>
<tr>
<td>tap (f.g.)</td>
<td>a-tāp-sī-t</td>
<td>a-tāp-s-us</td>
</tr>
<tr>
<td>yuj</td>
<td>a-yāuk-sī-t</td>
<td>a-yāuk-s-us</td>
</tr>
<tr>
<td>vas (f.g.)</td>
<td>a-vāt-sī-t</td>
<td>a-vāt-s-us</td>
</tr>
<tr>
<td>vah (f.g.)</td>
<td>a-vāk-sī-t</td>
<td>a-vāk-s-us</td>
</tr>
<tr>
<td>śap (f.g.)</td>
<td>a-śāp-sī-t</td>
<td>a-śāp-s-us</td>
</tr>
</tbody>
</table>

The difference between sg. and pl. is explained by the *is*- and *sis*-aorists presented above.

The speakers came to consider *i* as a possible “thematic vowel” for the two sg. forms and applied them here, were *a-yāuk-s-t* would have produced *a-yāuk* by CCI.

The parasmāipada paradigm for *kr* is now easy:

<table>
<thead>
<tr>
<th>√/kr, aorist parasmāipada</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1  a-kār-s-am</td>
<td>a-kār-s-va</td>
<td>a-kār-s-ma</td>
<td></td>
</tr>
<tr>
<td>2  a-kār-sī-s</td>
<td>a-kār-s-ṭam</td>
<td>a-kār-s-ṭa</td>
<td></td>
</tr>
<tr>
<td>3  a-kār-sī-t</td>
<td>a-kār-s-ṭām</td>
<td>a-kār-s-ṭus</td>
<td></td>
</tr>
</tbody>
</table>

The ātmanēpada forms for *śap* are

<table>
<thead>
<tr>
<th>√/śap, aorist ātmanēpada</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1  a-śap-s-i</td>
<td>a-śap-s-vahi</td>
<td>a-śap-s-mahi</td>
<td></td>
</tr>
<tr>
<td>2  a-śap-thās (1)</td>
<td>a-śap-s-āthām</td>
<td>a-śap-āhvam (1)</td>
<td></td>
</tr>
<tr>
<td>3  a-śap-ta (1)</td>
<td>a-śap-s-ātām</td>
<td>a-śap-s-a-ta (2)</td>
<td></td>
</tr>
</tbody>
</table>

1. **DzD** (third line)

2. The athematic ending 3. pl. is regularly *a-ta* from ie. *m-ta* (or later analogy from similar cases).

202
D. Grammar: nouns and adverbs

D.1. Nouns: categories

D.1.1. Distribution of weak and strong forms

Nouns whose stem ends in a consonant often distinguish between weak and strong forms. Strong forms typically take the full grade and weak forms the zero grade. In particular, masculine (m.) and feminine (f.) nouns show strong forms in nominative (nom.), vocative (voc.), and accusative (acc.) but not in acc. pl. These three cases are sometimes abbreviated by NVA. Neuter (n.) nouns exhibit strong forms in the pl. forms of NVA cases. All other forms are weak. In fig. D.1 the strong forms are marked.

D.1.2. Characteristics of thematic and athematic nouns

Roughly speaking, thematic and athematic nouns differ in these respects:

<table>
<thead>
<tr>
<th></th>
<th>stem ends in</th>
<th>weak/strong</th>
<th>acc. pl. m.</th>
<th>acc. pl. f.</th>
<th>gen. pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>athem. nouns</td>
<td>a consonant</td>
<td>yes</td>
<td>as</td>
<td>as</td>
<td>ām</td>
</tr>
<tr>
<td>them. nouns</td>
<td>a vowel V</td>
<td>no</td>
<td>Ȝn (1)</td>
<td>Ȝs</td>
<td>Ȝnām (2)</td>
</tr>
</tbody>
</table>

1. Ȝn ← Ȝns (CpLs)
2. Ȝnām ← VHnōm (Lar_ V)

It also seems that the feminine singular endings are characterized by

<table>
<thead>
<tr>
<th></th>
<th>dative</th>
<th>abl./gen.</th>
<th>locative</th>
</tr>
</thead>
<tbody>
<tr>
<td>athem. nouns</td>
<td>ē</td>
<td>as</td>
<td>i</td>
</tr>
<tr>
<td>them. nouns</td>
<td>āē</td>
<td>ās ← a + ē</td>
<td>ām</td>
</tr>
</tbody>
</table>

D.1.3. Athematic nouns

We have quite a few classes of nouns whose stem end in consonants.

◊ one stem, such as marut (“wind”) (no weak-strong alternation)
◊ stems on mant, vant, ant, such as bala-vant (“he who has strength”)
◊ an-stems, such as rāj-an (“king”)
◊ in-stems, such as yōg-in (“yogi”) (no weak-strong alternation)
◊ stems in long diphthongs, such as rāy (“wealth”) and glāv (“moon”)
### Certificate

#### Certificate Details

**Name:**

**Date:**

**Issued by:**

---

**Details:**

- **Certificate Type:**
- **Certificate Number:**
- **Issued Country:**
- **Valid From:**
- **Valid To:**

---

**Signature:**

---

204
D.1.4. Thematic nouns

We have many classes of nouns whose stem ends in vowels or, very rarely, diphthongs. Most of them do not show any weak-strong alternation. Remember the convention for citing nouns given in subsection A.6, pp. 7.

- **a-stems**
  - m., such as *dēva*
  - f., such as *phalam*

- **ā-stems** such as *dēvā*

- **i-stems**
  - m., such as *muni*
  - f., such as *mati*

- **u-stems**
  - m., such as *guru*
  - f., such as *dhênu*

- **ī-stems** such as *nadi*

- **āū-stems** such as *camū*

D.1.5. In-between nouns

- **ṛ-stems**, such as
  - m. agent nouns, such as *nē-tar* ("leader")
  - kinship nouns, such as *pitar* ("father") or *mātar* ("mother")

These have characteristics of both athematic and thematic nouns:

<table>
<thead>
<tr>
<th>athem. nouns</th>
<th>stem ends in</th>
<th>weak/strong</th>
<th>acc. pl. m.</th>
<th>acc. pl. f.</th>
<th>gen. pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>pitar</em></td>
<td></td>
<td>yes</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

D.2. Nouns: endings

D.2.1. A few general remarks

**Endings found in all declensions**

In all declensions, we find
D. Grammar: nouns and adverbs

<table>
<thead>
<tr>
<th>any stem</th>
<th>case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>nom.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>voc.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>acc.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>instr.</td>
<td>-bhyām</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>dat.</td>
<td>-bhyām</td>
<td>-bhyas</td>
<td></td>
</tr>
<tr>
<td></td>
<td>abl.</td>
<td>-bhyām</td>
<td>-bhyas</td>
<td></td>
</tr>
<tr>
<td></td>
<td>gen.</td>
<td>-ôs</td>
<td>-ām</td>
<td></td>
</tr>
<tr>
<td></td>
<td>loc.</td>
<td>-ôs</td>
<td>su</td>
<td></td>
</tr>
</tbody>
</table>

In the following subsections, we point to similarities found across declensions. Thus prepared, we go into individual declensions.

Neutral endings NV A

All n. endings nom., voc., and acc. (NVA) are the same for sg., the same for dual, and the same for pl., respectively. For example, we have

<table>
<thead>
<tr>
<th>jagat n. (“world”)</th>
<th>case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>nom.</td>
<td>jagat</td>
<td>jagat-ī (1)</td>
<td>jagant-ī</td>
<td></td>
</tr>
<tr>
<td>voc.</td>
<td>jagat</td>
<td>jagat-ī</td>
<td>jagant-ī</td>
<td></td>
</tr>
<tr>
<td>acc.</td>
<td>jagat</td>
<td>jagat-ī</td>
<td>jagant-ī</td>
<td></td>
</tr>
<tr>
<td>instr.</td>
<td>jagat-ā</td>
<td>jagad-bhyām</td>
<td>jagad-bhyas</td>
<td></td>
</tr>
</tbody>
</table>

or

<table>
<thead>
<tr>
<th>vanam (“forest”)</th>
<th>case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>nom.</td>
<td>van-a-m</td>
<td>van-ē (1)</td>
<td>van-āni</td>
<td></td>
</tr>
<tr>
<td>voc.</td>
<td>van-a-m</td>
<td>van-ē</td>
<td>van-āni</td>
<td></td>
</tr>
<tr>
<td>acc.</td>
<td>van-a-m</td>
<td>van-ē</td>
<td>van-āni</td>
<td></td>
</tr>
<tr>
<td>instr.</td>
<td>van-āya</td>
<td>van-ā-bhyām</td>
<td>vanāis</td>
<td></td>
</tr>
</tbody>
</table>

1. ī from ie. dual ending ih₂ is typical for dual NVA. Compare jagatī with vanē ← van-a-ī (MVS).

s in masculine and feminine nominative singular

Originally, s was the ie. marker for m. and f. nom. sg.. When this s was joined to a final consonant, we often observe compensatory lengthening (CpLs). Note that n. sg. had no special ending. Thus, the following examples concern only m. and f. nouns:

*bala-vant-s → *bala-vann-s → oi. bala-vān

*su-manas-s → oi. su-manās

*gir-s → oi. gir
D.2. Nouns: endings

Unfortunately, this model does not always work:

\[
\begin{align*}
\text{*gach-ant-s} & \rightarrow \text{oi. gach-an (CCI)} \\
\text{*rāj-an-s} & \rightarrow \text{oi. rājā} \\
\text{*yōg-in-s} & \rightarrow \text{oi. yōgī}
\end{align*}
\]

Nominative and vocative plural

In all declensions, the voc. pl. is the same as the nom. pl.

D.2.2. Locative singular

Locative singular with \( i \)

Across many declensions, both thematic and athematic, the loc. sg. is expressed by \( i \) (the here-and-now particle). For example, we have

- stem \( tvad \) pers. pronoun ("you") with loc. sg. \( tvayi \)
- stem \( mad \) pers. pronoun ("T") with loc. sg. \( mayi \)
- (stem) \( manas \) n. ("mind") with loc. sg. \( manas-\text{i} \)
  - "stem" indicates that \( manas \) is the basis from which (many) other forms are derived and,
  - since "stem" is put in brackets, \( manas \) is, at the same time, the nom. sg.
- (stem) \( marut \) m. ("wind") with loc. sg. \( maru-\text{i} \)
- stem \( rāj-an \) m. ("king") with loc. sg. \( rāj-\text{i} \) or \( rāj-an-\text{i} \)
- stem \( hast-in \) m. ("elephant") with loc. sg. \( hast-in-\text{i} \)

In the a-declension m. or n., we apply MVS and find

- \( \text{dēv\-a} \) ("god") with loc. sg. \( \text{dēv-ē} \) \( \leftrightarrow \text{*dēv-a-\text{i}} \)
- \( \text{van-a-m} \) ("forest") with loc. sg. \( \text{van-ē} \) \( \leftrightarrow \text{*van-a-\text{i}} \)

Locative singular with \( āu \)

\( āu \) occurs less often. Consider the m. nouns

- stem \( gur-u \) m. ("teacher") with loc. sg. \( gur-\text{āu} \)
- stem \( mat-i \) f. ("mind") with loc. sg. \( mat-\text{āu} \) (and also with \( -y-\text{ām} \))
- stem \( mun-i \) m. ("wise man") with loc. sg. \( mun-\text{āu} \)
- stem \( pat-i \) m. ("husband") with loc. sg. \( pat-y-\text{āu} \)

207
D. Grammar: nouns and adverbs

Locative singular with ām

Feminine nouns tend to exhibit loc. ending ām:

- (stem) nad-ī ("river") with loc. sg. nad-y-ām
- (stem) lat-ā ("vine") with loc. sg. lat-ā-y-ām
- stem vadh-ū ("bride") with loc. sg. vadh-v-ām

Some f. nouns on i and u take the ending from the feminine in long vowels, i.e., from vadh-ū/nad-ī:

- (stem) dhēn-u f. ("cow") with loc. sg. dhēn-v-ām
- (stem) mat-i f. ("mind") with loc. sg. mat-y-ām

or from the corresponding m. nouns in short vowels, i.e., from gur-u/mun-i:

- (stem) dhēn-u f. ("cow") with loc. sg. dhēn-āu
- (stem) mat-i f. ("mind") with loc. sg. mat-āu

D.2.3. Locative pl. with su

The su-locative is to be found nearly everywhere and often gives rise to RUKI:

- stem gur-u m. ("teacher") with loc. pl. gur-u-śu
- stem tvad pers. pronoun ("you") with loc. pl. yuṣmā-śu
- (stem) nad-ī ("river") with loc. pl. nad-ī-śu
- stem pat-i m. ("husband") with loc. pl. pat-i-śu
- stem mat-i f. ("mind") with loc. pl. mat-i-śu
- stem mad pers. pronoun ("I") with loc. pl. asmā-śu
- (stem) manas n. ("mind") with loc. pl. manas-su/manah-śu
- (stem) marut m. ("wind") with loc. pl. marut-śu
- stem mun-i m. ("wise man") with loc. pl. mun-i-śu
- stem rāj-an m. ("king") with loc. pl. rāj-a-śu
- (stem) lat-ā ("vine") with loc. pl. lat-ā-śu
- stem vadh-ū ("bride") with loc. pl. vadh-ū-śu
- stem hast-in m. ("elephant") with loc. pl. hast-i-śu

In the a-declension m. or n., we find ē instead of thematic a:

- dēv-a ("god") with loc. pl. dēv-ē-śu
- van-a-m ("forest") with loc. pl. van-ē-śu
D.2. Nouns: endings

D.2.4. Genitive plural

There two different gen. forms:

- ãm for athematic nouns
- nâm for thematic nouns including those on ṛ. Since nâm lengthens the thematic vowels, nâm may go back to ie. Hnôm (Lar_V).

Thus, we have the athematic gen. plurals:

- (stem) manas n. ("mind") with gen. pl. manas-ãm
- (stem) marut m. ("wind") with gen. pl. marut-ãm
- stem rāj-an m. ("king") with gen. pl. rāj-ũ-nâm with forward assimilation
- stem hast-in m. ("elephant") with gen. pl. hast-in-ãm

and the thematic gen. plurals

- stem gur-u m. ("teacher") with gen. pl. gur-ũ-nâm
- stem dēv-a ("god") with gen. pl. dēv-ũ-nâm
- (stem) nad-ĩ ("river") with gen. pl. nad-ũ-nâm (where ĩ is long anyway)
- stem pat-i m. ("husband") with gen. pl. pat-ũ-nâm
- stem mat-i f. ("mind") with gen. pl. mat-ũ-nâm
- stem mun-i m. ("wise man") with gen. pl. mun-ũ-nâm
- (stem) lat-ā ("vine") with gen. pl. lat-ã-nâm (where ã is long anyway)
- stem vadh-ũ ("bride") with gen. pl. vadh-ũ-nâm (where ũ is long anyway)
- van-a-m ("forest") with gen. pl. van-ã-nâm

Pronouns are often different:

- stem tad 3. pers. pronoun ("he, she, that") with gen. pl.
  - tēšām n.
  - tēšām m. und n.
- stem tvad pers. pronoun ("you") with gen. pl. yuṣmā-kam
- stem mad pers. pronoun ("T") with gen. pl. asmā-kam

209
D. Grammar: nouns and adverbs

D.2.5. Accusatives with m

For the m. nouns, observe

<table>
<thead>
<tr>
<th></th>
<th>singular</th>
<th></th>
<th>plural</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>thematic</td>
<td>athematic</td>
<td>thematic</td>
</tr>
<tr>
<td>nom.</td>
<td>*-o-s → -a-s</td>
<td>*-s → ∅</td>
<td>*-o-es → *-ās → -ās</td>
</tr>
<tr>
<td>example</td>
<td>dēv-a-s (1)</td>
<td>marut (1)</td>
<td>dēv-ās (3)</td>
</tr>
<tr>
<td>acc.</td>
<td>*-o-m → -a-m</td>
<td>analogy</td>
<td>*-ons → -ān (4)</td>
</tr>
<tr>
<td>example</td>
<td>dēv-a-m (2)</td>
<td>marut-am (2)</td>
<td>dēv-ān (4)</td>
</tr>
</tbody>
</table>

1. Nom. sg. of both m. (here) and f. are characterized by s which
   ◊ is clearly seen in thematic nouns such as dēv-a-s, but
   ◊ is often lost in athematic nouns due to CCl, for example marut-s → marut

2. Acc. sg. m. (here) and f. are characterized by m. marutam borrows thematic vowel
   in order to avoid unrecognizable *maruta ← marut m. Just consider an analogy such as

   vāt-a-s ("wind") with acc. sg.: vāt-am
   just as
   marut ("wind") with acc. sg.: marut-am

3. The nom. pl. forms can be explained by

   marut-as ← stem + ie. pl. marker e + ie. nom. marker s
   dēv-ās ← stem + ie. them. o + ie. pl. marker e + ie. nom. marker s

4. The acc. pl. forms are derived by

   marut-as ← stem + ie. acc. marker n + ie. pl. marker s
   dēv-ān ← stem + ie. them. o + ie. acc. marker n + ie. pl. marker s

   where *-ons → -ān follows from CpLs. Note that the s is still present in the
   sandhi rule described on p. 40.

D.3. Nouns: weak and strong forms

D.3.1. Introductory remark and overview

Most nouns that we now look at differentiate between strong and weak forms. We deal with the following groups of nouns:
D.3. Nouns: weak and strong forms

- One-stem nouns like marut (“wind”), samrāj (“ruler”), vāc (“voice, word”), kāma-duh (“wish-granting cow”), and u-budh (“fool”) in the following subsection
- Stems on ant like bala-vant (“he who has strength”), mahant (“great”), bhar-a-nt (a pres. part.), jagat (“world”), and bhav-ant (“your honor”) on pp. 217
- An-stems like m. rāj-an (“king”), n. nām-an (“name”), and n. karm-an (“deed”) on pp. 225
- In-stems like yōg-in (“yogi”) and tapas-vin (“ascetic”) on pp. 229
- M. nouns like nē-tar (“leader”) on pp. 231
- Kinship nouns like pītar (“father”) and mātar (“mother”) on pp. 232
- Stems in long diphthongs like rāy (“wealth”) and glāv (“moon”) on pp. 234
- F. ū- and ū-stems like nāḍī (“river”), vadhū (“bride”), bhū (“earth”), dhī (“intellect”), and sṭrī (“woman”) together with the two m. (!) compounds su-dhī (“intelligent”) and prati-bhū (“guarantor”) on pp. 235
- I. and u-stems like m. muni (“wise man”), f. mati (“mind”), m. guru (“teacher”), f. dhēnu (“cow”), n. mādh-u (“honey”) and m. pati (“husband”) on pp. 239
- N. ū-stems like gant-ū on pp. 244

D.3.2. One stem, only

marut

Some nouns have one stem only, i.e., they do distinguish strong and weak forms. An example is provided by the word for “wind”:

<table>
<thead>
<tr>
<th></th>
<th>marut</th>
<th>marut-āu</th>
<th>marut-as</th>
</tr>
</thead>
<tbody>
<tr>
<td>nom.</td>
<td>marut (1)</td>
<td>marut-āu (9)</td>
<td>marut-as (6, 7)</td>
</tr>
<tr>
<td>voc.</td>
<td>marut (2)</td>
<td>marut-āu (9)</td>
<td>marut-as (6, 7)</td>
</tr>
<tr>
<td>acc.</td>
<td>marut-ām (3)</td>
<td>marut-āu (9)</td>
<td>marut-as (6, 7)</td>
</tr>
<tr>
<td>instr.</td>
<td>marut-ā (4)</td>
<td>marud-bhyām (10, 11)</td>
<td>marud-bhās (10, 12)</td>
</tr>
<tr>
<td>dat.</td>
<td>marud-Ū (5)</td>
<td>marud-bhyām (10, 11)</td>
<td>marud-bhās (10, 11)</td>
</tr>
<tr>
<td>abl.</td>
<td>marud-as (6)</td>
<td>marud-bhyām (10, 11)</td>
<td>marud-bhās (10, 11)</td>
</tr>
<tr>
<td>gen.</td>
<td>marud-as (6)</td>
<td>marud-ōs (11)</td>
<td>marud-ām (11)</td>
</tr>
<tr>
<td>loc.</td>
<td>marud-ī (8)</td>
<td>marud-ōs (11)</td>
<td>marud-su (11)</td>
</tr>
</tbody>
</table>

1. Nom. sg., m. and f., are usually characterized by s. Here, we have marut-s → marut due to CCl.
2. As is the case here, the voc. often equals the stem.
D. Grammar: nouns and adverbs

3. The acc. sg. marker is \( m \) in many declensions. Here, \( a \) is borrowed from thematic declensions in order to avoid \( \text{marut}-a \).

4. \( ā \) is the instr. sg. marker in many other declensions, too.

5. \( ē \) is the instr. sg. marker in many other declensions, too.

6. We find \( as \) in
   - abl. and gen. sg. and
   - NVA pl.

   This is often the case in athematic declensions, m. (as here) and f.

7. For the pl. \( \text{marut-as} \) forms, see pp. [210]

8. \( i \) is the typical loc. sg. marker in athematic declensions for all three genders.

9. \( āu \) is the typical ending for NVA dual in athematic declensions for m. and f. It also shows in m. \( a \)-declension (\( \text{dēv-āu} \)) and most personal pronouns like \( t-āu, \text{sarv-āu} \).

10. \( t \) is made voiced before voiced \( b \) in some dual and pl. cases.

11. Some forms shown in \( \text{marut} \) are seen in every declension whatsoever (p. [205]):
   - dual instr. through abl. \( \text{bhyaṁ} \)
   - dual gen. and loc. \( òś \)
   - pl. dat. and abl. \( \text{bhyaś} \)
   - pl. gen. \( ām \) (for athematic nouns, while \( nām \) is seen in thematic ones as in \( \text{dēvānām} \))
   - pl. loc. \( su \)

12. \( bhīś \) is very typical for instr. pl. for any kind of declensions. (However, m. and n. \( a \)-declension use \( ōś \) instead, see \( \text{dēv-ōś}, \text{van-ōś} \). The same holds for most personal pronouns where \( t-ōś, \text{sarv-ōś} \) are both m. and n.)

The \( \text{marut} \) pattern holds for m. and f. nouns or adjectives, such as

<table>
<thead>
<tr>
<th>like marut</th>
<th>stem</th>
<th>nom. sg.</th>
<th>instr. pl.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>paśu-gup</td>
<td>sarit</td>
<td>sarit</td>
<td>sarid-bhīś</td>
<td>protector of animals</td>
</tr>
<tr>
<td>sarva-śak</td>
<td>sarva-śak</td>
<td>sarva-śag-bhīś</td>
<td>river</td>
<td></td>
</tr>
<tr>
<td>sarit</td>
<td>sarit</td>
<td>sarid-bhīś</td>
<td>all-rounder</td>
<td></td>
</tr>
</tbody>
</table>

212
D.3. Nouns: weak and strong forms

**manas**

Similar to *marut* are one-stem neuter nouns like *manas* or *havis*.

<table>
<thead>
<tr>
<th>manas n.</th>
<th>case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>nom.</td>
<td>manas (1)</td>
<td>manas-i (2)</td>
<td>manāṁs-i (3)</td>
</tr>
<tr>
<td></td>
<td>voc.</td>
<td>manas (1)</td>
<td>manas-i (2)</td>
<td>manāṁs-i (3)</td>
</tr>
<tr>
<td></td>
<td>acc.</td>
<td>manas (1)</td>
<td>manas-i (2)</td>
<td>manāṁs-i (3)</td>
</tr>
<tr>
<td></td>
<td>instr.</td>
<td>manas-ā (2)</td>
<td>mano-bhyām (4)</td>
<td>mano-bhis (4)</td>
</tr>
<tr>
<td></td>
<td>dat.</td>
<td>manas-ē (2)</td>
<td>mano-bhyām (4)</td>
<td>mano-bhyas (4)</td>
</tr>
<tr>
<td></td>
<td>abl.</td>
<td>manas-as (2)</td>
<td>mano-bhyām (4)</td>
<td>mano-bhyas (4)</td>
</tr>
<tr>
<td></td>
<td>gen.</td>
<td>manas-as (2)</td>
<td>manas-ōs (2)</td>
<td>manas-ām (2)</td>
</tr>
<tr>
<td></td>
<td>loc.</td>
<td>manas-i (2)</td>
<td>manas-ōs (2)</td>
<td>manas-su/manah-su (5)</td>
</tr>
</tbody>
</table>

1. The stem *manas* serves as NVA singular.
2. Building on the stem, many forms follow the *marut* pattern (p. 211).
3. NVA pl. is special.
4. The sandhi rule applied is similar to CpLz, but note that the change is not a word-final one.
5. Two sandhi variants.

With *su* prefixed, one obtains the bahuvrīhi *su-manas* ("good-hearted man/woman"). Most endings are the same, but some acknowledge male/female, rather than neuter endings:

<table>
<thead>
<tr>
<th>su-manas m.</th>
<th>case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>nom.</td>
<td>su-manās (1)</td>
<td>su-manās-āu (2)</td>
<td>su-manās-as (2)</td>
</tr>
<tr>
<td></td>
<td>voc.</td>
<td>su-manas (2)</td>
<td>su-manās-āu (2)</td>
<td>su-manās-as (2)</td>
</tr>
<tr>
<td></td>
<td>acc.</td>
<td>su-manas-am (2)</td>
<td>su-manās-āu (2)</td>
<td>su-manās-as (2)</td>
</tr>
<tr>
<td></td>
<td>instr.</td>
<td>su-manas-ā (3)</td>
<td>su-manō-bhyām (3)</td>
<td>su-manō-bhis (3)</td>
</tr>
</tbody>
</table>

1. Nom. sg. *su-manās* is from su-manas-s by CpLs.
2. These endings are just like in *marut*.
3. Instrumental and the other endings do not differ from the neuter endings in *manas*.

Now, turn to *havis*.
### D. Grammar: nouns and adverbs

<table>
<thead>
<tr>
<th><em>havis</em> n.</th>
<th>case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>nom.</td>
<td><em>havis</em> (1)</td>
<td><em>havis</em>-ī (2)</td>
<td><em>havis</em>-ī (3)</td>
<td></td>
</tr>
<tr>
<td>voc.</td>
<td><em>havis</em> (1)</td>
<td><em>havis</em>-ī (2)</td>
<td><em>havis</em>-ī (3)</td>
<td></td>
</tr>
<tr>
<td>acc.</td>
<td><em>havis</em> (1)</td>
<td><em>havis</em>-ī (2)</td>
<td><em>havis</em>-ī (3)</td>
<td></td>
</tr>
<tr>
<td>instr.</td>
<td><em>havis</em>-ā (2)</td>
<td><em>havir-bhyām</em> (4)</td>
<td><em>havir-bhis</em> (4)</td>
<td></td>
</tr>
<tr>
<td>dat.</td>
<td><em>havis</em>-ē (2)</td>
<td><em>havir-bhyām</em> (4)</td>
<td><em>havir-bhyas</em> (4)</td>
<td></td>
</tr>
<tr>
<td>abl.</td>
<td><em>havis</em>-as (2)</td>
<td><em>havir-bhyām</em> (4)</td>
<td><em>havir-bhyas</em> (4)</td>
<td></td>
</tr>
<tr>
<td>gen.</td>
<td><em>havis</em>-as (2)</td>
<td><em>havis</em>-ōs (2)</td>
<td><em>havis</em>-ām (2)</td>
<td></td>
</tr>
<tr>
<td>loc.</td>
<td><em>havis</em>-ī (2)</td>
<td><em>havis</em>-ōs (2)</td>
<td><em>havis</em>-su/haviḥ-su (5)</td>
<td></td>
</tr>
</tbody>
</table>

1. The stem *havis* serves as NVA singular.

2. Building on the stem, many forms follow the *marut* pattern (p. 211). RUKI.

3. NVA pl. is special, compare *manāms*-i. RUKI

4. Vis

5. Two sandhi variants.

Consider, finally, *āyus*:

<table>
<thead>
<tr>
<th><em>āyus</em> n.</th>
<th>case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>nom.</td>
<td><em>āyus</em> (1)</td>
<td><em>āyus</em>-ī (2)</td>
<td><em>āyus</em>-ī (3)</td>
<td></td>
</tr>
<tr>
<td>voc.</td>
<td><em>āyus</em> (1)</td>
<td><em>āyus</em>-ī (2)</td>
<td><em>āyus</em>-ī (3)</td>
<td></td>
</tr>
<tr>
<td>acc.</td>
<td><em>āyus</em> (1)</td>
<td><em>āyus</em>-ī (2)</td>
<td><em>āyus</em>-ī (3)</td>
<td></td>
</tr>
<tr>
<td>instr.</td>
<td><em>āyus</em>-ā (2)</td>
<td><em>āyur-bhyām</em> (4)</td>
<td><em>āyur-bhis</em> (4)</td>
<td></td>
</tr>
<tr>
<td>dat.</td>
<td><em>āyus</em>-ē (2)</td>
<td><em>āyur-bhyām</em> (4)</td>
<td><em>āyur-bhyas</em> (4)</td>
<td></td>
</tr>
<tr>
<td>abl.</td>
<td><em>āyus</em>-as (2)</td>
<td><em>āyur-bhyām</em> (4)</td>
<td><em>āyur-bhyas</em> (4)</td>
<td></td>
</tr>
<tr>
<td>gen.</td>
<td><em>āyus</em>-as (2)</td>
<td><em>āyus</em>-ōs (2)</td>
<td><em>āyus</em>-ām (2)</td>
<td></td>
</tr>
<tr>
<td>loc.</td>
<td><em>havis</em>-ī (2)</td>
<td><em>āyus</em>-ōs (2)</td>
<td>*āyuh-su</td>
<td></td>
</tr>
</tbody>
</table>

1. The stem *āyus* serves as NVA singular.

2. Most forms follow the *havis* pattern above.

3. NVA pl. is special, compare *haviḥs*-i.

4. Vis

214
D.3. Nouns: weak and strong forms

Restrictions on word-final consonants (AFP)

According to AFP (pp. 45), the following word-final consonants are disallowed:

- voiced stops
- aspirated stops
- palatals c (a stop) and š
- aspirate h

Mostly, the “closest” unvoiced and unaspirated stop is taken instead. Since c is disallowed, it is changed into k or t instead, and so are j, š, and h. Taking these rules into account, we obtain paradigms close to the one for marut. We present samrāj m. (“ruler”) and vāc f. (“voice, word”).

For samrāj, we find

<table>
<thead>
<tr>
<th>samrāj m.</th>
<th>case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>nom.</td>
<td>samrāt (2)</td>
<td>samrāj-âu (1)</td>
<td>samrāj-as (1)</td>
<td></td>
</tr>
<tr>
<td>voc.</td>
<td>samrāt (2)</td>
<td>samrāj-âu (1)</td>
<td>samrāj-as (1)</td>
<td></td>
</tr>
<tr>
<td>acc.</td>
<td>samrāj-am (1)</td>
<td>samrāj-âu (1)</td>
<td>samrāj-as (1)</td>
<td></td>
</tr>
<tr>
<td>instr.</td>
<td>samrāj-ā (1)</td>
<td>samrād-bhyām (3)</td>
<td>samrād-bhis (3)</td>
<td></td>
</tr>
<tr>
<td>dat.</td>
<td>samrāj-ē (1)</td>
<td>samrād-bhyām (3)</td>
<td>samrād-bhyās (3)</td>
<td></td>
</tr>
<tr>
<td>abl.</td>
<td>samrāj-as (1)</td>
<td>samrād-bhyām (3)</td>
<td>samrād-bhyās (3)</td>
<td></td>
</tr>
<tr>
<td>gen.</td>
<td>samrāj-as (1)</td>
<td>samrāj-ōs (1)</td>
<td>samrāj-ām (1)</td>
<td></td>
</tr>
<tr>
<td>loc.</td>
<td>samrāj-ī (1)</td>
<td>samrāj-ōs (1)</td>
<td>samrād-su (3)</td>
<td></td>
</tr>
</tbody>
</table>

1. The stem samrāj occurs before the vowel endings.
2. Unvoiced samrāt is seen in word-final position (nom. and voc. sg.).
3. Samrād-bhyām and samrād-su seem instances of backward assimilation, but not from the stem samrāj, but rather from nom. samrāt. In particular, we should not expect samrāt-su from samrāj-su which would turn into n.āt. samrāk-su by SIB.

Similar to samrāj, we obtain

<table>
<thead>
<tr>
<th>vāc f.</th>
<th>case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>nom.</td>
<td>vāk (2)</td>
<td>vāc-âu (1)</td>
<td>vāc-as (1)</td>
<td></td>
</tr>
<tr>
<td>voc.</td>
<td>vāk (2)</td>
<td>vāc-âu (1)</td>
<td>vāc-as (1)</td>
<td></td>
</tr>
<tr>
<td>acc.</td>
<td>vāc-am (1)</td>
<td>vāc-âu (1)</td>
<td>vāc-as (1)</td>
<td></td>
</tr>
<tr>
<td>instr.</td>
<td>vāc-ā (1)</td>
<td>vāg-bhyām (3)</td>
<td>vāg-bhis (3)</td>
<td></td>
</tr>
<tr>
<td>dat.</td>
<td>vāc-ē (1)</td>
<td>vāg-bhyām (3)</td>
<td>vāg-bhyās (3)</td>
<td></td>
</tr>
<tr>
<td>abl.</td>
<td>vāc-as (1)</td>
<td>vāg-bhyām (3)</td>
<td>vāg-bhyās (3)</td>
<td></td>
</tr>
<tr>
<td>gen.</td>
<td>vāc-as (1)</td>
<td>vāc-ōs (1)</td>
<td>vāc-ām (1)</td>
<td></td>
</tr>
<tr>
<td>loc.</td>
<td>vāc-ī (1)</td>
<td>vāc-ōs (1)</td>
<td>vāk-su (4)</td>
<td></td>
</tr>
</tbody>
</table>
D. Grammar: nouns and adverbs

1. The stem *vāc* is l.gr. from *vāc* ← *vek*. By SPal or levelling, one finds *vāc* before vowel endings (some of which have to be front vowel endings).

2. Regularly, AFP leads to *vāk* in absolute final position.

3. Backwardly assimilated *g* before voiced endings.

4. BA and RUKI

   Along similar lines, AFP implies

<table>
<thead>
<tr>
<th>stem</th>
<th>nom. sg.</th>
<th>instr. pl.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>vāc</em></td>
<td><em>vak</em></td>
<td><em>vag-bhis</em></td>
<td>hymn, verse</td>
</tr>
<tr>
<td><em>śac</em></td>
<td><em>śak</em></td>
<td><em>śag-bhis</em></td>
<td>skin</td>
</tr>
<tr>
<td><em>vanij</em></td>
<td><em>vaniṇk</em></td>
<td><em>vaniṇg-bhis</em></td>
<td>merchant</td>
</tr>
<tr>
<td><em>bhiṣaj</em></td>
<td><em>bhiṣak</em></td>
<td><em>bhiṣag-bhis</em></td>
<td>doctor</td>
</tr>
<tr>
<td><em>diś</em></td>
<td><em>dik</em></td>
<td><em>dig-bhis</em></td>
<td>direction</td>
</tr>
</tbody>
</table>

   and

<table>
<thead>
<tr>
<th>stem</th>
<th>nom. sg.</th>
<th>instr. pl.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>dṛṣad</em></td>
<td><em>dṛṣat</em></td>
<td><em>dṛṣad-bhis</em></td>
<td>stone</td>
</tr>
<tr>
<td><em>vēda-vid</em></td>
<td><em>vēda-viṇ</em></td>
<td><em>vēda-viṇ-bhis</em></td>
<td>Veda knower</td>
</tr>
<tr>
<td><em>dviṣ</em></td>
<td><em>dvit</em></td>
<td><em>dvit-bhis</em></td>
<td>enemy</td>
</tr>
<tr>
<td><em>pāri-vṛāj</em></td>
<td><em>pāri-vṛāt</em></td>
<td><em>pāri-vṛāg-bhis</em></td>
<td>mendicant</td>
</tr>
<tr>
<td><em>prā-vṛṣ</em></td>
<td><em>prā-vṛt</em></td>
<td><em>prā-vṛt-bhis</em></td>
<td>rain period</td>
</tr>
<tr>
<td><em>madhu-liḥ</em></td>
<td><em>madhu-liṭ</em></td>
<td><em>madhu-liṭ-bhis</em></td>
<td>honey sucker</td>
</tr>
<tr>
<td><em>viś</em></td>
<td><em>vīṭ</em></td>
<td><em>vīṭ-bhis</em></td>
<td>merchant-caste person</td>
</tr>
</tbody>
</table>

   Interesting declensions arise from Grassmann’s law and from instances where it is not applied, as we have also seen in future forms on pp. [104]. Examples are provided by *kāma-duh* f. (“wish-granting cow”) or *a-budh* m. (“fool”). The first one yields

<table>
<thead>
<tr>
<th>kāma-duh f.</th>
<th>case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>nom.</td>
<td><em>kāma-duh</em> (2, 3)</td>
<td><em>kāma-duh-āu</em> (1)</td>
<td><em>kāma-duh-as</em> (1)</td>
<td></td>
</tr>
<tr>
<td>voc.</td>
<td><em>kāma-duh</em> (2, 3)</td>
<td><em>kāma-duh-āu</em> (1)</td>
<td><em>kāma-duh-as</em> (1)</td>
<td></td>
</tr>
<tr>
<td>acc.</td>
<td><em>kāma-duh-am</em> (1)</td>
<td><em>kāma-duh-āu</em> (1)</td>
<td><em>kāma-duh-as</em> (1)</td>
<td></td>
</tr>
<tr>
<td>instr.</td>
<td><em>kāma-duh-ā</em> (1)</td>
<td><em>k.-dhug-bhyaṃ</em> (2, 4)</td>
<td><em>k.-dhug-bhisa</em> (2, 4)</td>
<td></td>
</tr>
<tr>
<td>dat.</td>
<td><em>kāma-duh-ē</em> (1)</td>
<td><em>k.-dhug-bhyaṃ</em> (2, 4)</td>
<td><em>k.-dhug-bhyas</em> (2, 4)</td>
<td></td>
</tr>
<tr>
<td>abl.</td>
<td><em>kāma-duh-as</em> (1)</td>
<td><em>k.-dhug-bhyaṃ</em> (2, 4)</td>
<td><em>k.-dhug-bhyas</em> (2, 4)</td>
<td></td>
</tr>
<tr>
<td>gen.</td>
<td><em>kāma-duh-as</em> (1)</td>
<td><em>kāma-duh-ōs</em> (1)</td>
<td><em>kāma-duh-ōm</em> (1)</td>
<td></td>
</tr>
<tr>
<td>loc.</td>
<td><em>kāma-duh-i</em> (1)</td>
<td><em>kāma-duh-ōs</em> (1)</td>
<td><em>kāma-duh-śu</em> (2, 5)</td>
<td></td>
</tr>
</tbody>
</table>
D.3. Nouns: weak and strong forms

1. By DA, we obtain the stem kāma-duh where the second part originates from ie. *dheugh (h due to SPal before front vowels or levelling).
2. Ie. *dh is retained in forms where gh was replaced by unaspirated (!) velar before a consonant. Hence, DA does not apply.
3. k in word-final position (AFP)
4. g before voiced endings (BA)
5. k before loc. pl. ending voiceless (BA) su or, indeed, su by RUKI

Turning to the second example where Grassmann’s law and its undoing play a role, we obtain

<table>
<thead>
<tr>
<th>a-budh</th>
<th>case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>nom.</td>
<td>a-bhat (2, 3)</td>
<td>a-budh-āu (1)</td>
<td>a-budh-as (1)</td>
</tr>
<tr>
<td></td>
<td>voc.</td>
<td>a-bhat (2, 3)</td>
<td>a-budh-āu (1)</td>
<td>a-budh-as (1)</td>
</tr>
<tr>
<td></td>
<td>acc.</td>
<td>a-budh-am (1)</td>
<td>a-budh-āu (1)</td>
<td>a-budh-as (1)</td>
</tr>
<tr>
<td></td>
<td>instr</td>
<td>a-budh-ā (1)</td>
<td>a-bhud-bhyām (2, 4)</td>
<td>a-bhud-bhis (2, 4)</td>
</tr>
<tr>
<td></td>
<td>dat.</td>
<td>a-budh-ē (1)</td>
<td>a-bhud-bhyām (2, 4)</td>
<td>a-bhud-byas (2, 4)</td>
</tr>
<tr>
<td></td>
<td>abl.</td>
<td>a-budh-as (1)</td>
<td>a-bhud-bhyām (2, )</td>
<td>a-bhud-byas (2, 4)</td>
</tr>
<tr>
<td></td>
<td>gen.</td>
<td>a-budh-as (1)</td>
<td>a-budh-ōs (1)</td>
<td>a-budh-ām (1)</td>
</tr>
<tr>
<td></td>
<td>loc.</td>
<td>a-budh-ī (1)</td>
<td>a-budh-ōs (1)</td>
<td>a-budh-su (2, 5)</td>
</tr>
</tbody>
</table>

1. By DA, we obtain the stem a-budh where the second part originates from ie. *bheudh.
2. Ie. *bh is retained in forms where dh was replaced by unaspirated (!) dental before a consonant. Hence, DA does not apply.
3. t in word-final position (AFP)
4. d before voiced endings (BA)
5. t before loc. pl. ending voiceless (BA) su

D.3.3. Stems on mant, vant, ant, ans

bala-vant etc.

Stems on mant, vant, or ant are very common. Consider the paradigm for bala-vant m. (“he who has strength”) below. The strong-weak alternation concerns the suffix. Compare

◇ the strong suffix vant with
D. Grammar: nouns and adverbs

1. \textit{bala-vā-n} is an instance of compensatory lengthening:

$$\text{CpLs} \rightarrow \text{oi. VC} \rightarrow \text{oi. } V + C$$

i.e., we have

$$\ast \text{bala-vant-s} \rightarrow \text{oi. } \ast \text{bala-vānt (CpLs)} \rightarrow \text{oi. bala-vān (AFP)}$$

2. Forms like \textit{bala-vant-as} are regular strong forms.

3. The sg. voc. \textit{bala-van} is the stem, simplified by CCI.


The n. forms typically show strong forms in pl. NVA:

<table>
<thead>
<tr>
<th>bala-vant n.</th>
<th>case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>nom.</td>
<td>bala-vat</td>
<td>bala-vat-ī</td>
<td>bala-vant-ī</td>
<td>bala-vant-i</td>
</tr>
<tr>
<td>voc.</td>
<td>bala-vat</td>
<td>bala-vat-ī</td>
<td>bala-vant-ī</td>
<td>bala-vant-i</td>
</tr>
<tr>
<td>acc.</td>
<td>bala-vat</td>
<td>bala-vat-ī</td>
<td>bala-vant-ī</td>
<td>bala-vant-i</td>
</tr>
<tr>
<td>instr.</td>
<td>bala-vat-ā</td>
<td>bala-vad-bhyām</td>
<td>bala-vad-bhis</td>
<td>bala-vad-bhis</td>
</tr>
<tr>
<td>dat.</td>
<td>bala-vat-ē</td>
<td>bala-vad-bhyām</td>
<td>bala-vad-bhyas</td>
<td>bala-vad-bhyas</td>
</tr>
<tr>
<td>abl.</td>
<td>bala-vat-as</td>
<td>bala-vad-bhyām</td>
<td>bala-vad-bhyas</td>
<td>bala-vad-bhyas</td>
</tr>
<tr>
<td>gen.</td>
<td>bala-vat-as</td>
<td>bala-vat-ōs</td>
<td>bala-vat-ōm</td>
<td>bala-vat-ōm</td>
</tr>
<tr>
<td>loc.</td>
<td>bala-vat-i</td>
<td>bala-vat-ōs</td>
<td>bala-vat-su</td>
<td>bala-vat-su</td>
</tr>
</tbody>
</table>

From instrumental onwards, the neuter forms equal the masculine ones. Remember also:

n. dual NVA $=$ f. sg. nom.

i.e., we have f. sg. nom. (and stem) \textit{bala-vat-ī}.

Past active participles (PAP) like \textit{ga-ta-vant} and pronomial adjectives like \textit{tā-vant} (“so much”) are formed like \textit{bala-vant}.
D.3. Nouns: weak and strong forms

*mahant*

The adjective *mahant* ("great") also belongs to this group. We plot the paradigm for masculine:

<table>
<thead>
<tr>
<th>mah-ant m.</th>
<th>case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>nom.</td>
<td>mah-ān (1)</td>
<td>mah-ānt-āu (3)</td>
<td>mah-ānt-as (3)</td>
</tr>
<tr>
<td></td>
<td>voc.</td>
<td>mah-an (2)</td>
<td>mah-ānt-āu (3)</td>
<td>mah-ānt-as (3)</td>
</tr>
<tr>
<td></td>
<td>acc.</td>
<td>mah-ānt-am (3)</td>
<td>mah-ānt-āu (3)</td>
<td>mah-at-as</td>
</tr>
<tr>
<td></td>
<td>instr.</td>
<td>mah-at-ā</td>
<td>mah-ad-bhyām</td>
<td>mah-ad-bhis</td>
</tr>
<tr>
<td></td>
<td>dat.</td>
<td>mah-at-ē</td>
<td>mah-ad-bhyām</td>
<td>mah-ad-bhyas</td>
</tr>
<tr>
<td></td>
<td>abl.</td>
<td>mah-at-as</td>
<td>mah-ad-bhyām</td>
<td>mah-ad-bhyas</td>
</tr>
<tr>
<td></td>
<td>gen.</td>
<td>mah-at-as</td>
<td>mah-at-ōs</td>
<td>mah-at-ām</td>
</tr>
<tr>
<td></td>
<td>loc.</td>
<td>mah-at-i</td>
<td>mah-at-ōs</td>
<td>mah-at-su</td>
</tr>
</tbody>
</table>

1. The nom. sg. m. *mah-ān ← mah-ant-s* shows compensatory lengthening (regular as in *bala-vān* by pp. \[50\].

2. Voc. sg. m. *mah-an* is regular: stem minus CCI.

3. Forms like *mah-ānt-as* are irregular. It seems that ā in the second syllable of nom. sg. m. migrated to all strong forms (leveling) except voc. sg. m..

Indeed, the migration of ā just mentioned also holds for the neuter paradigm:

<table>
<thead>
<tr>
<th>bala-vant n.</th>
<th>case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>nom.</td>
<td>mah-at</td>
<td>mah-at-ī</td>
<td>mah-ānt-ī</td>
</tr>
<tr>
<td></td>
<td>voc.</td>
<td>mah-at</td>
<td>mah-at-ī</td>
<td>mah-ānt-ī</td>
</tr>
<tr>
<td></td>
<td>acc.</td>
<td>mah-at</td>
<td>mah-at-ī</td>
<td>mah-ānt-ī</td>
</tr>
<tr>
<td></td>
<td>instr.</td>
<td>from here like masculine</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Finally, I like to mention f. sg. nom. *mahat-ī* (like n. dual NV A).

**Present participles, general remarks**

The strong form of any present participle (pres. part.) can be found by looking at the 3. person pl. present tense:

<table>
<thead>
<tr>
<th>class</th>
<th>3. pers. pl. pres. tense</th>
<th>pres. part., m. nom.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3. pers. pl. pres. tense</td>
<td>singular</td>
</tr>
<tr>
<td>1</td>
<td>bhr</td>
<td>bhar-ant-ī</td>
</tr>
<tr>
<td>6</td>
<td>tud</td>
<td>tud-ant-ī</td>
</tr>
<tr>
<td>3</td>
<td>dā</td>
<td>dad-at-ī</td>
</tr>
<tr>
<td>5</td>
<td>śrū</td>
<td>śrūv-ant-ī</td>
</tr>
</tbody>
</table>
D. Grammar: nouns and adverbs

Present participle like bharant

The weak-strong distribution is clearly seen in the masculine paradigm. All these forms build on the full grade of the verb. The strong-weak alternation concerns the suffix:

◇ The strong forms use the suffix ant while

◇ the weak forms have the same suffix without the vowel, i.e., nt → at.

<table>
<thead>
<tr>
<th>bhar-ant m.</th>
<th>case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>nom.</td>
<td>bhar-an (1)</td>
<td>bhar-ant-āu</td>
<td>bhar-ant-as (2)</td>
</tr>
<tr>
<td></td>
<td>voc.</td>
<td>bhar-an (3)</td>
<td>bhar-ant-āu</td>
<td>bhar-ant-as</td>
</tr>
<tr>
<td></td>
<td>acc.</td>
<td>bhar-ant-an</td>
<td>bhar-ant-āu</td>
<td>bhar-at-as</td>
</tr>
<tr>
<td></td>
<td>instr.</td>
<td>bhar-at-ā</td>
<td>bhar-ad-bhyām (4)</td>
<td>bhar-ad-bhis (4)</td>
</tr>
<tr>
<td></td>
<td>dat.</td>
<td>bhar-at-ē</td>
<td>bhar-ad-bhyām (4)</td>
<td>bhar-ad-bhyas (4)</td>
</tr>
<tr>
<td></td>
<td>abl.</td>
<td>bhar-at-as</td>
<td>bhar-ad-bhyām (4)</td>
<td>bhar-ad-bhyas (4)</td>
</tr>
<tr>
<td></td>
<td>gen.</td>
<td>bhar-at-as</td>
<td>bhar-at-ōs</td>
<td>bhar-at-ām</td>
</tr>
<tr>
<td></td>
<td>loc.</td>
<td>bhar-at-i</td>
<td>bhar-at-ōs</td>
<td>bhar-at-su</td>
</tr>
</tbody>
</table>

1. bhar-a-n goes back to bhar-a-nt-s in line with CCl. However, one might have expected compensatory lengthening due to CpLs (compare bala-vā-n) above.

2. Forms like bhar-ant-as are regular strong forms.

3. The sg. voc. bhar-an is the stem, simplified by CCl.

4. BA

I now turn to the neuter paradigm. It does not fully conform to the distribution indicated in fig. D.1 p. 204. Below, you see strong forms in dual NVA although they should be weak:

<table>
<thead>
<tr>
<th>bhar-ant n.</th>
<th>case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>nom.</td>
<td>bhar-at</td>
<td>bhar-ant-ī (!)</td>
<td>bhar-ant-ī</td>
</tr>
<tr>
<td></td>
<td>voc.</td>
<td>bhar-at</td>
<td>bhar-ant-ī (!)</td>
<td>bhar-ant-ī</td>
</tr>
<tr>
<td></td>
<td>acc.</td>
<td>bhar-at</td>
<td>bhar-ant-ī (!)</td>
<td>bhar-at-as</td>
</tr>
<tr>
<td></td>
<td>instr.</td>
<td>from here like masculine</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Again, we have

f. sg. nom. = n. dual NVA = bhar-ant-ī
D.3. Nouns: weak and strong forms

Present participles with \textit{bala-vant} formation

Two interesting pres. part. show the pattern of \textit{bala-vant} rather than that of \textit{bhar-ant}. Firstly, the regular distribution (weak dual n.) is shown by \textit{jagat} n. ("world") which is the present participle of the 3. class verb \textit{gā}, \textit{ji-gā-ti} ("to go"):

<table>
<thead>
<tr>
<th>ja-g-ant n.</th>
<th>case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>nom.</td>
<td>ja-g-at</td>
<td>ja-g-at-ī</td>
<td>ja-g-ant-i</td>
<td></td>
</tr>
<tr>
<td>voc.</td>
<td>ja-g-at</td>
<td>ja-g-at-ī</td>
<td>ja-g-ant-i</td>
<td></td>
</tr>
<tr>
<td>acc.</td>
<td>ja-g-at</td>
<td>ja-g-at-ī</td>
<td>ja-g-ant-i</td>
<td></td>
</tr>
<tr>
<td>instr.</td>
<td>ja-g-at-ā</td>
<td>ja-g-ad-bhyām</td>
<td>ja-g-ad-bhis</td>
<td></td>
</tr>
<tr>
<td>dat.</td>
<td>et cetera</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Secondly, the honorific pronoun \textit{bhav-ant} ("your honor") which, originally, is the pres. part. of \textit{bhu} ("to be") follows \textit{bala-vant}:

<table>
<thead>
<tr>
<th>bhav-ant m.</th>
<th>case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>nom.</td>
<td>bhav-ān</td>
<td>bhav-ant-āu</td>
<td>bhav-ant-as</td>
<td></td>
</tr>
<tr>
<td>voc.</td>
<td>bhav-an</td>
<td>bhav-ant-āu</td>
<td>bhav-ant-as</td>
<td></td>
</tr>
<tr>
<td>acc.</td>
<td>bhav-ant-am</td>
<td>bhav-ant-āu</td>
<td>bhav-at-as</td>
<td></td>
</tr>
<tr>
<td>instr.</td>
<td>bhav-at-ā</td>
<td>bhav-ad-bhyām</td>
<td>bhav-ad-bhis</td>
<td></td>
</tr>
<tr>
<td>dat.</td>
<td>et cetera</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

One may speculate that \textit{bhav-ant} was misread as \textit{bha-vant} so that the analogy with forms like \textit{bala-vant} was tempting.

Remember:

1. The nom. sg. m. (like \textit{gacch-an} \textright \textit{gacch-ants}) is without compensatory lengthening (in line with CCl but contradicting C\textit{pL}s). An exception is the honorific pronoun \textit{bhav-ān} which follows \textit{bala-vant}.

2. The n. tends to exhibit strong forms in dual NVA in the classes 1, 4, and 10, against fig. D.1 p. 204. However, the regular weak dual NVA
   \textcircled{\textbullet} is always seen in \textit{ja-g-at-ī} from \textit{jagat} n. ("world") and
   \textcircled{\textbullet} typically seen in the athematic classes 2, 3, 5, 7, 8, and 9
   \textcircled{\textbullet} sometimes in pres. part. of the 6. class where we have
   \begin{itemize}
   \item weak \textit{tudati bālāu} ("the two hitting boys") beside
   \item strong \textit{tudanti bālāu}.
   \end{itemize}

3. The fem. sg. can be seen from the nom. dual n.:
   \begin{align*}
   \text{f. sg. nom.} &= \text{n. dual NVA}
   \end{align*}
   as in

221
D. Grammar: nouns and adverbs

<table>
<thead>
<tr>
<th>stem</th>
<th>category</th>
<th>nom. sg. m.</th>
<th>nom. dual n.</th>
<th>nom. sg. f.</th>
</tr>
</thead>
<tbody>
<tr>
<td>bala-vant</td>
<td>vant-adjective</td>
<td>bala-vān</td>
<td>bala-vat-ī</td>
<td>bala-vat-ī</td>
</tr>
<tr>
<td>mah-ant</td>
<td>adjective</td>
<td>mah-ān</td>
<td>mah-at-ī</td>
<td>mah-at-ī</td>
</tr>
<tr>
<td>bhar-ant</td>
<td>pres. part.</td>
<td>bhar-an</td>
<td>bhar-ant-ī</td>
<td>bhar-ant-ī</td>
</tr>
<tr>
<td>bhav-ant</td>
<td>pres. part.</td>
<td>bhav-an</td>
<td>bhav-ant-ī</td>
<td>bhav-ant-ī</td>
</tr>
<tr>
<td>bhav-ant</td>
<td>honorific pronoun</td>
<td>bhav-ān</td>
<td>bhav-at-ī</td>
<td>bhav-at-ī</td>
</tr>
</tbody>
</table>

All the f. declensions bala-vat-ī through bhav-at-ī exactly follow nad-ī (pp. 235).

Analogical “nasal infix” in neuter plural NVA

We have seen the n. pl. forms for NVA such as these

<table>
<thead>
<tr>
<th>stem</th>
<th>category</th>
<th>nom. sg. m.</th>
<th>nom. pl. n. NVA</th>
</tr>
</thead>
<tbody>
<tr>
<td>bala-vant</td>
<td>vant-adjective</td>
<td>bala-vān</td>
<td>bala-vant-ī</td>
</tr>
<tr>
<td>mati-mant</td>
<td>mant-adjective</td>
<td>mati-mān</td>
<td>mati-mant-ī</td>
</tr>
<tr>
<td>bhar-ant</td>
<td>pres. part.</td>
<td>bhar-an</td>
<td>bhar-ant-ī</td>
</tr>
</tbody>
</table>

In the last column, n appears because of the full grade. However, to the speakers of Sanskrit this n seemed the sign for nom. pl. n. NVA in general. Using the analogy

<table>
<thead>
<tr>
<th>stem</th>
<th>nom. pl. n. NVA</th>
</tr>
</thead>
<tbody>
<tr>
<td>bala-vat</td>
<td>bala-vant-ī</td>
</tr>
<tr>
<td>manas</td>
<td>man-āms-ī</td>
</tr>
</tbody>
</table>

we obtain n. pl. forms for NVA like

<table>
<thead>
<tr>
<th>stem</th>
<th>nom. sg. m.</th>
<th>nom. pl. n. NVA</th>
</tr>
</thead>
<tbody>
<tr>
<td>aṣṭj</td>
<td>aṣṭk (AFP)</td>
<td>aṣṭn-ī</td>
</tr>
<tr>
<td>āyus</td>
<td>āyus</td>
<td>āyāms-ī (RUKI)</td>
</tr>
<tr>
<td>havis</td>
<td>havis</td>
<td>havīms-ī (RUKI)</td>
</tr>
</tbody>
</table>

However, why most of these vowels (not in aṣṭn-ī) are long, remains unclear.

kṣāḍ-īyans etc.

It may be best to cover comparative adjectives here. Consider the paradigm for kṣāḍ-īyans m. ("smaller"): 222
D.3. Nouns: weak and strong forms

<table>
<thead>
<tr>
<th>kṣōḍ-īyāms m.</th>
<th>case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>nom.</td>
<td>kṣōḍ-īyām (1)</td>
<td>kṣōḍ-īyāms-āu (2)</td>
<td>kṣōḍ-īyāms-as (2)</td>
<td></td>
</tr>
<tr>
<td>voc.</td>
<td>kṣōḍ-īyām (2)</td>
<td>kṣōḍ-īyāms-āu (2)</td>
<td>kṣōḍ-īyāms-as (2)</td>
<td></td>
</tr>
<tr>
<td>acc.</td>
<td>kṣōḍ-īyāms-am (2)</td>
<td>kṣōḍ-īyāms-āu (2)</td>
<td>kṣōḍ-īyas-as (3)</td>
<td></td>
</tr>
<tr>
<td>instr.</td>
<td>kṣōḍ-īyas-ā (3)</td>
<td>kṣōḍ-īyō-bhyām (4)</td>
<td>kṣōḍ-īyō-bhis (4)</td>
<td></td>
</tr>
<tr>
<td>dat.</td>
<td>kṣōḍ-īyas-ē (3)</td>
<td>kṣōḍ-īyō-bhyām (4)</td>
<td>kṣōḍ-īyō-bhyas (4)</td>
<td></td>
</tr>
<tr>
<td>abl.</td>
<td>kṣōḍ-īyas-as (3)</td>
<td>kṣōḍ-īyō-bhyām (4)</td>
<td>kṣōḍ-īyō-bhyas (4)</td>
<td></td>
</tr>
<tr>
<td>gen.</td>
<td>kṣōḍ-īyas-as (3)</td>
<td>kṣōḍ-īyas-ōs (3)</td>
<td>kṣōḍ-īyas-ām (3)</td>
<td></td>
</tr>
<tr>
<td>loc.</td>
<td>kṣōḍ-īyas-i (3)</td>
<td>kṣōḍ-īyas-ōs (3)</td>
<td>kṣōḍ-īyas-su (3)</td>
<td></td>
</tr>
</tbody>
</table>

1. *kṣōḍ-īyām* is another example of CPVs, here from *kṣōḍ-īyāms-s. with nom. sg. marker s.

2. Like in *mah-ant*, we observe migration of long ā from nom. sg. to all the other strong forms except for voc. sg. which is explained by the formula “stem minus CCL.”

3. Weak forms like *kṣōḍ-īyas-ā* exhibit loss of vowel and expected SY-N.

4. In weak forms like *kṣōḍ-īyō-bhis*, we see expected CPLz from yas before voiced consonant bh.

The n. forms regularly show strong forms in pl. NVA:

<table>
<thead>
<tr>
<th>kṣōḍ-īyāms n.</th>
<th>case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>nom.</td>
<td>kṣōḍ-īyas</td>
<td>kṣōḍ-īyas-ī</td>
<td>kṣōḍ-īyāms-ī</td>
<td></td>
</tr>
<tr>
<td>voc.</td>
<td>kṣōḍ-īyas</td>
<td>kṣōḍ-īyas-ī</td>
<td>kṣōḍ-īyāms-ī</td>
<td></td>
</tr>
<tr>
<td>acc.</td>
<td>kṣōḍ-īyas</td>
<td>kṣōḍ-īyas-ī</td>
<td>kṣōḍ-īyāms-ī</td>
<td></td>
</tr>
<tr>
<td>instr.</td>
<td>from here like masculine</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

cakṛva(n)s etc.

We now turn to the reduplicated perfect active participle (pfP), for example *cakṛva(n)s* (“one who did”). It is best to assume two stems, one with n, the other without:
D. Grammar: nouns and adverbs

<table>
<thead>
<tr>
<th>ca-kr-vān(n) m.</th>
<th>case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>nom.</td>
<td>ca-kr-vān</td>
<td>ca-kr-vāṃs-du</td>
<td>ca-kr-vāṃs-as</td>
<td>(1)</td>
</tr>
<tr>
<td>voc.</td>
<td>ca-kr-vān</td>
<td>ca-kr-vāṃs-du</td>
<td>ca-kr-vāṃs-as</td>
<td>(2)</td>
</tr>
<tr>
<td>acc.</td>
<td>ca-kr-vāṃs-am</td>
<td>ca-kr-vāṃs-du</td>
<td>ca-kr-vāṃs-as</td>
<td>(2)</td>
</tr>
<tr>
<td>instr.</td>
<td>ca-kr-uṣ-ā</td>
<td>ca-kr-vad-bhyām</td>
<td>ca-kr-vad-bhis</td>
<td>(3)</td>
</tr>
<tr>
<td>dat.</td>
<td>ca-kr-uṣ-ē</td>
<td>ca-kr-vad-bhyām</td>
<td>ca-kr-vad-bhis</td>
<td>(4)</td>
</tr>
<tr>
<td>abl.</td>
<td>ca-kr-uṣ-as</td>
<td>ca-kr-vad-bhyām</td>
<td>ca-kr-vad-bhyās</td>
<td>(4)</td>
</tr>
<tr>
<td>gen.</td>
<td>ca-kr-uṣ-as</td>
<td>ca-kr-uṣ-ōs</td>
<td>ca-kr-uṣ-ām</td>
<td>(3)</td>
</tr>
<tr>
<td>loc.</td>
<td>ca-kr-uṣ-i</td>
<td>ca-kr-uṣ-ōs</td>
<td>ca-kr-vat-su</td>
<td>(4)</td>
</tr>
</tbody>
</table>

1. *ca-kr-vān* builds on *ca-kr-vāns-s* (with *n*) and *CpL*s.

2. As in *mah-ant* and *kṣod-īyāms*, we observe migration of long ā from nom. sg. to all the other strong forms except for voc. sg. which is explained by the formula ‘stem *ca-kr-vāns* minus *CCF*’.

3. Weak forms like *ca-kr-uṣ-ā* build on *cakrvas* (without *n*) where the loss of vowel *a* forces *v* to become vocalic (*hV*).

4. Perhaps, forms like *ca-kr-vad-bhis* are best explained by analogy with forms like *bhar-ad-bhis* or *mah-ad-bhis*. And similarly *ca-kr-vat-su*.

The n. forms regularly show strong forms in pl. NVA:

<table>
<thead>
<tr>
<th>ca-kr-vān(n) n.</th>
<th>case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>nom.</td>
<td>ca-kr-vat</td>
<td>ca-kr-uṣ-ī</td>
<td>ca-kr-vāṃs-ī</td>
<td>(4)</td>
</tr>
<tr>
<td>voc.</td>
<td>ca-kr-vat</td>
<td>ca-kr-uṣ-ī</td>
<td>ca-kr-vāṃs-ī</td>
<td>(3)</td>
</tr>
<tr>
<td>acc.</td>
<td>ca-kr-vat</td>
<td>ca-kr-uṣ-ī</td>
<td>ca-kr-vāṃs-ī</td>
<td>(3)</td>
</tr>
<tr>
<td>instr.</td>
<td>from here like masculine</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

where the numbers are explained above.

A difficult pf.P is *dāśva* corrupted from *dāśva(n)s* (“liberal, giving, a donor”) which is a reduplicated (!) form going back to ie. *de-dk-v* by *CpL dāk*. See p. 309.

Often, *vidva(n)s* (“learned person”) is considered reduplicated perfect active, too, although there is no reduplication. This is in line with the 3. sg. perf. *veda* (see p. 367).
D.3. Nouns: weak and strong forms

<table>
<thead>
<tr>
<th></th>
<th>case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>nom.</td>
<td><em>vid-vän</em> (1)</td>
<td>vid-vänś-āu (2)</td>
<td>vid-vänś-as (2)</td>
<td></td>
</tr>
<tr>
<td>voc.</td>
<td><em>vid-van</em> (2)</td>
<td>vid-vänś-āu (2)</td>
<td>vid-vänś-as (2)</td>
<td></td>
</tr>
<tr>
<td>acc.</td>
<td>vid-vänś-ām (2)</td>
<td>vid-vänś-āu (2)</td>
<td>vid-uṣ-ās (3)</td>
<td></td>
</tr>
<tr>
<td>instr.</td>
<td>vid-uṣ-ā (3)</td>
<td>vid-väd-bhyām (4)</td>
<td>vid-väd-bhis (4)</td>
<td></td>
</tr>
<tr>
<td>dat.</td>
<td>vid-uṣ-ē (3)</td>
<td>vid-väd-bhyām (4)</td>
<td>vid-väd-bhyas (4)</td>
<td></td>
</tr>
<tr>
<td>abl.</td>
<td>vid-uṣ-āś (3)</td>
<td>vid-väd-bhyām (4)</td>
<td>vid-väd-bhyas (4)</td>
<td></td>
</tr>
<tr>
<td>gen.</td>
<td>vid-uṣ-āś (3)</td>
<td>vid-uṣ-ōś (3)</td>
<td>vid-uṣ-āṃ (3)</td>
<td></td>
</tr>
<tr>
<td>loc.</td>
<td>vid-uṣ-ī (3)</td>
<td>vid-uṣ-ōś (3)</td>
<td>vid-vä-t-sū (4)</td>
<td></td>
</tr>
</tbody>
</table>

1. *vid-vän* ← *(vid-vän) -(n)* by Cps.

2. As in *mah-aṅt*, kṣōd-īyans, and *ca-kr-va(n)s*, we observe migration of long ā from nom. sg. to all the other strong forms except for voc. sg. which is explained by the formula “stem *vid-vän* minus CCl”.

3. Weak forms like *vid-uṣ-ā* build on *vid-vas* (without n) where the loss of vowel a forces v to become vocalic (*hV*).

4. Similar to forms like *ca-kr-vād-bhis*, let us explain forms like *vid-vād-bhis* and *vid-vat-sū* by analogy (see *bhar-ad-bhis* or *mah-at-sū*).

The n. forms regularly show strong forms in pl. NVA:

<table>
<thead>
<tr>
<th></th>
<th>case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>nom.</td>
<td><em>vid-vat</em> (4)</td>
<td>vid-uṣ-ī (3)</td>
<td>vid-vänś-ī (2)</td>
<td></td>
</tr>
<tr>
<td>voc.</td>
<td><em>vid-vat</em> (4)</td>
<td>vid-uṣ-ī (3)</td>
<td>vid-vänś-ī (2)</td>
<td></td>
</tr>
<tr>
<td>acc.</td>
<td><em>vid-vat</em> (4)</td>
<td>vid-uṣ-ī (3)</td>
<td>vid-vänś-ī (2)</td>
<td></td>
</tr>
<tr>
<td>instr.</td>
<td><em>vid-vat</em> (4)</td>
<td>vid-uṣ-ī (3)</td>
<td>vid-vänś-ī (2)</td>
<td></td>
</tr>
</tbody>
</table>

where the numbers are explained above.

D.3.4. an- and in- stems like *rāj-an* and *yōg-in*

An-stems (*rāj-an, karm-an*)

The stem for “king” is *rāj-an*. The strong-weak alternation concerns the suffix *an*.
### D. Grammar: nouns and adverbs

<table>
<thead>
<tr>
<th><strong>räj-an m.</strong></th>
<th>case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>nom.</td>
<td>räj-ā (2)</td>
<td>räj-ān-āu (1)</td>
<td>räj-ān-as (1)</td>
<td></td>
</tr>
<tr>
<td>voc.</td>
<td>räj-an (3)</td>
<td>räj-ān-āu (1)</td>
<td>räj-ān-as (1)</td>
<td></td>
</tr>
<tr>
<td>acc.</td>
<td>räj-ān-am (1)</td>
<td>räj-ān-āu (1)</td>
<td>räj-ān-as (1)</td>
<td></td>
</tr>
<tr>
<td>instr.</td>
<td>räj-ān-ē (4)</td>
<td>räj-ān-āu (1)</td>
<td>räj-ān-as (1)</td>
<td></td>
</tr>
<tr>
<td>dat.</td>
<td>räj-ān-ē (4)</td>
<td>räj-ān-āu (1)</td>
<td>räj-ān-as (1)</td>
<td></td>
</tr>
<tr>
<td>abl.</td>
<td>räj-ān-as (4)</td>
<td>räj-ān-āu (1)</td>
<td>räj-ān-as (1)</td>
<td></td>
</tr>
<tr>
<td>gen.</td>
<td>räj-ān-as (4)</td>
<td>räj-ān-āu (1)</td>
<td>räj-ān-as (1)</td>
<td></td>
</tr>
<tr>
<td>loc.</td>
<td>räj-ān-i (4, 6)</td>
<td>räj-ān-āu (1)</td>
<td>räj-ān-as (1)</td>
<td></td>
</tr>
</tbody>
</table>

1. The strong forms with oi.

\[
\hat{a} + \text{n} + \text{vowel ending}
\]

\[
o + \text{n} + \text{vowel ending}
\]

According to Brugmann’s law **Lo**.

2. Nom. sg. **räj-ā** is difficult because ie. *räj-on-s should result in **räj-ān** by **CpLs**.

3. The strong form voc. sg. **räj-an** regularly equals the stem.

4. The weak forms before vowel-initial ending like instr. sg. **räj-ān-ē** are zero-grade forms (just nasal without vowel) and with obvious forward (!) assimilation n → ē after palatal j.

5. By **SY _N** one obtains the weak forms like **räj-a-bhis**.

6. Loc. sg. has the alternative reading **räj-an-i**. It is not a strong form because strong forms exhibit Brugmann’s law (see 1). It is taken from forms like **ām-an-i** (see below).

The paradigm of **śv-an** (“dog”) follows the one of **räj-an** closely:

<table>
<thead>
<tr>
<th><strong>śv-an m.</strong></th>
<th>case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>nom.</td>
<td>śv-ā (2)</td>
<td>śv-ān-āu (1)</td>
<td>śv-ān-as (1)</td>
<td></td>
</tr>
<tr>
<td>voc.</td>
<td>śv-an (3)</td>
<td>śv-ān-āu (1)</td>
<td>śv-ān-as (1)</td>
<td></td>
</tr>
<tr>
<td>acc.</td>
<td>śv-ān-am (1)</td>
<td>śv-ān-āu (1)</td>
<td>śv-ān-as (1)</td>
<td></td>
</tr>
<tr>
<td>instr.</td>
<td>śv-ān-ē (4)</td>
<td>śv-ān-āu (1)</td>
<td>śv-ān-as (1)</td>
<td></td>
</tr>
<tr>
<td>dat.</td>
<td>śv-ān-ē (4)</td>
<td>śv-ān-āu (1)</td>
<td>śv-ān-as (1)</td>
<td></td>
</tr>
<tr>
<td>abl.</td>
<td>śv-ān-as (4)</td>
<td>śv-ān-āu (1)</td>
<td>śv-ān-as (1)</td>
<td></td>
</tr>
<tr>
<td>gen.</td>
<td>śv-ān-as (4)</td>
<td>śv-ān-āu (1)</td>
<td>śv-ān-as (1)</td>
<td></td>
</tr>
<tr>
<td>loc.</td>
<td>śv-ān-i (4)</td>
<td>śv-ān-āu (1)</td>
<td>śv-ān-as (1)</td>
<td></td>
</tr>
</tbody>
</table>
D.3. Nouns: weak and strong forms

1. **Lo**

2. Nom. sg. šv-ā corresponds to rāj-ā. Both are difficult (see above).

3. The strong form voc. sg. šv-an regularly equals the stem.

4. The weak forms before vowel-initial ending like instr. sg. šu-n-ā are zero-grade forms (just nasal without vowel) and with expected vowel for halfvowel before consonant n (hV).

5. By **SY_N** and **SY_Conf** one obtains the weak forms like šv-a-bhis, but not n.at. šu-n-bhis.

Turn now to yuv-an m. (“youngster”):

<table>
<thead>
<tr>
<th>yuv-an m.</th>
<th>case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>nom.</td>
<td>yuv-ā (2)</td>
<td>yuv-ān-āu (1)</td>
<td>yuv-ān-as (1)</td>
<td></td>
</tr>
<tr>
<td>voc.</td>
<td>yuv-an (3)</td>
<td>yuv-ān-āu (1)</td>
<td>yuv-ān-as (1)</td>
<td></td>
</tr>
<tr>
<td>acc.</td>
<td>yuv-ān-am (1)</td>
<td>yuv-ān-āu (1)</td>
<td>yū-n-as (4)</td>
<td></td>
</tr>
<tr>
<td>instr.</td>
<td>yū-n-ā (4)</td>
<td>yuv-a-bhyām (5)</td>
<td>yuv-a-bhis (5)</td>
<td></td>
</tr>
<tr>
<td>dat.</td>
<td>yū-n-ē (4)</td>
<td>yuv-a-bhyām (5)</td>
<td>yuv-a-bhyas (5)</td>
<td></td>
</tr>
<tr>
<td>abl.</td>
<td>yū-n-as (4)</td>
<td>yuv-a-bhyām (5)</td>
<td>yuv-a-bhyas (5)</td>
<td></td>
</tr>
<tr>
<td>gen.</td>
<td>yū-n-as (4)</td>
<td>yū-n-ōs (4)</td>
<td>yū-n-ām (4)</td>
<td></td>
</tr>
<tr>
<td>loc.</td>
<td>yū-n-i (4)</td>
<td>yū-n-ōs (4)</td>
<td>yuv-a-su (5)</td>
<td></td>
</tr>
</tbody>
</table>

1. **Lo**

2. Nom. sg. yuv-ā corresponds to rāj-ā and šv-ā.

3. The strong form voc. sg. yuv-an regularly equals the stem.

4. The weak forms before vowel-initial ending like instr. sg. yū-n-ā are zero-grade forms (just nasal without vowel) and with expected long vowel for vowel plus (half)vowel before consonant n (MVS).

5. By **SY_N** and **SY_Conf** one obtains the weak forms like yuv-a-bhis (rather than u.at. ivunbhis).

The n. (!) noun nām-an (“name”) finds a similar explanation. We obtain
D. Grammar: nouns and adverbs

<table>
<thead>
<tr>
<th>nām-an n.</th>
<th>case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>nom.</td>
<td>nām-a (1)</td>
<td>nām-n-i/nām-an-i (2, 4)</td>
<td>nām-an-i (3)</td>
<td></td>
</tr>
<tr>
<td>voc.</td>
<td>nām-a, nām-an (2)</td>
<td>nām-n-i/nām-an-i (2, 4)</td>
<td>nām-an-i (3)</td>
<td></td>
</tr>
<tr>
<td>acc.</td>
<td>nām-a (1)</td>
<td>nām-n-i/nām-an-i (2, 4)</td>
<td>nām-an-i (3)</td>
<td></td>
</tr>
<tr>
<td>instr.</td>
<td>nām-n-ā (4)</td>
<td>nām-a-bhyām (5)</td>
<td>nām-a-bhis (5)</td>
<td></td>
</tr>
<tr>
<td>dat.</td>
<td>nām-n-ē (4)</td>
<td>nām-a-bhyām (5)</td>
<td>nām-a-bhyas (5)</td>
<td></td>
</tr>
<tr>
<td>abl.</td>
<td>nām-n-as (4)</td>
<td>nām-a-bhyām (5)</td>
<td>nām-a-bhyas (5)</td>
<td></td>
</tr>
<tr>
<td>loc.</td>
<td>nām-n-i/nām-an-i (2, 4)</td>
<td>nām-n-ōs (4)</td>
<td>nām-a-su (5)</td>
<td></td>
</tr>
</tbody>
</table>

1. nām-a is regular weak stem without ending from *nom-n.o.

2. nām-a is regular by the rule that NVA neuter are the same, within sg., dual, and pl. In contrast, the alternative nām-an builds on the stem nām-an. Similarly, loc. sg. and NVA dual also show irregular alternative forms. They are not strong forms because strong forms exhibit Brugmann’s law (see 3). Instead, they have spilled over from words like the karm-an (“action”) to which we turn next.

3. Lo

4. Before vowel endings, we just have n as the weak suffix. The dual forms NVA are formed with the usual marker i in the athematic paradigms.

5. Similar to nom. sg., we find forms like nām-a-bhis by SY_N.

We now turn to an-nouns with two consonants before the suffix, ātm-an m. (“soul, self”) and the karm-an n. (“action”):

<table>
<thead>
<tr>
<th>ātm-an m.</th>
<th>case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>nom.</td>
<td>ātm-ā (2)</td>
<td>ātm-ān-āu (1)</td>
<td>ātm-ān-as (1)</td>
<td></td>
</tr>
<tr>
<td>voc.</td>
<td>ātm-an (3)</td>
<td>ātm-ān-āu (1)</td>
<td>ātm-ān-as (1)</td>
<td></td>
</tr>
<tr>
<td>acc.</td>
<td>ātm-ān-am (1)</td>
<td>ātm-ān-āu (1)</td>
<td>ātm-ān-as (4)</td>
<td></td>
</tr>
<tr>
<td>instr.</td>
<td>ātm-an-ā (4)</td>
<td>ātm-a-bhyām (5)</td>
<td>ātm-a-bhis (5)</td>
<td></td>
</tr>
<tr>
<td>dat.</td>
<td>ātm-an-ē (4)</td>
<td>ātm-a-bhyām (5)</td>
<td>ātm-a-bhyas (5)</td>
<td></td>
</tr>
<tr>
<td>abl.</td>
<td>ātm-an-as (4)</td>
<td>ātm-a-bhyām (5)</td>
<td>ātm-a-bhyas (5)</td>
<td></td>
</tr>
<tr>
<td>gen.</td>
<td>ātm-an-as (4)</td>
<td>ātm-an-ōs (4)</td>
<td>rāj-ā-ām (4)</td>
<td></td>
</tr>
<tr>
<td>loc.</td>
<td>ātm-an-i (4)</td>
<td>ātm-an-ōs (4)</td>
<td>ātm-an-su (5)</td>
<td></td>
</tr>
</tbody>
</table>

1. Lo

2. Nom. sg. ātm-ā is difficult, as is rāj-ā.
3. Again, the strong form voc. sg. ātm-an equals the stem.

4. We might expect instr. sg. n.at. ātm-n-ā. However, m would become syllabic and we would obtain n.at. ātu-n-ā. This is, of course, not what we observe.

5. By SY_N one obtains weak forms like ātm-a-bhis.

<table>
<thead>
<tr>
<th>karm-an n.</th>
<th>case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>nom.</td>
<td>karm-a (1)</td>
<td>karm-an-i (4)</td>
<td>karm-an-i (3)</td>
</tr>
<tr>
<td></td>
<td>voc.</td>
<td>karm-a, karm-an (2)</td>
<td>karm-an-i (4)</td>
<td>karm-an-i (3)</td>
</tr>
<tr>
<td></td>
<td>acc.</td>
<td>karm-a (1)</td>
<td>karm-an-i (4)</td>
<td>karm-an-i (3)</td>
</tr>
<tr>
<td></td>
<td>instr.</td>
<td>karm-anā (4)</td>
<td>karm-a-bhīm (5)</td>
<td>karm-a-bhīs (5)</td>
</tr>
<tr>
<td></td>
<td>dat.</td>
<td>karm-anē (4)</td>
<td>karm-a-bhīm (5)</td>
<td>karm-a-bhīyas (5)</td>
</tr>
<tr>
<td></td>
<td>abl.</td>
<td>karm-an-as (4)</td>
<td>karm-a-bhīm (5)</td>
<td>karm-a-bhīyas (5)</td>
</tr>
<tr>
<td></td>
<td>gen.</td>
<td>karm-an-as (4)</td>
<td>karm-an-ōs (4)</td>
<td>karm-an-am (4)</td>
</tr>
<tr>
<td></td>
<td>loc.</td>
<td>karm-an-i (4)</td>
<td>karm-an-ōs (4)</td>
<td>karm-an-su (5)</td>
</tr>
</tbody>
</table>

1. Nom. sg. karm-a is regular weak stem without ending due to SY_N and SY_Conf.

2. Again, we have alternative forms for voc. sg. The second one karm-an equals the stem.

3. Lo

4. Before vowel endings, we would expect n as the weak suffix, for example instr. sg. n.at. karm-n-ā. However, kara-ṇ-ā could not have survived for long (compare ātm-an-ā).

5. Similar to nom. sg., we find forms like karm-a-bhis by SY_N and SY_Conf.

Note:

1. The only strong forms are those in pl. nom., voc., and acc. which show ā (from Brugmann’s law).

2. The weak forms have an (after r) in line with the usual sandhi rule.

3. The “very weak” forms have a as in karm-a-bhis (similar to nām-a-bhis).

**in-stems (yōg-in, tapas-vin)**

After one has mastered rāj-an, it is not too difficult to understand yōg-in m. (“yogi”) and other in-stems. They do not show any strong-weak alternation:
D. Grammar: nouns and adverbs

<table>
<thead>
<tr>
<th>yôg-in n.</th>
<th>case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>nom.</td>
<td>yôg-î (2)</td>
<td>yôg-in-âu (1)</td>
<td>yôg-in-as (1)</td>
<td></td>
</tr>
<tr>
<td>voc.</td>
<td>yôg-in (1)</td>
<td>yôg-in-âu (1)</td>
<td>yôg-in-as (1)</td>
<td></td>
</tr>
<tr>
<td>acc.</td>
<td>yôg-in-am (1)</td>
<td>yôg-in-âu (1)</td>
<td>yôg-in-as (1)</td>
<td></td>
</tr>
<tr>
<td>instr.</td>
<td>yôg-in-ā (1)</td>
<td>yôg-i-bhyâm (3)</td>
<td>yôg-i-bhis (3)</td>
<td></td>
</tr>
<tr>
<td>dat.</td>
<td>yôg-in-ē (1)</td>
<td>yôg-i-bhyâm (3)</td>
<td>yôg-i-bhyas (3)</td>
<td></td>
</tr>
<tr>
<td>abl.</td>
<td>yôg-in-as (1)</td>
<td>yôg-i-bhyâm (3)</td>
<td>yôg-i-bhyas (3)</td>
<td></td>
</tr>
<tr>
<td>gen.</td>
<td>yôg-in-as (1)</td>
<td>yôg-in-ōs (1)</td>
<td>yôg-in-ām (1)</td>
<td></td>
</tr>
<tr>
<td>loc.</td>
<td>yôg-in-i (1)</td>
<td>yôg-in-ōs (1)</td>
<td>yôg-i-šu (3, 4)</td>
<td></td>
</tr>
</tbody>
</table>

1. The stem yôg-in is seen in many forms. Since there is no weak-strong alternation, nom. and acc. pl. are not differentiated.

2. Similar to the nom. sg. râj-ā, yôg-î also exhibits compensatory lengthening for original s (CpLs, pp. 50) with unexpected loss of final n.

3. In the weak forms before consonants (bh or s) the n of râj-an becomes syllabic and turns into a. By analogy, n is also missing in the corresponding forms of yôg-in:

   râj-an with instr. pl.: râj-a-bhis
   just as
   yôg-in with instr. pl.: yôg-i-bhis

4. RUKI

There exist also n. in-stems. Some are build on n. as-stems (p. 100), such as tapas n. (“heat”). However, we have tapas-vin rather than *tapas-in. Indeed, n.at. tapas-in would lead to confusing forms such as

nom. sg. *tapas-i ← n.at. tapas-in
loc. sg. tapas-i ← n. tapas-

It seems that the declension of tapas-vin (“ascetic”) is a rather late development where analogy was probably more important than sound laws.

<table>
<thead>
<tr>
<th>tapas-vin n.</th>
<th>case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>nom.</td>
<td>tapas-vi (1)</td>
<td>tapas-vin-ī (4)</td>
<td>tapas-vin-i (3)</td>
<td></td>
</tr>
<tr>
<td>voc.</td>
<td>tapas-vi/tapas-vin (2)</td>
<td>tapas-vin-ī (4)</td>
<td>tapas-vin-i (3)</td>
<td></td>
</tr>
<tr>
<td>acc.</td>
<td>tapas-vi (1)</td>
<td>tapas-vin-ī (4)</td>
<td>tapas-vin-i (3)</td>
<td></td>
</tr>
<tr>
<td>instr.</td>
<td>tapas-vin-ā (4)</td>
<td>tapas-vi-bhyâm (5)</td>
<td>tapas-vi-bhis (5)</td>
<td></td>
</tr>
<tr>
<td>dat.</td>
<td>tapas-vin-ē (4)</td>
<td>tapas-vi-bhyâm (5)</td>
<td>tapas-vi-bhyas (5)</td>
<td></td>
</tr>
<tr>
<td>abl.</td>
<td>tapas-vin-as (4)</td>
<td>tapas-vi-bhyâm (5)</td>
<td>tapas-vi-bhyas (5)</td>
<td></td>
</tr>
<tr>
<td>gen.</td>
<td>tapas-vin-as (4)</td>
<td>tapas-vin-ōs (4)</td>
<td>tapas-vin-ām (4)</td>
<td></td>
</tr>
<tr>
<td>loc.</td>
<td>tapas-vin-i (4)</td>
<td>tapas-vin-ōs (4)</td>
<td>tapas-vi-šu (6)</td>
<td></td>
</tr>
</tbody>
</table>
D.3. Nouns: weak and strong forms

1. One may speculate that n. *tapas-vi* expresses a weak form in contrast to m. *tapas-vi*.

2. Again, we have alternative forms for voc. sg.. The second one *tapas-vin* equals the stem.

3. *tapas-vin-i* may be formed by analogy with forms like *karm-ān-i* or *phalāni*.

4. Built regularly from the stem.

5. *tapas-vi-bhis* perhaps by analogy with forms like *rāj-a-bhis* or *yōg-i-bhis*.

6. **RUKI**

D.3.5. Agent and kinship nouns like *nē-tar* and *pitar*

**tor-stems (** *nē-tar, kātar*)**

We now turn to in-between nouns (p. 205), the r-stems that we will also call *tor* stems. All the forms show full grade of the verbal component, like the stems *nē-tar* (“leader”), *bhar-tar* (“husband”), or *kar-tar* (“doer, maker”). The weak-strong alternation concerns the suffix. From an ie. point of view, the suffix is *tor*. You know this suffix from the Latin B *men-tor*.

◊ In the strong forms, we have this suffix *tor*. The strong forms with oi.

\[
\tilde{a} + r + \text{vowel ending}
\]

originate from ie.

\[
o + r + \text{vowel ending}
\]

according to Brugmann’s law **Lo**.

◊ In the weak forms, we see *tr* before vowels or *tr* before consonants.

We begin with the declension pattern of *nē-tar* (“leader”):

<table>
<thead>
<tr>
<th><em>nē-tar</em> m.</th>
<th>case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>nom.</td>
<td><em>nē-lā</em> (2)</td>
<td><em>nē-lār-āu</em> (1)</td>
<td><em>nē-lār-as</em> (1)</td>
</tr>
<tr>
<td></td>
<td>voc.</td>
<td><em>nē-lar</em> (3)</td>
<td><em>nē-lār-āu</em> (1)</td>
<td><em>nē-lār-as</em> (1)</td>
</tr>
<tr>
<td></td>
<td>acc.</td>
<td><em>nē-lār-am</em> (1)</td>
<td><em>nē-lār-āu</em> (1)</td>
<td><em>nē-tr-ān</em> (6)</td>
</tr>
<tr>
<td></td>
<td>gen.</td>
<td><em>nē-tr-as</em> (4)</td>
<td><em>nē-tr-ōs</em> (4)</td>
<td><em>nē-tr-ṇām</em> (7)</td>
</tr>
<tr>
<td></td>
<td>loc.</td>
<td><em>nē-tar-i</em> (9)</td>
<td><em>nē-tr-ōs</em> (4)</td>
<td><em>nē-tr-ṣu</em> (5, 8)</td>
</tr>
</tbody>
</table>

1. **Lo**
D. Grammar: nouns and adverbs

2. Nom. sg. nê-tâ may be due to CplS: \(^*\text{tor-s} \rightarrow *\text{tôr} \rightarrow *\text{târ}\). Finally the r is dropped after the long â (similarly, we have râjâ where the n is lost).

3. As usual, voc. sg. nê-tar equals the stem. Since the syllable is not open (r is not followed by a vowel), Brugmann’s law does not apply.

4. The weak forms before vowel-initial endings build on the zero-grade suffix like instr. sg. nê-tr-â.

5. Before a consonant-initial ending, we obtain forms like nê-tr-bhis (pp. 18).

6. The thematic ie. acc. pl. marker ns is cerebralized after r-sounds, but not in a word-final position (see Cern). Syllabic r is long by CplS.

7. nê-tf-ñâm has long f because the thematic ie. gen. pl. marker is Hnêm (Lar_ V).

8. RUKI

9. The loc. nê-tar-i is irregular for expected weak form nê-tr-i. Note that nê-tar-i is not a strong form which would be nê-târ-i by Lo. Maybe, analogy is to blame, for example,

```
<table>
<thead>
<tr>
<th>marut</th>
<th>with voc. sg.: marut-i</th>
</tr>
</thead>
<tbody>
<tr>
<td>just as</td>
<td></td>
</tr>
<tr>
<td>nê-tar</td>
<td>with voc. sg.: nê-tar-i</td>
</tr>
</tbody>
</table>
```

Be careful: bhâr-tar (“husband”) and nap-tar (“grandson”) are best understood as agent nouns, and not as kinship nouns (see next subsection). Finally, we comment on the other two genders:

- Feminine agent nouns are formed with long i, for example nê-trî (“woman leader”). They are formed like nad-î (“river”), see pp. 235.
- Neuter agent nouns are often used as n. adjectives. They are treated on pp. 243.

Kinship nouns (pitâr, mêtâr)

Kinship nouns (such as pitar, “father”) are very similar to agent nouns:

<table>
<thead>
<tr>
<th>pit-ar m. case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>nom.</td>
<td>pit-â (2)</td>
<td>pit-ar-âu (1)</td>
<td>pit-ar-as (1)</td>
</tr>
<tr>
<td>voc.</td>
<td>pit-ar (3)</td>
<td>pit-ar-âu (1)</td>
<td>pit-ar-as (1)</td>
</tr>
<tr>
<td>acc.</td>
<td>pit-ar-am (1)</td>
<td>pit-ar-âu (1)</td>
<td>pit-ñ-n (6)</td>
</tr>
<tr>
<td>instr.</td>
<td>pit-r-â (4)</td>
<td>pit-r-bhyâm (5)</td>
<td>pit-r-bhís (5)</td>
</tr>
<tr>
<td>dat.</td>
<td>pit-r-ê (4)</td>
<td>pit-r-bhyâm (5)</td>
<td>pit-r-bhyas (5)</td>
</tr>
<tr>
<td>abl.</td>
<td>pit-us (10)</td>
<td>pit-r-bhyâm (5)</td>
<td>pit-r-bhyas (5)</td>
</tr>
<tr>
<td>gen.</td>
<td>pit-us (10)</td>
<td>pit-r-òs (4)</td>
<td>pit-ñ-nâm (7)</td>
</tr>
<tr>
<td>loc.</td>
<td>pit-ar-i (9)</td>
<td>pit-r-òs (4)</td>
<td>pit-r-su (5, 8)</td>
</tr>
</tbody>
</table>
D.3. Nouns: weak and strong forms

1. In contrast to agent nouns, the suffix does not contain ie. so that Brugmann’s law Lo is not applied.

2. Nom. sg. pit-â may be due to CpLs: *er-s → *êr → *âr. Finally the r is dropped after the long â (similarly, we have râj-â where the n is lost).

3. As usual, voc. sg. pit-ar equals the stem.

4. The weak forms before vowel-initial endings build on the zero-grade suffix like instr. sg. pit-r-â.

5. Before a consonant-initial ending, we obtain forms like pit-r-bhis (pp. 18).

6. The thematic ie. acc. pl. marker ns is cerebralized after r-sounds, but not in a word-final position (see Cern). Syllabic r is long by CpLs. See pp. 203

7. pit-r-nâm has long r because the thematic ie. gen. pl. marker is Hnôm (Lar V).

8. RUKI

9. The loc. pit-ar-i is irregular for expected weak form pit-r-i.

10. The ending us in abl. and gen. sg. pit-us seem to go back to r-s, perhaps as in 3. pers. pl. perf. bi-bhid-us, but might just be remembered as “irregular”.

An example for a f. kinship term is mâtar (“mother”):

<table>
<thead>
<tr>
<th>mât-ar f.</th>
<th>case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>nom.</td>
<td>mâl-â</td>
<td>mâl-ar-û</td>
<td>mâl-ar-as</td>
<td></td>
</tr>
<tr>
<td>voc.</td>
<td>mâl-ar</td>
<td>mâl-ar-û</td>
<td>mâl-ar-as</td>
<td></td>
</tr>
<tr>
<td>acc.</td>
<td>mâl-ar-am</td>
<td>mâl-ar-û</td>
<td>mâl-r-s (1)</td>
<td></td>
</tr>
<tr>
<td>instr.</td>
<td>mâl-r-â</td>
<td>mâl-r-bhûam</td>
<td>mâl-r-bhis</td>
<td></td>
</tr>
<tr>
<td>dat.</td>
<td>mâl-r-ê</td>
<td>mâl-r-bhûam</td>
<td>mâl-r-bhyas</td>
<td></td>
</tr>
<tr>
<td>abl.</td>
<td>mâl-us</td>
<td>mâl-r-bhûam</td>
<td>mâl-r-bhyas</td>
<td></td>
</tr>
<tr>
<td>gen.</td>
<td>mâl-us</td>
<td>mâl-r-ôs</td>
<td>mâl-r-nâm</td>
<td></td>
</tr>
<tr>
<td>loc.</td>
<td>mâl-ar-i</td>
<td>mâl-r-ôs</td>
<td>mâl-r-su</td>
<td></td>
</tr>
</tbody>
</table>

On the basis of pitar (“father”), the only innovation concerning feminine mâtar (“mother”) concerns the acc. pl. mâl-r-s. Compare

<table>
<thead>
<tr>
<th></th>
<th>thematic a declension</th>
<th>inbetween declension</th>
</tr>
</thead>
<tbody>
<tr>
<td>masculine</td>
<td>dév-â-n</td>
<td>pit-r-n</td>
</tr>
<tr>
<td>feminine</td>
<td>dév-â-s</td>
<td>mâl-r-s</td>
</tr>
</tbody>
</table>
In this section, we consider stems like ṛay m./f. (“wealth”) and glāv m. (“moon”). They do not show any weak-strong alternation, but are athematic. Beginning with the āe-nouns, we find

<table>
<thead>
<tr>
<th>glāv m. case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>nom. glāu-s (2, 3)</td>
<td>glāv-ā (1)</td>
<td>glāv-as (1)</td>
<td></td>
</tr>
<tr>
<td>voc. glāu-s (2, 4)</td>
<td>glāv-ā (1)</td>
<td>glāv-as (1)</td>
<td></td>
</tr>
<tr>
<td>acc. glāv-am (1)</td>
<td>glāv-ā (1)</td>
<td>glāv-as (1)</td>
<td></td>
</tr>
<tr>
<td>instr. glāv-ā (1)</td>
<td>glāu-bhyām (2)</td>
<td>glāu-bhīs (2)</td>
<td></td>
</tr>
<tr>
<td>dat. glāv-ē (1)</td>
<td>glāu-bhyām (2)</td>
<td>glāu-bhīs (2)</td>
<td></td>
</tr>
<tr>
<td>abl. glāv-as (1)</td>
<td>glāu-bhyām (2)</td>
<td>glāu-bhīs (2)</td>
<td></td>
</tr>
<tr>
<td>gen. glāv-as (1)</td>
<td>glāv-ōs (1)</td>
<td>glāv-ām (1)</td>
<td></td>
</tr>
<tr>
<td>loc. glāv-i (1)</td>
<td>glāv-ōs (1)</td>
<td>glāu-ṣu (2)</td>
<td></td>
</tr>
</tbody>
</table>

1. *glāv* before vowels by DI PH
2. *glāu* before consonants by DI PH
3. Nom. sg. marker *s* is clearly observable
4. Voc. sg. irregularly differs from the stem.

The *glāv* pattern is also followed by nāv f. (“boat”).

Turning to the ṛay-stem, consider the paradigm

<table>
<thead>
<tr>
<th>ṛay m./f. case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>nom. rā-s (2, 3)</td>
<td>ṛay-ā (1)</td>
<td>ṛay-as (1)</td>
<td></td>
</tr>
<tr>
<td>voc. rā-s (2, 4)</td>
<td>ṛay-ā (1)</td>
<td>ṛay-as (1)</td>
<td></td>
</tr>
<tr>
<td>acc. rāy-am (1)</td>
<td>ṛay-ā (1)</td>
<td>ṛay-as (1)</td>
<td></td>
</tr>
<tr>
<td>instr. rāy-ā (1)</td>
<td>rā-bhyām (2)</td>
<td>rā-bhīs (2)</td>
<td></td>
</tr>
<tr>
<td>dat. rāy-ē (1)</td>
<td>rā-bhyām (2)</td>
<td>rā-bhīs (2)</td>
<td></td>
</tr>
<tr>
<td>abl. rāy-as (1)</td>
<td>rā-bhyām (2)</td>
<td>rā-bhīs (2)</td>
<td></td>
</tr>
<tr>
<td>gen. rāy-as (1)</td>
<td>rāy-ōs (1)</td>
<td>rāy-ām (1)</td>
<td></td>
</tr>
<tr>
<td>loc. rāy-i (1)</td>
<td>rāy-ōs (1)</td>
<td>rā-su (2)</td>
<td></td>
</tr>
</tbody>
</table>

1. *ṛay* before vowels by DI PH
2. By DI PH before consonants, one should expect unatt. *rā-bhīs* rather than *rā-bhīs*.
3. Nom. sg. marker *s* is clearly observable
4. Voc. sg. irregularly differs from the stem.
D.3.7. Feminine ī- and ū- stems

nadī and vadhū

There exist two f. declensions with long ī and long ū, respectively. They strongly resemble each other. The ī-stem is exemplified by nadī (“river”):

<table>
<thead>
<tr>
<th>nadī f.</th>
<th>case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>nom.</td>
<td>nad-ī (1, 2)</td>
<td>nad-y-āu (4)</td>
<td>nad-y-as (4)</td>
<td></td>
</tr>
<tr>
<td>voc.</td>
<td>nad-i (3)</td>
<td>nad-y-āu (4)</td>
<td>nad-y-as (4)</td>
<td></td>
</tr>
<tr>
<td>acc.</td>
<td>nad-ī-m (1)</td>
<td>nad-y-āu (4)</td>
<td>nad-ī-s (1, 6)</td>
<td></td>
</tr>
<tr>
<td>instr.</td>
<td>nad-y-ā (4, 5)</td>
<td>nad-ī-bhyām (1)</td>
<td>nad-ī-bhis (1)</td>
<td></td>
</tr>
<tr>
<td>dat.</td>
<td>nad-y-āī (4, 6)</td>
<td>nad-ī-bhyām (1)</td>
<td>nad-ī-bhyas (1)</td>
<td></td>
</tr>
<tr>
<td>abl.</td>
<td>nad-y-ās (4, 6)</td>
<td>nad-ī-bhyām (1)</td>
<td>nad-ī-bhyas (1)</td>
<td></td>
</tr>
<tr>
<td>gen.</td>
<td>nad-y-ās (4, 6)</td>
<td>nad-y-ōs (4)</td>
<td>nad-ī-nām (1)</td>
<td></td>
</tr>
<tr>
<td>loc.</td>
<td>nad-y-ām (4, 6)</td>
<td>nad-y-ōs (4)</td>
<td>nad-ī-śu (1, 7)</td>
<td></td>
</tr>
</tbody>
</table>

The nadī model has been used for many f. ī-nouns, such as bala-vat-ī or bhar-a-nt-ī. For m. nouns, consider sēna-nūs m. (“army general”) at nī (“to lead”) in the etymological dictionary. For the numbers, see below the paradigm for vadhū (“bride”):

<table>
<thead>
<tr>
<th>vadhū f.</th>
<th>case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>nom.</td>
<td>vadh-ū-s (1, 2)</td>
<td>vadh-v-ū (4)</td>
<td>vadh-v-as (4)</td>
<td></td>
</tr>
<tr>
<td>voc.</td>
<td>vadh-ū (3)</td>
<td>vadh-v-ū (4)</td>
<td>vadh-v-as (4)</td>
<td></td>
</tr>
<tr>
<td>acc.</td>
<td>vadh-ū-m (1)</td>
<td>vadh-v-ū (4)</td>
<td>vadh-ū-s (1, 6)</td>
<td></td>
</tr>
<tr>
<td>instr.</td>
<td>vadh-v-ā (4, 5)</td>
<td>vadh-ū-bhyām (1)</td>
<td>vadh-ū-bhis (1)</td>
<td></td>
</tr>
<tr>
<td>dat.</td>
<td>vadh-v-āī (4, 6)</td>
<td>vadh-ū-bhyām (1)</td>
<td>vadh-ū-bhyas (1)</td>
<td></td>
</tr>
<tr>
<td>abl.</td>
<td>vadh-v-ās (4, 6)</td>
<td>vadh-ū-bhyām (1)</td>
<td>vadh-ū-bhyas (1)</td>
<td></td>
</tr>
<tr>
<td>gen.</td>
<td>vadh-v-ās (4, 6)</td>
<td>vadh-v-ōs (4)</td>
<td>vadh-ū-nām (1, 6)</td>
<td></td>
</tr>
<tr>
<td>loc.</td>
<td>vadh-v-ām (4, 6)</td>
<td>vadh-v-ōs (4)</td>
<td>vadh-ū-śu (1, 7)</td>
<td></td>
</tr>
</tbody>
</table>

The vadhū pattern is much less prominent and comprises the f. nouns

- cam-ū (“army”)
- svaśr-ū (“mother in law”)
- juh-ū (“ladle”), see hu (“to sacrifice”)

The two paradigms (nad-ī and vadhū) are quite parallel:

1. Before consonant-initial endings, the long vowel is present.
2. In contrast to the nom. sg. nad-ī, we find the usual nom. sg. marker s in vadhūs.
D. Grammar: nouns and adverbs

3. The voc. sg. *nad-i* and *vadh-u*, respectively, are formed from the stem but with the short vowel.

4. Before vowel-initial endings, *hV* leads to forms like *nad-y-ā* or *vadh-v-ā*.

5. Instr. sg. ending *ā* as usual for m. and f. athematic declensions.

6. These two paradigms consistently use thematic feminine endings in line with this table:

<table>
<thead>
<tr>
<th></th>
<th>singular</th>
<th></th>
<th>plural</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>dative</td>
<td>abl./gen.</td>
<td>acc.</td>
</tr>
<tr>
<td>them. fem. nouns</td>
<td>āi</td>
<td>ās</td>
<td>ām</td>
</tr>
<tr>
<td>vs</td>
<td>Vs</td>
<td>ām</td>
<td></td>
</tr>
</tbody>
</table>

7. **RUKI**

**dhī and bhū**

Apart from *nadī* and *vadhū*, we find monosyllabic stems in long ī and long ū, respectively, that look peculiar at first sight. Consider *dhī* (“intellect”):

<table>
<thead>
<tr>
<th>dhī f. case</th>
<th>nom.</th>
<th>voc.</th>
<th>acc.</th>
<th>instr.</th>
<th>dat.</th>
<th>abl.</th>
<th>gen.</th>
<th>loc.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>dh-ī-s (1, 2)</td>
<td>dh-ī-s (3)</td>
<td>dh-ī-y-am (4)</td>
<td>dh-ī-ā (4)</td>
<td>dh-ī-ē (1, 4, 5)</td>
<td>dh-ī-as (4, 5)</td>
<td>dh-ī-ām (1, 2, 4, 5)</td>
<td>dh-ī-ām (1, 4, 5)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>dh-ī-bhyām (1)</td>
<td>dh-ī-bhyām (1)</td>
<td>dh-ī-bhyām (1)</td>
<td>dh-ī-bhyām (1)</td>
<td>dh-ī-bhyām (1)</td>
</tr>
<tr>
<td></td>
<td>dh-ī-y-am (4)</td>
<td>dh-ī-y-as (4)</td>
<td>dh-ī-y-as (4, 6)</td>
<td>dh-ī-ā (4)</td>
<td>dh-ī-y-ām (1)</td>
<td>dh-ī-bhyām (1)</td>
<td>dh-ī-bhyām (1)</td>
<td>dh-ī-bhyām (1)</td>
</tr>
<tr>
<td></td>
<td>dh-ī-y-as (4, 5)</td>
<td>dh-ī-y-as (4, 5)</td>
<td>dh-ī-y-as (4, 5)</td>
<td>dh-ī-ā (4)</td>
<td>dh-ī-y-ām/ dh-ī-nām (1, 4, 5)</td>
<td>dh-ī-ām (1, 4, 5)</td>
<td>dh-ī-ām (1, 4, 5)</td>
<td>dh-ī-ām (1, 4, 5)</td>
</tr>
</tbody>
</table>

The numbers are explained below the *bhū* paradigm. The same pattern is followed by the f. nouns:

◇ *bh-ī* (“fear”)

◇ *śr-ī* (“wealth”)

◇ *hr-ī* (“shame”)

In a parallel fashion (replace ī/i/j by ū/u/v), we have *bhū* (“earth”):
D.3. Nouns: weak and strong forms

<table>
<thead>
<tr>
<th>bhū f.</th>
<th>case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>nom.</td>
<td>bh-ū-s (1, 2)</td>
<td>bh-uv-āu (4)</td>
<td>bh-uv-as (4)</td>
<td></td>
</tr>
<tr>
<td>voc.</td>
<td>bh-ū-s (3)</td>
<td>bh-uv-āu (4)</td>
<td>bh-uv-as (4)</td>
<td></td>
</tr>
<tr>
<td>acc.</td>
<td>bh-uv-am (4)</td>
<td>bh-uv-āu (4)</td>
<td>bh-uv-as (4, 5)</td>
<td></td>
</tr>
<tr>
<td>instr.</td>
<td>bh-uv-ā (4)</td>
<td>bh-ū-bhyām (1)</td>
<td>bh-ū-bhas (1)</td>
<td></td>
</tr>
<tr>
<td>dat.</td>
<td>bh-uv-ē/bh-uv-āi (4, 5)</td>
<td>bh-ū-bhyām (1)</td>
<td>bh-ū-bhyas (1)</td>
<td></td>
</tr>
<tr>
<td>abl.</td>
<td>bh-uv-as/bh-uv-ās (4, 5)</td>
<td>bh-ū-bhyām (1)</td>
<td>bh-ū-bhyas (1)</td>
<td></td>
</tr>
<tr>
<td>gen.</td>
<td>bh-uv-ās/bh-uv-ās (4, 5)</td>
<td>bh-uv-ōs (4)</td>
<td>bh-uv-ām/bh-ū-nām (1, 4, 5)</td>
<td></td>
</tr>
<tr>
<td>loc.</td>
<td>bh-uv-i/bh-uv-ām (4, 5)</td>
<td>bh-uv-ōs (4)</td>
<td>bh-ū-śu (1, 6)</td>
<td></td>
</tr>
</tbody>
</table>

The pattern of bhū ("earth") is also adhered to by bhrū ("brow"). The two paradigms (dhī and bhū) are strictly parallel:

1. Before consonant-initial endings, the long vowel is present.
2. Nom. sg. with the usual nom. sg. marker s.
3. The voc. sg. are not formed from the stem but equal the nom. sg.
4. Before vowel-initial endings, \( V + hV \) (pp. 21) leads to forms like dh-iy-ā or bh-uv-ā.
5. Consider this table for feminine endings of both athematic and thematic nouns:

<table>
<thead>
<tr>
<th></th>
<th>singular</th>
<th>plural</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>dative</td>
<td>abl./gen.</td>
</tr>
<tr>
<td>athem. nouns</td>
<td>ē</td>
<td>as</td>
</tr>
<tr>
<td>them. nouns</td>
<td>ā</td>
<td>ās</td>
</tr>
</tbody>
</table>

Both dhī and bhū show the thematic (nadī) endings except for acc. pl. where the athematic ending prevails.

6. RUKI

7. dh-ī-bhis and bh-ū-bhis are peculiar in not reflecting DA. It seems that Grassmann’s law was not operative any more when these forms were built.

strī and punar-bhū

Another f. noun is strī ("woman") that exhibits forms similar to those of dh-ī and nadī:
### D. Grammar: Nouns and Adverbs

<table>
<thead>
<tr>
<th>str-ī f. case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>nom.</td>
<td>str-ī</td>
<td>str-ī-āu</td>
<td>str-ī-as</td>
</tr>
<tr>
<td>voc.</td>
<td>str-ī</td>
<td>str-ī-āu</td>
<td>str-ī-as</td>
</tr>
<tr>
<td>acc.</td>
<td>str-ī-yam/str-ī-m (!)</td>
<td>str-ī-āu</td>
<td>str-ī-as/str-ī-s (!)</td>
</tr>
<tr>
<td>instr.</td>
<td>str-ī-yā</td>
<td>str-ī-bhyām</td>
<td>str-ī-bhis</td>
</tr>
<tr>
<td>dat.</td>
<td>str-ī-yā</td>
<td>str-ī-bhyām</td>
<td>str-ī-bhyas</td>
</tr>
<tr>
<td>abl.</td>
<td>str-ī-yās</td>
<td>str-ī-bhyām</td>
<td>str-ī-bhyas</td>
</tr>
<tr>
<td>gen.</td>
<td>str-ī-yās</td>
<td>str-ī-ōs</td>
<td>str-ī-nām</td>
</tr>
<tr>
<td>loc.</td>
<td>str-ī-ān</td>
<td>str-ī-ōs</td>
<td>nad-ī-ṣu</td>
</tr>
</tbody>
</table>

After taking \( V+hV \) into account, the only difference to the nadī paradigm concerns the accusatives, with the (first) thematic one and the (second) athematic one.

Finally, we turn to punar-bh-ū f. (“remarried widow”) which belongs to bhū (“to be”). This noun does not apply \( V+hV \) by replacing ā by ū before vowel endings. Instead we find forms like instr. sg. punar-bh-v-ā, very much like vadh-v-ā. The only differences in comparison with vadh-ū are seen in the acc. sg. and pl. where we have the athematic forms punar-bh-v-a-m and punar-bh-v-ās like in marut.

### Related Masculine Compounds

There exist two compounds related with dhī (“intellect”) and bhū (“earth”). Both are m.:

- \( su-dhī \) (“intelligent”) and
- \( prati-bhū \) (“guarantor”)

Being masculine, they employ the left-hand alternative of the dhī and bhū paradigm, respectively:

<table>
<thead>
<tr>
<th>su-dhī m. case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>nom.</td>
<td>su-dh-ī-s</td>
<td>su-dh-ī-āu</td>
<td>su-dh-ī-ās</td>
</tr>
<tr>
<td>voc.</td>
<td>su-dh-ī-s</td>
<td>su-dh-ī-āu</td>
<td>su-dh-ī-ās</td>
</tr>
<tr>
<td>acc.</td>
<td>su-dh-ī-ām</td>
<td>su-dh-ī-āu</td>
<td>su-dh-ī-ās</td>
</tr>
<tr>
<td>instr.</td>
<td>su-dh-ī-ā</td>
<td>su-dh-ī-bhyām</td>
<td>su-dh-ī-bhis</td>
</tr>
<tr>
<td>dat.</td>
<td>su-dh-ī-ē</td>
<td>su-dh-ī-bhyām</td>
<td>su-dh-ī-bhyas</td>
</tr>
<tr>
<td>abl.</td>
<td>su-dh-ī-as</td>
<td>su-dh-ī-bhyām</td>
<td>su-dh-ī-bhyas</td>
</tr>
<tr>
<td>gen.</td>
<td>su-dh-ī-as</td>
<td>su-dh-ī-ōs</td>
<td>su-dh-ī-ām</td>
</tr>
<tr>
<td>loc.</td>
<td>su-dh-ī-i</td>
<td>su-dh-ī-ōs</td>
<td>su-dh-ī-ṣu</td>
</tr>
</tbody>
</table>

and

238
D.3. Nouns: weak and strong forms

<table>
<thead>
<tr>
<th>prati-bhû m.</th>
<th>case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>nom.</td>
<td>prati-bh-û-s</td>
<td>prati-bh-w-û</td>
<td>prati-bh-w-û</td>
</tr>
<tr>
<td></td>
<td>voc.</td>
<td>prati-bh-û-s</td>
<td>prati-bh-w-û</td>
<td>prati-bh-w-û</td>
</tr>
<tr>
<td></td>
<td>acc.</td>
<td>prati-bh-w-û</td>
<td>prati-bh-w-û</td>
<td>prati-bh-w-û</td>
</tr>
<tr>
<td></td>
<td>instr.</td>
<td>prati-bh-w-û</td>
<td>prati-bh-û-bhûm</td>
<td>prati-bh-û-bhûs</td>
</tr>
<tr>
<td></td>
<td>dat.</td>
<td>prati-bh-w-û</td>
<td>prati-bh-û-bhûm</td>
<td>prati-bh-û-bhûs</td>
</tr>
<tr>
<td></td>
<td>abl.</td>
<td>prati-bh-w-û</td>
<td>prati-bh-û-bhûm</td>
<td>prati-bh-û-bhûs</td>
</tr>
<tr>
<td></td>
<td>gen.</td>
<td>prati-bh-w-û</td>
<td>prati-bh-w-û</td>
<td>prati-bh-w-û</td>
</tr>
<tr>
<td></td>
<td>loc.</td>
<td>prati-bh-w-û</td>
<td>prati-bh-w-û</td>
<td>prati-bh-w-û</td>
</tr>
</tbody>
</table>

D.3.8. i- and u-stems

i-stems (mun-i, mat-i)

We have i-stems, for example

◇ m. muni
◇ f. mati

and u-stems, for example

◇ m. guru
◇ f. dhênu
◇ n. madhu

While the i- and u-stems are parallel, they show some unusual features not encountered before. Turning to the i-stems first, compare

<table>
<thead>
<tr>
<th>mun-i m.</th>
<th>case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>nom.</td>
<td>mun-i-s (1)</td>
<td>mun-i (5)</td>
<td>mun-ay-as (2, 3)</td>
</tr>
<tr>
<td></td>
<td>voc.</td>
<td>mun-ê (2)</td>
<td>mun-i (5)</td>
<td>mun-ay-as (2, 3)</td>
</tr>
<tr>
<td></td>
<td>acc.</td>
<td>mun-i-m (1)</td>
<td>mun-i (5)</td>
<td>mun-ê-n (7)</td>
</tr>
<tr>
<td></td>
<td>instr.</td>
<td>mun-i-n-û (3, 6)</td>
<td>mun-i-bhûm (3)</td>
<td>mun-i-bhûs (3)</td>
</tr>
<tr>
<td></td>
<td>dat.</td>
<td>mun-ay-ê (2, 3)</td>
<td>mun-i-bhûm (3)</td>
<td>mun-i-bhûs (3)</td>
</tr>
<tr>
<td></td>
<td>abl.</td>
<td>mun-ê-s (2)</td>
<td>mun-i-bhûm (3)</td>
<td>mun-i-bhûs (3)</td>
</tr>
<tr>
<td></td>
<td>gen.</td>
<td>mun-ê-s (2)</td>
<td>mun-ê-s (3)</td>
<td>mun-i-ê-s (3)</td>
</tr>
<tr>
<td></td>
<td>loc.</td>
<td>mun-û (4)</td>
<td>mun-û (3)</td>
<td>mun-i-û-û (3, 9)</td>
</tr>
</tbody>
</table>

with
D. Grammar: nouns and adverbs

<table>
<thead>
<tr>
<th>mat-i m.</th>
<th>case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>nom.</td>
<td>mat-i-s (1)</td>
<td>mat-i (5)</td>
<td>mat-ay-as (2, 3)</td>
<td></td>
</tr>
<tr>
<td>voc.</td>
<td>mat-ê (2)</td>
<td>mat-i (5)</td>
<td>mat-ay-as (2, 3)</td>
<td></td>
</tr>
<tr>
<td>acc.</td>
<td>mat-i-m (1)</td>
<td>mat-i (5)</td>
<td>mat-ï-s (7)</td>
<td></td>
</tr>
<tr>
<td>instr.</td>
<td>mat-y-â (3)</td>
<td>mat-i-bhyâm (3)</td>
<td>mat-i-bhis (3)</td>
<td></td>
</tr>
<tr>
<td>dat.</td>
<td>mat-ay-ê (2, 3)/mat-y-âï (10)</td>
<td>mat-i-bhyâm (3)</td>
<td>mat-i-bhyas (3)</td>
<td></td>
</tr>
<tr>
<td>abl.</td>
<td>mat-ë-s (2)/mat-y-âs (10)</td>
<td>mat-i-bhyâm (3)</td>
<td>mat-i-bhyas (3)</td>
<td></td>
</tr>
<tr>
<td>gen.</td>
<td>mat-ê-s (2)/mat-y-âs (10)</td>
<td>mat-y-ôs (1)</td>
<td>mat-ï-nâm (8)</td>
<td></td>
</tr>
<tr>
<td>loc.</td>
<td>mat-âu (4)/mat-y-âm (10)</td>
<td>mat-y-ôs (1)</td>
<td>mat-ï-sù (3, 9)</td>
<td></td>
</tr>
</tbody>
</table>

1. We often find ï before consonant versus y before vowel.
2. Some forms are “strong” in the sense of having the strong declension signs:
   a) ê before consonants or word-initial and
   b) ay before vowels.

   The distribution of these “strong” forms has nothing to do with the strong forms
   in the sense of fig. [D.1] p. 204 In this sense, the vocative equals the stem with
   “strong” declension sign.
3. Some endings are very familiar (for example from marut): instr. sg. ą, dat. sg. ë, or instr. pl. bhis.
4. Loc. sg. mat-âu is strange in doing away with the stem-final i. Loc. sg. ending ąù differs from the usual ending i encountered in marat-i or dév-ê ← *dèv-a-i. ąù may have travelled from the u-stems like guru below.
5. “Since” ąù occurs as the or as a loc. sg., ąù cannot be used in the dual forms NVA.
   There, we find the long thematic vowel instead, as in mun-ï or mat-ï.
6. Instr. sg. m. mun-i-n-ā exhibits additional n, presumably modeled on in stems, for example yõg-in-ā. Indeed, these two words can be used together quite often.
7. Compare acc. pl.
   ◦ mun-ï-n, m., versus mat-ï-s, f., with
   ◦ dév-ā-n, m., versus dév-ā-s, f.
   Revisit subsection [D.1.2] p. 203
8. Gen. pl. are thematic as might be expected. The long vowels are explained by the laryngeal in the ie. ending Ḥnuôm.
9. RUKI

240
D.3. Nouns: weak and strong forms

10. The f. paradigm allows the thematic nadi endings in dative through locative singular, in line with this table:

<table>
<thead>
<tr>
<th></th>
<th>singular</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>dative</td>
</tr>
<tr>
<td>athem. nouns</td>
<td>ê</td>
</tr>
<tr>
<td>them. nouns</td>
<td>âi</td>
</tr>
</tbody>
</table>

**Special case: pati**

In compounds like

◇ *nara-pati* m. (“lord of the people, king”)

◇ *vanas-pati* m. (“lord of the forest, tree”)

the paradigm of *pati* (“husband”) follows *mani* above. However, in isolation, *pati* shows some peculiarities but is “more regular” than *mani* or *pi-tar*:

<table>
<thead>
<tr>
<th><em>pat-i</em> m.</th>
<th>case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>nom.</td>
<td><em>pat-i-s</em></td>
<td>pat-î</td>
<td><em>pat-ay-as</em></td>
<td></td>
</tr>
<tr>
<td>voc.</td>
<td><em>pat-ê</em></td>
<td>pat-î</td>
<td><em>pat-ay-as</em></td>
<td></td>
</tr>
<tr>
<td>acc.</td>
<td><em>pat-i-m</em></td>
<td>pat-î</td>
<td>pat-î-ñ</td>
<td></td>
</tr>
<tr>
<td>instr.</td>
<td><em>pat-y-ā</em> (1)</td>
<td>pat-î-bhyām</td>
<td><em>pat-i-bhis</em></td>
<td></td>
</tr>
<tr>
<td>dat.</td>
<td><em>pat-y-ê</em> (2)</td>
<td>pat-î-bhyām</td>
<td><em>pat-i-bhyas</em></td>
<td></td>
</tr>
<tr>
<td>abl.</td>
<td><em>pat-y-us</em> (3)</td>
<td>pat-î-bhyām</td>
<td><em>pat-i-bhyas</em></td>
<td></td>
</tr>
<tr>
<td>gen.</td>
<td><em>pat-y-us</em> (3)</td>
<td><em>pat-y-ōs</em></td>
<td><em>pat-î-nām</em></td>
<td></td>
</tr>
<tr>
<td>loc.</td>
<td><em>pat-y-āu</em> (4)</td>
<td><em>pat-y-ōs</em></td>
<td><em>pat-i-śu</em></td>
<td></td>
</tr>
</tbody>
</table>

1. Instr. sg. *pat-y-ā* does not show unexpected *n* like *mun-i-ñ-ā*.

2. Dat. sg. *pat-y-ê* does not exhibit the unusual “strong” declension sign as does *mun-ay-ê*.

3. *pat-y-us* exhibits the *us*-ending otherwise known from

◇ kinship terms like *pit-us* (pp. 232)

◇ *tor*-nouns like *nē-t-us* (pp. 231)

where, in a strange fashion, the *r* is dropped.

4. Loc. sg.

◇ *pat-y-āu* still exhibits the thematic vowel *i* in the form of the halfvowel while

◇ *mun-āu* can strangely do without.
D. Grammar: nouns and adverbs

*u*-stems (*gur-u, dhên-u*)

The *u*-stems, m. and f., are just as the *i*-stems. One only needs to copy and paste according to subsections B.2.2 and B.2.3 (pp. 20) and replace

- *i* by *u* and *y* by *v*
- *ê* by *ô* (and *ay* by *av*)
- *î* by *û*

Compare, again, a masculine paradigm

<table>
<thead>
<tr>
<th><em>gur-u</em> m.</th>
<th>case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>nom.</td>
<td><em>gur-u</em>-s (1)</td>
<td><em>gur-ô</em> (5)</td>
<td><em>gur-av-as</em> (2, 3)</td>
</tr>
<tr>
<td></td>
<td>voc.</td>
<td><em>gur-ô</em> (2)</td>
<td><em>gur-ô</em> (5)</td>
<td><em>gur-av-as</em> (2, 3)</td>
</tr>
<tr>
<td></td>
<td>acc.</td>
<td><em>gur-u</em>-m (1)</td>
<td><em>gur-ô</em> (5)</td>
<td><em>gur-ô-n</em> (7)</td>
</tr>
<tr>
<td></td>
<td>instr.</td>
<td><em>gur-u-n-ô</em> (3, 6, 11)</td>
<td><em>gur-u-bhyâm</em> (3)</td>
<td><em>gur-u-bhis</em> (3)</td>
</tr>
<tr>
<td></td>
<td>dat.</td>
<td><em>gur-av-ê</em> (2, 3)</td>
<td><em>gur-u-bhyâm</em> (3)</td>
<td><em>gur-u-bhyas</em> (3)</td>
</tr>
<tr>
<td></td>
<td>abl.</td>
<td><em>gur-ô-s</em> (2)</td>
<td><em>gur-u-bhyâm</em> (3)</td>
<td><em>gur-u-bhyas</em> (3)</td>
</tr>
<tr>
<td></td>
<td>gen.</td>
<td><em>gur-ô-s</em> (2)</td>
<td><em>gur-ô-s</em> (1)</td>
<td><em>gur-ô-nâm</em> (8, 11)</td>
</tr>
<tr>
<td></td>
<td>loc.</td>
<td><em>gur-âu</em> (4)</td>
<td><em>gur-ô-s</em> (1)</td>
<td><em>gur-u-śu</em> (3, 9)</td>
</tr>
</tbody>
</table>

with a feminine one:

<table>
<thead>
<tr>
<th><em>dhên-u</em> m.</th>
<th>case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>nom.</td>
<td><em>dhên-u</em>-s (1)</td>
<td><em>dhên-ô</em> (5)</td>
<td><em>dhên-av-as</em> (2, 3)</td>
</tr>
<tr>
<td></td>
<td>voc.</td>
<td><em>dhên-ô</em> (2)</td>
<td><em>dhên-ô</em> (5)</td>
<td><em>dhên-av-as</em> (2, 3)</td>
</tr>
<tr>
<td></td>
<td>acc.</td>
<td><em>dhên-u</em>-m (1)</td>
<td><em>dhên-ô</em> (5)</td>
<td><em>dhên-ô-s</em> (7)</td>
</tr>
<tr>
<td></td>
<td>instr.</td>
<td><em>dhên-ô-s</em> (3)</td>
<td><em>dhên-u-bhyâm</em> (3)</td>
<td><em>dhên-u-bhis</em> (3)</td>
</tr>
<tr>
<td></td>
<td>dat.</td>
<td><em>dhên-av-ê</em> (2, 3)/<em>dhên-u-śâ</em> (10)</td>
<td><em>dhên-u-bhyâm</em> (3)</td>
<td><em>dhên-u-bhyas</em> (3)</td>
</tr>
<tr>
<td></td>
<td>abl.</td>
<td><em>dhên-ô-s</em> (2)/<em>dhên-u-śâ</em> (10)</td>
<td><em>dhên-u-bhyâm</em> (3)</td>
<td><em>dhên-u-bhyas</em> (3)</td>
</tr>
<tr>
<td></td>
<td>gen.</td>
<td><em>dhên-ô-s</em> (2)/<em>dhên-u-śâ</em> (10)</td>
<td><em>dhên-ô-s</em> (1)</td>
<td><em>dhên-ô-nâm</em> (8)</td>
</tr>
<tr>
<td></td>
<td>loc.</td>
<td><em>dhên-âu</em> (4)/<em>dhên-u-śâ</em> (10)</td>
<td><em>dhên-ô-s</em> (1)</td>
<td><em>dhên-u-śu</em> (3, 9)</td>
</tr>
</tbody>
</table>

1. **hV**

2. **DIPH** in the sense of strong declension signs unrelated to fig. D.1 p. 204 In this sense, the vocative equals the stem with strong declension sign.


4. Loc. sg. ending *âu* differs from the usual ending *i* encountered in *maruṭ-i* or *dēv-ê* ← "dēv-a-i."
5. “Since” āu occurs as the or as a loc. sg., āu cannot be used in the dual forms NVA. There, we find the long thematic vowel instead: gur-ū or dhēn-ū.

6. Instr. sg. m. gur-ū-ṇ-ā exhibits additional n, presumably modeled on in stems, for example gōs-īn-ā. Indeed, these two words can be used together quite often.

7. Compare acc. pl.
   ◦ gur-ū-n, m., versus dhēn-ū-s, f., with
   ◦ mun-ī-n, m., versus mat-ī-s and with
   ◦ dēv-ū-n, m., versus dēv-ū-s, f.

8. Gen. pl. are thematic as might be expected. The long vowels are explained by the laryngeal in the ie. ending Hnôm.

9. RUKI

10. Thematic nadī endings in dative through locative singular

11. Cern

Neuter u- or un-stems and r or rī-stems

The n. u-stems like madh-u (“honey”) have been strongly influenced by n. (v)in-stems like tapas-vin (p. 230). Indeed, the speakers may have assumed a stem *madh-un, rather than madh-u: It is instructive to compare the madh-u/madh-un paradigm with the karm-an paradigm (pp. 229).

<table>
<thead>
<tr>
<th>madh-u/madh-un n.</th>
<th>case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>nom.</td>
<td>madh-u (1)</td>
<td>madh-un-ī (2, 4)</td>
<td>madh-un-ī (4)</td>
<td></td>
</tr>
<tr>
<td>voc.</td>
<td>madh-u/ō (1, 3)</td>
<td>madh-un-ī (2, 4)</td>
<td>madh-un-ī (4)</td>
<td></td>
</tr>
<tr>
<td>acc.</td>
<td>madh-u (1)</td>
<td>madh-un-ī (2, 4)</td>
<td>madh-un-ī (4)</td>
<td></td>
</tr>
<tr>
<td>instr.</td>
<td>madh-un-ā (2)</td>
<td>madh-u-bhīyām (5)</td>
<td>madh-u-bhis (5)</td>
<td></td>
</tr>
<tr>
<td>dat.</td>
<td>madh-un-ē (2)</td>
<td>madh-u-bhīyām (5)</td>
<td>madh-u-bhīyas (5)</td>
<td></td>
</tr>
<tr>
<td>abl.</td>
<td>madh-un-as (2)</td>
<td>madh-u-bhīyām (5)</td>
<td>madh-u-bhīyas (5)</td>
<td></td>
</tr>
<tr>
<td>gen.</td>
<td>madh-un-as (2)</td>
<td>madh-un-ōs (2)</td>
<td>madh-ūnām (6)</td>
<td></td>
</tr>
<tr>
<td>loc.</td>
<td>madh-un-i (2)</td>
<td>madh-un-ōs (2)</td>
<td>madh-u-sū (7)</td>
<td></td>
</tr>
</tbody>
</table>

1. The stem madh-u is clearly present in sg. NVA.

2. The stem madh-un prevails in many other forms.

3. Besides madh-u, the second voc. sg. madh-ō also exists, similar to voc. sg. gur-ō.

4. Compare

243
D. Grammar: nouns and adverbs

◊ nom. dual tapas-vin-ī with madh-un-ī and
◊ nom. pl. tapas-vīn-i with madh-ūn-i.

Pl. NVA madh-ūn-i are probably due to analogy with forms like phal-ā-ni or karm-ā-ṇi.

5. madh-u-bhīs and similar forms is explainable by the stem madh-u but also by the stem madh-un together with analogy with forms like rāj-a-bhīs or yōg-i-bhīs (p. 230).

6. The long vowel ū is easily explained by the laryngeal in the ie. ending Hnōṃ.

7. RUKI

At this point, we may introduce n. agent nouns because the decline resembles n. madhu very closely. We look at the paradigm for gan-tṛ. In order to focus on the similarities with madh-u/madh-un we assume two stems gant-tṛ/gant-ṛṇ:

<table>
<thead>
<tr>
<th>gant-tṛ/gant-ṛṇ n.</th>
<th>case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>nom.</td>
<td>gant-tṛ</td>
<td>gant-ṛṇ-ī</td>
<td>gant-ṛṇ-ī</td>
<td></td>
</tr>
<tr>
<td>voc.</td>
<td>gant-ar/ганtṛ (!)</td>
<td>gant-ṛṇ-ī</td>
<td>gant-ṛṇ-ī</td>
<td></td>
</tr>
<tr>
<td>acc.</td>
<td>gant-tṛ</td>
<td>gant-ṛṇ-ī</td>
<td>gant-ṛṇ-ī</td>
<td></td>
</tr>
<tr>
<td>instr.</td>
<td>gant-ṛṇ-ā</td>
<td>gant-ṛṇ-bhyām</td>
<td>gant-ṛṇ-bhīs</td>
<td></td>
</tr>
<tr>
<td>dat.</td>
<td>gant-ṛṇ-ē</td>
<td>gant-ṛṇ-bhyām</td>
<td>gant-ṛṇ-bhīs</td>
<td></td>
</tr>
<tr>
<td>abl.</td>
<td>gant-ṛṇ-as</td>
<td>gant-ṛṇ-bhyām</td>
<td>gant-ṛṇ-bhīs</td>
<td></td>
</tr>
<tr>
<td>gen.</td>
<td>gant-ṛṇ-as</td>
<td>gant-ṛṇ-ōs</td>
<td>gant-ṛṇ-ūm</td>
<td></td>
</tr>
<tr>
<td>loc.</td>
<td>gant-ṛṇ-i</td>
<td>gant-ṛṇ-ōs</td>
<td>gant-ṛṇ-śu</td>
<td></td>
</tr>
</tbody>
</table>

The copy-paste operations involve replacing madh by gant and then
1. u by r,
2. un by ṛṇ and,
3. ūn by ṛṇ

In particular, the voc. singulars also fit. We have

<table>
<thead>
<tr>
<th></th>
<th>f.g. of declension sign</th>
<th>z.g. of declension sign</th>
</tr>
</thead>
<tbody>
<tr>
<td>madh-u</td>
<td>madh-ō</td>
<td>madh-u</td>
</tr>
<tr>
<td>gant-tṛ</td>
<td>gant-ar</td>
<td>gant-tṛ</td>
</tr>
</tbody>
</table>

D.4. Adverbs from fossilized case endings

Many adverbs stem from fossilized case endings.
D.4. Adverbs from fossilized case endings

D.4.1. Accusative

- \textit{a-vaśyam} (“not to be wished → necessarily, indeed”) ← \textit{a + ya}–gerundive of \textit{vaś} (“to wish”)
- \textit{i-sat} (“being in that manner → a bit, somewhat”) ← \textit{i + n. pres. part. of as (“to be”)}
- \textit{ciram} (“for a long time, long ago”) from \textit{ciru} (“long”)
- \textit{taras} (“fast”) from \textit{taras} n. cons. (“ferry, advancement, energy”)
- \textit{nāma} (“by name”), see the declension on p. 228
- \textit{nir-bharam} (“completely”) ← \textit{nis + bhara}
- \textit{prati-dinam} (“every day”) ← \textit{prati + dinam}
- \textit{praty-aham} (“every day”) ← \textit{prati + ahar} (but here as if acc. from \textit{aham}, n., which does not exist)
- \textit{yathākāman} (“according to desire, at will”) ← \textit{yathā + kāna} (“desire”)
- \textit{sādhu} (“well”), see \textit{sādh} (“to be successful, to lead to one’s goal”)
- \textit{sukham} (“happily”)

D.4.2. Instrumental

- \textit{a-khileṇa} (“in its entirety, all in all”) ← \textit{a + khila} (“wasteland, rest”)
- \textit{a-cirēṇa} (“for a short time”) ← \textit{a + cira} (“long”)
- \textit{ucchaiḥ} (“loud”) ← \textit{ucca} (“high”)
- \textit{tarēṇa} (“fast, by force”) ← \textit{taras} n. (“ferry, advancement, energy”)
- \textit{cirēṇa} (“after a long time”) from \textit{cira} (“long”)
- \textit{prāyēṇa} (“usually, probably”) ← \textit{pra-aya} (“quantity, a state or condition of life like youth, death”)
- \textit{vi-starēṇa} (“at length”) ← \textit{vi-stara} (“extension, detail”, see \textit{stṛ} in the dictionary)
- \textit{sahas-ā} (“with might → forcibly, suddenly”) from \textit{sahas} n. (“might, power”)

D.4.3. Ablative

- \textit{a-cirāt} (“for a short time”) ← \textit{a + cira} (“long”)
- \textit{dūrāt} (“from afar”) ← \textit{dūra} (“far”)
D. Grammar: nouns and adverbs

D.4.4. Locative

- cirê (“in a long time → finally”) ← cira (“long”)
- dûrê (“far away”) ← dûra (“far”)
- sa-padi (“immediately”) ← sa (“together”) + pad m. (“foot”)

D.4.5. tas-suffix

The tas-suffix is used in the abl. sense.

- agrâ-tas (“first, in front”) ← agram (“top, summit, beginning”)
- grâma-tas (“from the village”) ← grâma (“village”)
- prâtha-tas (“behind”) ← prâtham (“back”)
- śâstra-tas (“according to the śâstras”) ← śâstram (“text, manual”)
- sva-tas (“with one’s own power”) ← sva (“own”)

D.4.6. ūsas-suffix

ūsas is added to numbers or quantifiers.

- ekâka-ūsas (“one by one”) ← ēka (“one”) + ēka + ūsas
- prâya-ūsas (“usually, probably”) ← prâ-aya (“quantity, a state or condition of life like youth, death”)
- śata-ūsas (“by the hundred”) ← śatam (“hundred”)

D.4.7. vat-suffix

- kapî-vat (“like a monkey”) ← kapî (“monkey”)

D.4.8. dhâ-suffix

dhâ can often be translated as “-fold”

- dvi-dhâ (“twofold”) ← dvi (“two” in compounds)
- bahu-dhâ (“manifold”) ← bahu (“many”)
## D.5. Miscellanea

### D.5.1. Derivatives

A number of derivatives seem to use something like the lengthened grade. However, it is not the verbal root that is lengthened (see pp. [137]) but the first syllable. Consider these examples:

<table>
<thead>
<tr>
<th>length. form</th>
<th>translation</th>
<th>origin</th>
</tr>
</thead>
<tbody>
<tr>
<td>jānakī</td>
<td>daughter of Janaka</td>
<td>Janaka (name of a king)</td>
</tr>
<tr>
<td>dāśa-rath-i</td>
<td>son of Daśa-rath-a</td>
<td>dāśa (“ten”) + rath-a (“chariot”)</td>
</tr>
<tr>
<td>pārvat-i</td>
<td>daughter of the mountain</td>
<td>pārvat-a (mountain)</td>
</tr>
<tr>
<td>pātr-a</td>
<td>grandson</td>
<td>pātr-a (“son”)</td>
</tr>
<tr>
<td>prā-kr̥t-a</td>
<td>elementary, natural</td>
<td>prā-kr̥t-a (“accomplished”)</td>
</tr>
<tr>
<td>lāuk-ik-a</td>
<td>worldly</td>
<td>lōk-a (“world”)</td>
</tr>
</tbody>
</table>

Rarely, alpha privativum is lengthened in similar instances:

<table>
<thead>
<tr>
<th>length. form</th>
<th>translation</th>
<th>origin</th>
</tr>
</thead>
<tbody>
<tr>
<td>a-kasmika</td>
<td>unforeseen</td>
<td>a-kasmāt (“without a why or a wherefore”)</td>
</tr>
<tr>
<td>a-jasr-ik-a</td>
<td>perpetual</td>
<td>a-jasra (“perpetual”)</td>
</tr>
</tbody>
</table>

Lengthened grade, of alpha privativum or else, also occurs in neuter nouns with suffix ya indicating “-ness” or “-ity”:

<table>
<thead>
<tr>
<th>length. form</th>
<th>translation</th>
<th>origin</th>
</tr>
</thead>
<tbody>
<tr>
<td>ā-tith-ya-m</td>
<td>hospitality</td>
<td>a-tith-i (“guest”)</td>
</tr>
<tr>
<td>ā-rōg-ya-m</td>
<td>health</td>
<td>a-rōg-a (“health”) ← ruj</td>
</tr>
<tr>
<td>ā-las-ya-m</td>
<td>idleness</td>
<td>a-las-a (“idle”) ← las</td>
</tr>
<tr>
<td>āiśvar-ya-m</td>
<td>lordship</td>
<td>āiśvar-a (“lord”)</td>
</tr>
<tr>
<td>jād-ya-m</td>
<td>stupidity</td>
<td>jāda (“stupid”)</td>
</tr>
<tr>
<td>trāiguṇ-ya-m</td>
<td>pertaining to the three g.</td>
<td>trāiguṇās (“three guṇas”)</td>
</tr>
<tr>
<td>dāvīdr-ya-m</td>
<td>poverty</td>
<td>dāvīdr-a (“poor”)</td>
</tr>
<tr>
<td>dhāir-ya-m</td>
<td>resolution</td>
<td>dhāir-a (“steady, persistent”)</td>
</tr>
<tr>
<td>pāṇḍit-ya-m</td>
<td>scholarliness</td>
<td>pāṇḍit-a (“scholar”)</td>
</tr>
<tr>
<td>mādur-ya-m</td>
<td>sweetness</td>
<td>mādur-a (“sweet”)</td>
</tr>
<tr>
<td>māitr-ya-m</td>
<td>friendship</td>
<td>māitr-am (“friend”)</td>
</tr>
<tr>
<td>vāṇij-ya-m</td>
<td>trade</td>
<td>vāṇij (“merchant”)</td>
</tr>
<tr>
<td>šaur-ya-m</td>
<td>valor</td>
<td>šaur-a (“brave”)</td>
</tr>
<tr>
<td>svā-sth-ya-m</td>
<td>health</td>
<td>svā-stha (“well at ease”) ← sthā</td>
</tr>
</tbody>
</table>
D. Grammar: nouns and adverbs

D.5.2. Ātmanēpada present-tense participles

The ātmanēpada present-tense participles vary according to whether we are dealing with thematic or with athematic verbs.

- For athematic verbs, the ending āna is attached to the weak present stem. For example, the present participle from duh, duh-mas (“we milk”) is duh-āna.
- For thematic verbs, the ending a-māna is attached to the present stem. For example, the present participle from man, man-ya-tē (“to think”) is man-y-a-māna.

It is argued that

\[ \text{ie. } *m₁h₁no \]

is the underlying form. It is also present in the lat. B alu-mnu-s. Depending on whether the verb is athematic or thematic, one obtains:

- Athematic verbs attach \( m₁h₁no \) directly to their weak present stem causing \( m \) to become syllabic. Then Lar_SY (ie. \( CmHC \rightarrow CaC \)) regularly produces āna.
- By Lar_V, thematic verbs should have produced a-mina (a Prakrit form mina does indeed exist). Leveling was then responsible for producing oi. and even ved. a-māna:

<table>
<thead>
<tr>
<th>a-mina</th>
</tr>
</thead>
<tbody>
<tr>
<td>influenced by</td>
</tr>
<tr>
<td>āna</td>
</tr>
<tr>
<td>with long ā before n</td>
</tr>
<tr>
<td>turns into</td>
</tr>
<tr>
<td>a-māna</td>
</tr>
<tr>
<td>with long ā before n</td>
</tr>
</tbody>
</table>
E. Etymological dictionary

E.1. Introductory remarks

If you are looking for a specific Old Indian word, you may try to check in the dictionary. Alternatively, you may check the index to see whether any Old Indian, German, English or other word is to be found. While we adhere to the usual Indian rank order in the dictionary, the index pretty much uses the order of the Latin alphabet.

For nouns and their gender, consult section A.6 (pp. 7) on the conventions used in this book. For verbs, we often record important forms, usually in the following pattern:

<table>
<thead>
<tr>
<th>oi. root (meaning)</th>
<th>present tense</th>
<th>3. pers. sg.</th>
<th>3. pers. pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>infinitive</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PPP</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>future</td>
<td>3. pers. sg.</td>
<td>3. pers. pl.</td>
<td></td>
</tr>
<tr>
<td>imperfect</td>
<td>3. pers. sg.</td>
<td>3. pers. pl.</td>
<td></td>
</tr>
<tr>
<td>perfect</td>
<td>3. pers. sg.</td>
<td>3. pers. pl.</td>
<td></td>
</tr>
<tr>
<td>aorist</td>
<td>3. pers. sg.</td>
<td>3. pers. pl.</td>
<td></td>
</tr>
<tr>
<td>desiderative</td>
<td>3. pers. sg.</td>
<td>adjective</td>
<td></td>
</tr>
</tbody>
</table>

If several forms exist, only one or seldomly two are cited.

E.2. Vowels

E.2.1. a

-\textit{a-} negating prefix (p. 66)

- before $C$

  - \textit{a-ga} (“not going → tree”) with second part \textit{ga} from \textit{gam} (pp. 135)

  - \textit{a-vaśyam} adv. (“not to be wished → necessarily, indeed”), see vaś (“to wish”)

before $V$

  - \textit{an-a-gata} (“not having come → future”) with last part PPP \textit{gata} of \textit{gam}

  - \textit{an-anta} (“without end → infinite”)
E. Etymological dictionary

- **an-êka** (“not one → manyfold, several”) with second part êka (“one, single”)
- **an-r. ta** (“not true”) with second part PPP r. ta
  - “fitting → true” from ar (“to fit, to connect”) or
  - “reached → true” from r (“to rise, to reach”)

**an-it** (“without i”) with second part it (traditional expression for oi. i)

- ie. *n (SY_N), see ie. *ne s.v. na
- gr. B a-theist, an-archy (just like Sanskrit before consonant or vowel, respectively)
- lat. B in-effect, im-possible
- e. un-true, un-believable
- nhg. un-gläubig

**anphas** n. (“fear, distress”)
**amhu** n. (“straight, narrow”)

- ie. root *h2emīḥ
- lat. ang-ere (“to stangle, to choke”) with B anxious
- nhg. eng (“narrow”) ~ nhg. Ang-st (“fear”)

**ak-ṣa** m. (“axis, pole of a car”), see aj

- ie. *h2eǰ-s
- lat. axis
- e. axle ~ nhg. Achse

**aksi** n. (“eye”), **aksz an** n. (“eye”)
**an-akṣa** (“blind”), see p. 66

**an-ïkā** (“face”) ← ie. *h1em₁-h₃kw-o (Lar_V, for first part, see e. in ~ nhg. in)

**iķi** 1. class: iķšate (“to see”), originally a desiderative (p. 131)

- ie. root *h₃kw-s/ *h₃okw-s
- gr. B op-tics
- lat. oc-ulus (“eye”) with B oc-ular (“lense”) etc.
- e. eje ~ nhg. Auge (difficult, perhaps a version of VER)

250
E.2. Vowels

ag

* a

American English

\[ \text{agni} \text{ m. (“fire”)} \]
\[ \text{ārīgārā} \text{ (“coal”)} \]

← \text{ie. “}\text{h}_1\text{n}_2\text{y}^{\text{w}}\text{-ni (“fire”)} \]

→ \text{lat. ignis, e. B to ignite}

ag\text{ram} (“top, summit, beginning”)
ag\text{rā} \text{loc. sg. of above, prep. with gen. (“in front, ahead of”)}
ēk\text{āgra} (“one-pointed, focussed”) with first part ēka (“one, single”)

a-g\text{hn-ya} (“bull”)
a-g\text{hn-yā} gerundive (p. 141, “not to be killed → cow”)
see alpha privativum (p. 66), \textbf{SY}_\text{N} and \textit{han}

a\text{īka} (“hook, curve”)

← \text{ie. “Honk-o (“curvature”)}

→ \text{gr. B oncology}

\text{a\text{j}} 1. class: \text{aj\text{ati (“to drive”)}
\text{a\text{jā}} (difficult: “the animal that is led → goat”)
a\text{jī\text{jātī}} desiderative (“he wishes to drive”), produced by levelling and analogy
\text{a\text{j-ma} or \text{a\text{jman} n. (“path, mow”)}
\text{ā\text{jī} m./f. (“race course, contest”)
\text{samāj\text{ā} m. (“meeting, gathering”)

← \text{ie. root “}\text{h}_2\text{eg (“to drive, to do”)}

→ \text{gr. B dem-ag-ogue and ped-ag-ogue}

~ \text{lat. B}

\diamond \text{ before vowel ag-ile, ag-ent, ag-endā, ag-itate and the less obvious cogitation}
\text{ (also in: cogito ergo sum), litigation, nav-igation (for first part, see nāu)}

\diamond \text{ before voiceless t (turning ag into ak) act, action, active, actual, re-act}

See akṣa, ajra, ēj.

\text{a\text{jīra (“fast”) (SY}_\text{N, Lar}_\text{V, rl)}

← \text{ie. “}\text{h}_2\text{n}_2\text{gh}_1\text{lo}
E. Etymological dictionary

→ gr. ἀγγέλος (“messenger”) ← ie. *h₂eŋɡ₁lo with B in English *angel and German Engel

ajra (“cattle ground”), see aj
← ie. *h₂eŋɡᵻ-ro (“where something is driven to → cattle ground”)
→ lat. adj. agrarius whence e. agrarian (economy, for example)
∼ e. acre (“cattle ground → field → surface measure of about 4000 square meters”)
∼ nhg. Acker (“field”) (the r has prevented the shift to ch, see p. 73)

aṅc 1. class: aṅc ati or
ac 1. class: ac ati (“to bend, to go”)
aṅka (“hook, curve”), see s.v. aṅka
← ie. root *Henk

Many ac/aṅc words like

<table>
<thead>
<tr>
<th>preposition</th>
<th>ac adjective</th>
<th>ac adverb</th>
</tr>
</thead>
</table>
| anu (“along”) | anv-aṅc (“dir. upward, northern”) | anv-aṅ (“behind”)
| apa (“away, off, back”) | apāṅc (“dir. backward, western”) | apāṅ (“in or from the west”)
| ava (“off, away”) | av-aṅc (“dir. downward, southern”) | avāṅ (“downward”)
| ud (“out”) | ud-ac (“dir. upward, northern”) | ud-aṅ (“in or from the north”)
| tiras (“across, over”) | tiry-ac (“sideward”) |
| ni (“into”) | ny-ac (“downward”) |
| pra (“before”) | prāṅc (“dir. forward, eastern”) | prāṅ (“in front, in the east”) |

(where “dir.” stands for directed)

aṅj 7. class: a-na-k-li (“to anoint, to reveal”) (preferably: aj, a-na-k-ti where infix is formed as in yuj, yu-nak-ti, see pp. 87)

abhi-vy-ak-ta (“clear, manifest”)
← ie. root *h₂eŋɡᵻ (“to anoint”)
→ lat. B unction and ointment (via old French)
E.2. Vowels

at 1. class: atati ("to go, to roam")
atya ("steed, runner")
later with cerebralization:

◇ at 1. class: atati ("to go, to roam")
◇ atavi ("forest")
← ie. root *h₂et ("to drive, to do")
→ lat. annus ("year") ← ie. *h₂et-nos (similarly in penna, see pat) with B annual

ati ("beyond, a lot")
atīva ("exceedingly, very") ← ati + iva
← ie. *h₁eti, loc. sg. of root noun ie. *h₁et (see s.v. at)
→ lat. et ("and") known from et cetera ("and the remaining") and the sign & where
you can, with some effort, recognize e (the upper part) and t

a-tithi m. ("guest") ← a + tithi m. ("lunar day, period of 15 days"), i.e., a guest is
somebody who does not stay as long as 15 days
ātīthya (" hospitable, hospitality") with ya-suffix and vrddhi

ad 2. class: ad ("to eat")
annam ("food") ← ad-nam

<table>
<thead>
<tr>
<th>ad (&quot;to eat&quot;)</th>
</tr>
</thead>
<tbody>
<tr>
<td>present tense</td>
</tr>
<tr>
<td>infinitive</td>
</tr>
<tr>
<td>future</td>
</tr>
<tr>
<td>imperfect</td>
</tr>
<tr>
<td>perfect</td>
</tr>
</tbody>
</table>

1. BA

2. ād regularly from a-ad with imperfect marker a ← ie. e, but irregularly with
thematic vowel.

3. Perhaps regular from weak form ie. *e-h₁d-.

4. ād regularly from a-ad by reduplication.

5. Compare ca-kr-us. Perhaps ād-us is regular from weak form ie. *h₁e-h₁d-.
E. Etymological dictionary

← ie. root *h₁ed

→ Full-grade representatives

◊ e. eat (GER)
◊ nhg. ess-en (NHG_C)

∼ Zero-grade representatives: The following present participles derive from ie. *h₁d-ent/ *h₁d-ont (“eating, eater”):

◊ oi. danta (“an elephant’s tusk”)
◊ gr. B dont-ology
◊ lat. B dent-al
◊ e. tooth (NHG_E) ~ nhg. Zahn (NHG_C)

a-diti f. (“liberation”)
also: name of a goddess, mother of the ādityas, like mitra, varuṇa
See p. 66 and dā (“to bind”).

adharā (“low, inferior”)
adhas (“under”)

← ie. *H₇dhērō/*H₇dhēs

→ lat. B infrastructure

∼ e. under ~ nhg. unter (But compare e. hound ~ nhg. Hund on p. 73 where germ. d is not changed to nhg. t after n)

an-ala (“insatiable, fire”) where the second part is related to
alam (“enough”)

anas n. (“vehicle for heavy burdens, cart”)
anadvah n. (“ox, draught animal ← pulling a cart”) with second part vah (difficult cerebralization)

← ie. *h₃enōs (ie. o ← h₃e and hence non-application of Lo)

→ lat. onus (gen. oneris) as in “onus of proof”, lat. B onerous, to ex-oner-ate

an 2. class: aniti (“to breathe”) and, perhaps, áñila (“wind”)
ana (“breath”)

◊ āna ← ā + ana (“inhalation, mouth”)

254
E.2. Vowels

- **apāna** ← *apa + ana* (“downward breath, elimination”)
- **udāna** ← *ud + ana* (“upward breath”)
- **prāṇa** ← *pra + ana* (“vital breath”)
- **vyāna** ← *vi + ā + ana* (“moving breath, circulation”) (or by analogy with prāṇa)
- **samāna** ← *sama + ana* (“even breath, digestion”)

**aniniṣati** desiderative (difficult, see p. 131)

← ie. root *ḥ2en*₁
→ lat. B *animated, animal, ex-animate* from lat. *anima* (“wind”) / *animus* (“soul”)

**anu** (“along, corresponding”)
**anu-ja** (“being born later → younger (brother)”), see s.v. *jan*
**anu-aṅc** (“following”) ← anu-aṅ, see aṅc above
**anu-aṅk** (“behind”)

**anta** (“border, ending”)
**vēdānta** (“end of Vedic literature”), see *vid*  
See antara (“another”).

**antar** (“within”)
**antara** (“interior, intimate”)
**antarā** (“in between, inside”)

**antarikṣam** / **antarikṣam** (“transparent space → airspace”) with second part from *ṅks*

**antar-uṣya** (“station, dwelling place”) with second part from *vas* (“to dwell”)

**antas-tyaṃ** (“intestines”) ← antar (wrong sandhi r → s before t) + suffix *-tya* (compare *apa-tyaṃ*)

← ie. *h₁enter / h₂enter*  
→ lat. *inter* as in B *inter-national*
~ lat. B *intestines* ← ie. *h₁enter-sth₂-o* (for second part, see s.v. *sthā*)
~ nhg. *unter* (“among”) as in “Wolf unter Wölfen”, a 1937 novel by Hans Fallada

The ie. stress was on the second syllable, at least in ie. h₂enter. Then, we have expected *t* in unter as in *Vater* (see *pi-tar*). Compare nhg. unter s.v. s.v. *adhas.*

**anta-ra** (“another”)
**anta-ma** (“next, nearest”)

255
E. Etymological dictionary

← ie. *h₁entero

→ e. other ~ nhg. anderer (NHG_E for loss of e. n)

Perhaps related to an-ta (that on the other side). Ved. an-tama means “last”.

**anti** (“opposite, in the face of”)

**anti-mitra** (“surrounded by friends”)

← ie. *h₂ent (“front, face”), a root noun with locative oi. anti

→ gr.

◊ B anti-pode (“who has his feet against ours”), see s.v. pad

◊ B anti-biotics, see jīv

~ lat. ante known from ante Christum natum

**antyēṣṭi** f. (“offering for the dead”) ← antya (“being at the end”, see anta above) + िति f. (“offering”, see yaj)

**annam**, see ad

**anṭya** (“other”)

← ie. *an-yo/*al-yo

~ ogr. allos and gr. B allergy, allegory

~ lat. alius and lat. B alibi (see iha)

anṭyŏnīyas (“one another”) is petrified from nom. sg. anīyas anīyas by CpLz. The acc. sg. is not anyamanyam, but anyŏnyam.

See also ari.

**anv-aṅc** (“following”), see anu and aṅc

**ap** f. (“water”), only pl.

with compound-final “zero-grades” (pp. 135):

◊ apsu-ja (“born in the waters”) formed with loc. rather than the usual stem, see jān

◊ apsu-jit (“vanquishing among the waters or in the region of the clouds”), again with loc., see jī
Vowels

- **ab-da** ("water giver → cloud", "when clouds reappear → year") with **BA**, see ḍā
d with long vowel in first part by zero-grade ḍ2p (Lar_V):
- **dvīpa** ("having water on two sides → island") ← dvi as in dvi-pad ("with two feet") or dvi-vacana ("dual")
- **anūpa** ("near the water, watery → marshy") ← anu
- **nīpa** ("towards the water → lowly") ← ni
- **pratīpa** ("against the stream, going in opposite direction → adverse, displeasing") ← prati
- **samīpa** ("with the stream → near, adjacent, close at hand") ← sam + ap in analogy with pratīpa

<table>
<thead>
<tr>
<th>ap</th>
<th>case</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>nom.</td>
<td>āp-as (2)</td>
<td></td>
</tr>
<tr>
<td>voc.</td>
<td>āp-as (2)</td>
<td></td>
</tr>
<tr>
<td>acc.</td>
<td>ap-as (1)</td>
<td></td>
</tr>
<tr>
<td>instr.</td>
<td>ad-bhis (3)</td>
<td></td>
</tr>
<tr>
<td>dat.</td>
<td>ad-bhyas (3)</td>
<td></td>
</tr>
<tr>
<td>abl.</td>
<td>ad-bhyas (3)</td>
<td></td>
</tr>
<tr>
<td>gen.</td>
<td>ap-ām (1)</td>
<td></td>
</tr>
<tr>
<td>loc.</td>
<td>ap-su (1)</td>
<td></td>
</tr>
</tbody>
</table>

1. The general pattern of ap is close to that of marut (see p. 211).
2. Long ā in nom. and voc. cases is mysterious.
3. Dissimilation *ap-bhis → ad-bhis*

← ie. *h2ep/*h2ekw

→ lat. aqua

**apa** ("away")
**apa-ra** (comparative: "a later one, another one")
**apa-ma** (superlative: "the latest, the last")
**apa-taram** (superlative: "farther off")
**apāṇic** ("backward, western"), see aṅc
**apa-tyam** ("child, offspring"), for suffix tya compare anta-styam

257
E. Etymological dictionary

← ie. *h₂ep-ō (“off”)

→ ogr. apo and gr. B apocalypse (for sec. part see kulam)

∼ lat. ab and lat. B ab-straction or ab-duction (where voicing may be due lat. words like ab-dācere)

∼ germ.
   ◇ e. of and e. off ~ nhg. ab (VER)
   ◇ nhg. aber (VER) (“but”) ~ oi. apara
   ◇ e. after (“but”) ~ oi. apataram

ap-as (“action, deed, rite”)
ap-nas (“wealth, action”)

← ie. *ōpes/h₃epes (with regular non-application of Lo)

→ lat. opus with B opera and opulent and German opfern (“to sacrifice”) with unclear NHG_C (we should expect n.at. offern)

∼ lat. officium ← *opi-fak-io with B official

∼ nhg. üben (“to exercise”), üblich (VER)

Both Sanskrit (with apnas from apas) and Latin (see opulent) convey the idea that you get rich from working.

apānc (“backward, western”), see apa and añc

api (“also, even”, question particle)

← ie. *h₁epi, loc. sg. of a root noun

api (“at, by around”)

← ie. *h₁opi

→ ogr. epi in gr. B epi-dermis

∼ lat. op-timus (compare intimus s.v. -tama)

abda
   ◇ ab-da (“water giver → cloud”, “when clouds reappear → year”) with BA, see ap und dā

258
\(\textit{E.2. Vowels}\)

\[\text{a-bd-a} \leftrightarrow \text{*a-pd-a} \ (“\text{without feet, inaccessible}”) \text{ with BA, see pal}\]

\textit{abhi} (“around, on both sides, toward”)
\[
\begin{align*}
\leftarrow & \text{ ie. } *h_{2}m_{0}bhi \\
\rightarrow & \text{ gr. B amphi-theater} \\
\sim & \text{ lat. B ambi-ence, ambi-valent, ambi-uous}
\end{align*}
\]
See also \textit{ubha} (“both”).

\textit{abhi-s-ti} m. (“protector”)/ \textit{abhi-s-ti} f. (“protection”), see \textit{as} for second part

\textit{abhiśa} (“desired”) \leftrightarrow \textit{abhi} and \textit{iṣṭa} (PPP of \textit{iṣ})

\textit{abhiśu} (“rein”) \leftrightarrow \textit{abhi} and \textit{iṣ}

\textit{abhram} (“cloud, airy space”)
\[
\begin{align*}
\leftarrow & \text{ ie. } *nebh (“\text{sky, mist}”) \text{ and zero-grade ie. } *n_{0}bh-ro \\
\end{align*}
\]
Compare \textit{ambhas} and \textit{nabhas}.

\textit{a-bhva} (“not being (good) \rightarrow \text{monstrous, powerful}”), see p. 137
\[
\begin{align*}
\leftarrow & \text{ ie. } *n_{0}bhv-o
\end{align*}
\]

\textit{am} 2. class: \textit{amīti} (“\text{to grab, to harm, to swear}”)

\textit{ama-tram} (“\text{the pot that is grabbed \rightarrow drinking vessel}”)
\[
\begin{align*}
\leftarrow & \text{ ie. root } *h_{3}emh_{3} \\
\rightarrow & \text{ lat. am-āre (“\text{to love}” \leftrightarrow \text{“to regard as a friend}”\leftrightarrow \text{“to take the hand of”}) \text{ with B am-ateur and PN Wolfgang Amadeus (for second part, see deva) Mozart} \\
\sim & \text{ lat. amīcus (“friend”) and B amicable}
\end{align*}
\]

\textit{a-mati} (“\text{poor}”) f. (“\text{not knowing, poverty}”)
See \textit{man}. Someone is considered poor because he is not thought of, or not borne in mind by, human or divine benefactors.

\textit{amā} (“\text{home, at home}”)

\[\text{259}\]
E. Etymological dictionary

**amāt ("from home")**

**amā-tya ("house companion, minister"), compare apa-tya**

See svāmin.

**a-mnas** adv. ("without thinking → immediately, unawares")

See man.

**ambā/ ambī ("mother"), babble word like unrelated German Amme or English nana**

**ambu** n. ("water"), probably not related to ambhas

**a-mbhas** ("not mist → water")

← *ṇ-ṇabh with BA. Difficult because SY_Conf would yield nabha. See abhr am and nabhas.

**ambhas** also means power because a flood can be very powerful.

**ayas** n. cons. ("ore, iron")

← ie. *h₂eys/ ayes n. ("bronze")

→ lat. aes, aeras n. ("copper, bronze")

~ e. ore

~ nhg. ehern ("brazen, iron")

**a-yogū ("girl without brothers (and sisters)")**

See alpha privativum on p. 66 gaj, and other feminine family nouns like vadhu (s.v. vadh) and śvaśrū.

**ar** ("to fit, to connect")

**ara ("spoke of a wheel")**

**ṛta** ("fitting, true") PPP, but see r

**an-ṛta** ("not well fitted → not true") with alpha privativum, but see r

**ṛ-ṭu** m. ("time of year, right time") and see ṛtv-ij

**ara-mati** f. ("right mind → piety")

**aram/alam** adv. ("sufficient, properly") (ṛl)

**alakam** adv. ("in vain") (ṛl)

← ie. root *h₂rer
E.2. Vowels

→ lat. B art (“the fitting → skill”), with m-extension lat. B arma-ture, arma-ment (“what is fitted together → tool → weapon”)

araṇi/araṇī f. (“wood for producing fire”)
araṇa (“far away, foreign”)
araṇya (“foreign land, forest”)
araṇyavāsin = araṇyavāukas = vanāukas (see vas and ṧokas)

aratni n. (“ellbow”) (rl)
← ie. *Heh₃-
→ e. elbow ~ nhg. Elle (unit of length, often from the tip of the middle finger to the bottom of the elbow), Ellbogen / Ellenbogen

Compare s.v. bhuj.

ari m. (“enemy”)
arya/ārya (“lord”)
aryaman m. (name of a Vedic god, “associated with guests”) with mant suffix as in mati-mant (“with intellect → clever”)

Semantics:

◊ ari originally means “stranger” whence “enemy” in classical Sanskrit, but “guest” in the Rgveda”

◊ ārya (English B aryan) used by the Old Indians to describe themselves as people who are being hospitable to strangers

◊ ari might be a person who presents himself in a fitting manner (see ar above) as a guest or as an enemy

◊ ari is the other, see anya

aritr (“rower”)
← ie. root *h₁reh₁ (“to oar”) 
→ e. to row ~ nhg. Ruder (“rudder”)

arc 1. class: arcati (“to shine, to praise”)
← ie. *h₁erkʷ (SPal)
E. Etymological dictionary

\textit{arjuna} ("white, silvery")
\textit{arjata} ("white, silvery")
\abovedoublearrow \textit{ie.} \ast h₂erg\textsuperscript{\textdagger}u ("white")/ \ast h₂erg\textsuperscript{\textdagger}nt\textsuperscript{o} ("silver")
\rightarrow \textit{lat.}
\quad \Diamond \textit{argentum} ("silver") \rightarrow \textit{fr. argent}
\quad \Diamond \textit{B argument} ("what makes clear")

\textit{artha} ("wealth, meaning")
\textit{sārtha} ("caravan") \leftarrow \textit{sa} ("together with") + \textit{artha}
\textit{bhūtārtha} ("fact, issue") \leftarrow \textit{bhūta} (PPP of \textit{bhū}) + \textit{artha}

\textit{ardha} ("half, part")
\leftarrow \textit{ie.} \ast h₂ordhh\textsuperscript{i} ("wheel rim")
\leftarrow \textit{lat. orbis} (with \textit{b} after \textit{r}) as in the pope’s blessing \textit{arbi et orbi} and \textit{B orbit}

\textit{arbha} ("small, weak")
\leftarrow \textit{ie.} \ast h₂orbho
\rightarrow \textit{gr. orphan (OGR)}
\sim \textit{nhg. Erbe} ("what the orphan obtains, bequest"), \textit{Arbeit} ("done by the orphan \rightarrow labour"), \textit{arm} ("being without parents \rightarrow poor")

\textit{arśas} n. ("hemorrhoids")
\leftarrow \textit{ie.} \ast h₁elkes
\rightarrow \textit{gr. helkos} ("abcess, ulcer")
\sim \textit{lat. ulcus} and \textit{B ulcer}

\textit{arh} 1. class: \textit{arhati} ("to deserve, to have to, to be worthy")
\leftarrow \textit{ie. root} \ast h₂elg\textsuperscript{w}h
\rightarrow \textit{gr. alphagein} ("to deserve")
E.2. Vowels

*a-lasa* ("inert, languid") ← *a + rasa* ("plant juice, essence") *(rl)*, see rī

*av* 1. class: *avati* ("to help")

ūta ← ie. *h₂euH-to* PPP *(Lar_V)*, also in indrōta ← indra + ūta ("helped by Indra")

ūti f./m. ("help")

*avitum* ← *h₁euH-tum* infinitive *(Lar_V* between consonants)

ō-man m. ("protection, grace") ← *h₁euH-m*

← ie. root *h₁euH*

→ lat. iuvāre

*av* 1. class: *avati* ("to enjoy")

*avasa* ("refreshment, protecting")

avīgyu ("desirous")

*avitum* ← *h₂euH-tum* infinitive *(Lar_V* between consonants)

← ie. root *h₂euH*

→ lat. B av-id, av-ārice, av-dacity ("wanting very much → daring")

*ava* ("down, away")

*ava-ra* (comparative: "a lower one, a later one")

*ava-ma* (superlative: "the lowest, the last")

*avānc* ("directed downward") ← *ava-aṅc*, see aṅc

avāk ("downward"), see aṅc

← ie. *h₂eu* ("away")

→ lat. aut ... aut (exclusive or: "either ... or")

*ava-sāna* ("dismounting from a horse")

*ava-sāṭr* ("deliverer, liberator")

← ie. *sch₂-no*

→ lat. sānus ("healthy") with B sane

*avi* m. ("sheep")

← ie. *ovi/h₃evi* (ie. *o* ← *h₃e* and hence regular non-application of *Lo*)

→ lat. ovis with B ovine ("with respect to sheep")
E. Etymological dictionary

∼ e. ewe

aš 9. class: aśnāti (“to eat”), perhaps the same origin as aš (“to get”) prālar-āśa (“breakfast”) ← prālar (“in the morning”) + āśa (“meal”) phalāśin (“vegetarian”) ← phala (“fruit”) + āśa (“meal”) + in suffix aśītum infinitive

aš 5. class: aśnōti (“to reach, to get”), perhaps the same origin as aš (“to eat”), see p. 191 ← ie. root *h₂ne(n)k

aś-ri f. (“angle, edge”) aś-man m. (“stone”) ← ie. *h₂ok → gr. akro-polis (“pointed town, castle”) ∼ lat. B medi-ocre (for first part, see madhya)

aśru n. (“tear”) ∼ probably somehow related to e. tear ∼ nhg. Zähre (“tear”, but not in use) ∼ nhg. Träne

aśva (“horse”) aśv-in (“having horses”, a pair of gods who use horses to pull the sun across the sky) āśu (“fast”) ← reduplicated ie. *h₁o-h₁k-ū (unclear) āśo-aśva ← āśu + aśva (“having fast horses”) ← ie. *h₁ekvo → gr. B hippo, hippodrome ∼ lat. B equestrian

aśvattha (“banyan tree ← horse food”) ← aśva (“horse”) + d (zero grade of ad, “to eat”) + tha (suffix)

aṣṭā/ aṣṭāu (“acht”) ← ie. *h₃ekto/*okto
E.2. Vowels

→ gr. B octo-
pus /octo-
po (“with eight feet”), see pad for second part

∼ lat. B October (“the eighth month, with March being the first one in the Roman
calendar”), octave

∼ e. eight ∼ nhg. acht

as 4. class: asyati (“to throw, to shoot”)
as-ra (“throwing, painful”)
as-i m. (“sword”)
abhya-as-la (“repetition, learning”) ← abhi (“around, on both sides, toward”) + asa
(PPP of as)
abhya-ās-a (“repetition, reduplication”) ← abhi (“around, on both sides, toward”) + ās-a
(lengthened grade of as with a suffix)

as 2. class: asti (“to exist, to be”), paradigm on p. 154
as-u m. (“living, existence”), in particular in
gatāsu (“with life gone away, dead”) ← gata (PPP of gam) + asa
s-at (“being, good”), adj. from pres.P of as (“to be”) with

◊ sat-kavi m. (“good poet”), see kavi
◊ i-ṣat (“being in that manner → a bit, somewhat”) ← ī + sat (n. pres.P)
◊ sat-tvam (“being, nature, living being”) ← sat + tvā (suffix)
◊ bodhisattva (“a Buddha saint”) has often been written as bodhisatva in Buddhist
Hybrid Sanskrit. See saj.
◊ sat-ya (“true, real”) ← sat + ya (suffix)

astam (“where someone is → home, home country”) may be related, used in astam
gacchāti (“he dies”, “it (the sun) sets”), but see also nas.
asura (“lord of life, god, demon”) ← asu + ra (suffix) may also belong here. In any case,
misunderstanding this as a + sum,
sura (“not demon, god”) has been created by back-formation.
upa-s-ti m. (“servant”) with first part preposition upa
abhī-s-ti m. (“protector”)/ abhī-s-ti f. (“protection”) with first part preposition abhī
← ie. root *h₁es

→ lat.

◊ est → fr. il est
◊ B ab-s-ent, pre-s-ent (both zero-grade pres.P, similar to oi. s-at and lat. B
client (s.v. śri)), inter-es-t
E. Etymological dictionary

∼ e. is ∼ nhg. ist

See su.

asūyati (“he grumbles, he resents”) ← a (“not”) + su (“good”), unclear

asraj n. (“blood”)
← ie. *h₁es₂h₂- (difficult)
→ lat. B sanguine (“in relation to blood → optimistic”)

asthi n. (“bone”)
← ie. *h₃o₂st-h₂
→ gr. B osteoporosis
∼ lat. B osseous (“concerning bones”), to ossify

aham
← ie. *h₁e₂go₃₂₂m
→ lat. egō with B egotism
∼ Berlinish icke (GER)
∼ e. I ∼ nhg. ich

Courageous laryngalists defend this development:
lat./ogr. egō
← ie. *h₁e₂go₃₂₂m/h₁e₂go₃₂₂m
→ h₁e₂gh₂om (metathesis of o and h₂, similar to Lar_MTh)
→ e₂ghom (Lar_V, Lar_CH)
→ ehom (PPal)
→ aham (aā)

ahar/ ahan n. (“day”)
aho-rātra, n. (“day and night”), see remark 4 below
praty-aham (“daily, every day”), see section D.4 pp. 244

266
### E.2. Vowels

<table>
<thead>
<tr>
<th>ahar/ahan/ahas n.</th>
<th>case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>nom.</td>
<td>ahar (1)</td>
<td>ahn-/ahan-/ (2, 3)</td>
<td>ahān-/i (6)</td>
</tr>
<tr>
<td></td>
<td>voc.</td>
<td>ahar (1)</td>
<td>ahn-/ahan-/ (2, 3)</td>
<td>ahān-/i (6)</td>
</tr>
<tr>
<td></td>
<td>acc.</td>
<td>ahar (1)</td>
<td>ahn-/ahan-/ (2, 3)</td>
<td>ahān-/i (6)</td>
</tr>
<tr>
<td></td>
<td>instr.</td>
<td>ahn-ā (2)</td>
<td>aho-bhām (4)</td>
<td>aho-bhis (4)</td>
</tr>
<tr>
<td></td>
<td>dat.</td>
<td>ahn-ē (2)</td>
<td>aho-bhām (4)</td>
<td>aho-bhyas (4)</td>
</tr>
<tr>
<td></td>
<td>abl.</td>
<td>ahn-as (2)</td>
<td>aho-bhām (4)</td>
<td>aho-bhyas (4)</td>
</tr>
<tr>
<td></td>
<td>gen.</td>
<td>ahn-as (2)</td>
<td>ahn-ōs (2)</td>
<td>ahn-ām (2)</td>
</tr>
<tr>
<td></td>
<td>loc.</td>
<td>ahn-/ahan-i (2, 3)</td>
<td>ahn-ōs (2)</td>
<td>ahas-su/ahaḥ-su (5)</td>
</tr>
</tbody>
</table>

1. The first stem *ahar* serves as NVA singular.
2. Building on the second stem *ahan*, many forms follow the nāman pattern (p. 228).
3. Compare loc. sg. nām-n-i/nām-an-i with ahn-i/ahan-i. The second forms are not strong forms because strong forms exhibit Brugmann’s law (see 5). Instead, they have spilled over from words like the karm-an (p. 229).
4. Taking *ahas* as a third stem, one obtain aho-bhis and similar forms (p. 213). The sandhi rule applied is similar to CpLz, but note that the change is not a word-final one.
5. The third stem is also in use in loc. pl., compare manas-su/manah-su (p. 213).
6. **Loc**

#### E.2.2. ā

ātman m. (“self”)

← ie. *éh₁t-mo(n)* with dat. sg. *h₁t-mé(n)-ei
→ Luther’s bible *Odem ~ nhg. Atem* (probably built on a weak form, see VER, p. 75)

ādhra (“needy, weak, poor”), see Lar SY, see pp. 121

nādḥ 1. class: nādhatē (“to be needy, to beg”)

← ie. *neHdh*

Unrelated nāth 1. class: nāthatē has the same meaning as nādḥ.

āp 5. class: āp-nōti (“to obtain”) ← ie. *h₁e-h₁p-neu* (a reduplicated present form)
E. Etymological dictionary

← ie. root *h₁ep

→ lat.
  ◇ B op-t-ion, to ad-op-t
  ◇ B ad-ep-t, in-ep-t (p. 66)

∼ e. to gi-ve ~ nhg. ge-ben ← ie *ko(m)-h₁ep (doubtful derivation, see s.v. gabha)

ā-yus n. (“life”), paradigm on p. 214

ā-yur-veda (“medical science”) (Vīṣ, see viḍ)

yuvannm. (“youngster”) ← ie. zero-grade *h₂yu (paradigm on p. 214)

← ie. *h₂oy-u-

→ gr. eon (“age, lifetime”)

∼ lat.
  ◇ B eternal ← olat. aeviternus
  ◇ iustus (“just”) with B just, B jurisdiction, ad-judicate

∼ nhg. ewig (“forever”)

āvis (“openly, manifestly”)

← ie. *h₂ev-is (“clearly”)

→ lat.
  ◇ B audition ← lat. audīre (“to hear”) ← ie. *h₂ev-is-ddh₁₁, similar to lat. dīvidere (s.v. ddā)
  ◇ B obedient (by a complicated development)

∼ e. ear ~ nhg. Ohr ← ie. *h₂eu-s

ās 2. class: āstē (“to sit”), not related to sad

āsanam (“sitting, throne”)

āsandī (“throne”)

ās (“mouth, face”)

← ie. root *h₂eh₁₁-os

→ lat. B os-culation (“kiss”)

268
\( \text{āsa} \) (“ashes”)

\[ \leftarrow \text{ie. } *h_{2}e_{1}sh_{2} \]

\[ \rightarrow \text{lat. } ar-id, ar-dour, ar-dent \quad (\text{LAT \_sr}) \]

\[ \sim \text{e. ash } \sim \text{nhg. Asche and e. Ash Wednesday } \sim \text{nhg. Aschermittwoch} \]

\[ \sim \text{nhg. } Esse \text{ ("hearth")} \]

### E.2.3. \( i \)

\( i \) 2. class: \( \text{ēti} \) (“to go”), pp. 154

\( \text{ita} \) PPP, also with prepositions:

<table>
<thead>
<tr>
<th>( \sqrt{i} ) in z.g.</th>
<th>PPP</th>
<th>translation</th>
<th>ti noun</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>( \text{adhī-}i )</td>
<td>( \text{adhī-ta} )</td>
<td>to study</td>
<td>( \text{adhī-ti-s} )</td>
<td>study</td>
</tr>
<tr>
<td>( \text{anu-}i )</td>
<td>( \text{anu-}i-ta )</td>
<td>to follow</td>
<td>( \text{anu-}i-ti-s )</td>
<td>following after</td>
</tr>
<tr>
<td>( \text{abhī-}i )</td>
<td>( \text{abhī-ta} )</td>
<td>to arrive</td>
<td>( \text{abhī-ti-s} )</td>
<td>attack</td>
</tr>
<tr>
<td>( \text{ud-}i )</td>
<td>( \text{ud-}i-ta )</td>
<td>to go up</td>
<td>( \text{ud-}i-ti-s )</td>
<td>sunrise</td>
</tr>
<tr>
<td>( \text{upa-}i )</td>
<td>( \text{upē-}ta )</td>
<td>to go towards</td>
<td>( \text{upē-}ti-s )</td>
<td>approach</td>
</tr>
<tr>
<td>( \text{pra-}i )</td>
<td>( \text{pré-}ta )</td>
<td>to set off</td>
<td>( \text{pré-}ti-s )</td>
<td>escape</td>
</tr>
</tbody>
</table>

\( \text{palāy} \) 10. class: \( \text{palāyatē} \) (“to go away → to flee”) (\( r1 \)) \( \leftarrow *\text{parāyatē} \) \( \leftarrow *\text{parā-ayatē} \) (see \( \text{parā} \))

\( \text{sahāya} \) (“companion, helper”) \( \leftarrow \text{saha} + \text{aya} \) and

\( \text{sāhāyya} \) (“fellowship, help”) (see pp. 247)

\( \text{ayana/ayanam} \) (“going, motion, hallway”) as in

\( \diamond \text{vālāyanam} \) (“window”) \( \leftarrow \text{vāta} \) (“wind”)

\( \diamond \text{rāmāyanam} \) (name of Indian epic) \( \leftarrow \text{rāma} \) (“name of Indian hero”)

\( \diamond \text{samāvāya} \) (“inherence, cooccurrence”) \( \leftarrow \text{sama} \) (“same”) + \( \text{ava} \) (“down”)

<table>
<thead>
<tr>
<th>( i ) (“to go”)</th>
</tr>
</thead>
<tbody>
<tr>
<td>present tense</td>
</tr>
<tr>
<td>infinitive</td>
</tr>
<tr>
<td>PPP</td>
</tr>
<tr>
<td>future</td>
</tr>
<tr>
<td>imperfect</td>
</tr>
<tr>
<td>perfect</td>
</tr>
</tbody>
</table>

269
E. Etymological dictionary

1. ái-t ← a-i-t is regular by MVS (pp. 30).
2. Not clear.
3. See section C.7, pp. 188

← ie. root *₃h₁ei
→ lat. B i-teration, ex-i-tus, in-i-tial, i-tinerary, trans-i-tion

See yā

Itara (“the other (of the two)”)  
← ie. *₄h₁-tero
~ lat. iterum (“again, for a second time”) and B iteration

Iti (“in this way → thus”, indicates quotes or thoughts), perhaps from i above
Iti-hāsa (“thus, indeed, it was → history, legend”) ← iti + ha (“indeed”) + āsa (3. pers. sg. perfect of as, p. 190)
~ lat. ita (“in this manner”)

Idh / Indh 1. class: indhatê (“to set fire to”)  
edha (“kindling, fire wood”)  
iddha (“inflamed”) PPP (ASh)
← ie. root *₂ḥ₂idh
→ gr. aitho (“I set on fire”)
~ lat. aedificium (“fireplace → room with a fireplace → building”)

Iva  
Ativa (“exceedingly, very”) ← ati + iva
← ie. *₂ḥ₂iva

Is 1. class: icchati (“to wish”), may well be related to is (“to press, to send”) below
On the one hand: gav-is m./f./n. (“wishing cows, greedy”)
← ie. root *₂ḥ₂is (“to seek, to desire”)
→ lat. B to esteem

270
On the other hand, with $sk$-suffix: $icchā$ (“wish”) (CCl, SIB)

← ie. $^h_2$is-$sk$

→ e. ask $\sim$ ohg. eiscōn $\rightarrow$ nhg. er-heisch-en

Compare gam, gaacchati (“to go”), praacch, prōchati (“to ask”) and gam, yacchati (“to hold, to restrain”).

$iṣ$ 1. class: $ēṣati$ / 4. class: $iṣyati$ / 9. class: $iṣnāṭi$ (“to press, to send”) may well be related to $iṣ$ (“to wish”) above

$iṣu$ m. (“arrow”)

$iṣat$ adv. (“a bit, getting close to”)

← ie. root $^h_1$eis (“to set in motion”)

→ lat. īm (“anger”) (LAT_ $V$) as in B irate

It seems probable that the two $iṣ$ are one word, only. An arrow ($iṣu$)

◊ may be directed towards what is wished for (the first $iṣ$)

◊ may have been sent (the second $iṣ$)

*iha* (“here”)

pa. *idha* (“here”)

← ie. *$i$-dhi, see pp. 53

→ lat. *ibi* (“there”) (with LAT_ $V$ $\leftarrow$ ie. variant *$i$-bhei) with ahbi (“there”) and B susceptor’s *alibi (see s.v. anya)*

E.2.4. $i$ 

$iks$ 1. class: $īksatē$ (“to see”), see ak-ṣi n. (“eye”)

← ie. root $^h_3$ek$^w$

$iks$ is originally a desiderative (see pp. 126).

$īrma$ (“arm, forequarter of an animal”)

← ie. $^h_2$er$H$-mo

→ lat. armilla (“arm-band, bracelet”) with B armillary sphere (“sort of celestial globe”)
E. Etymological dictionary

∼ e. arm ∼ nhg. Arm

īš 2. class: īšte ("to own, to rule")
īš-vara "god, lord"

← ie. root *h₂eik

→ e. own ∼ nhg. eigen (VER)

E.2.5. u

uks 4. class: uks-a-ti ("to sprinkle, to moisten, to emit")

← ie. root *Heug-/*Heuks-

E.2.5. u

uks 4. class: uks-a-ti ("to grow, to get strong")
ug-ra ("powerful, mightly")
dʒ-ja n. ("power")

← ie. root *h₂eug- with s-extension *h₂euk-

→ lat.

◊ auctoritas and B authority
◊ B auction (with backward assimilation), to augment
◊ B and name of emperor Augustus (literally "holy, majestic")

∼ e. to wax (in wax and wane) ∼ nhg. wachsen ← *h₂vegs (with metathesis)

Perhaps related to vaj.

uks-an m. ("ox, bull")

← ie. *Huks-en

→ e. ox ∼ nhg. Ochse

Derived from

◊ uks ("to grow, to get strong"): the bull as the strong one, or
◊ uks ("to sprinkle"): the bull as the inseminator

272
E.2. Vowels

ud (“out of, up”)

ul-tara (comparative: “a higher one, the later one”)  
ul-tama (superlative: “the extreme, the last, the best”), see -tama
an-ul-tama (bahuvrīhi compound: “that in relation to which there is no supreme → unsurpassed”)  
ud-ac (“directed upward, northern”)  
ud-ak (‘in or from the north”)
un-mārga (“a wrong or evil way”) ← ud + mārga
← ie. *ud
→ gr. B hysteria (compare Indo-Iranian DzD)  → H. uttara above
∼ e. out ~ nhg. aus

ud/ und 7. class: u-na-l-ṭi / 6. class: undati (‘to make wet’)
un-na (“wet”) ← ud-na
ud-an n. (“water”)
ud-akam (“water”)
ōd-man n. (“floods, rain”)
← ie. *ved-n/*ved-r
→ gr. B hydrate
∼ lat. unda “wave”
∼ e. water ~ nhg. Wasser

udara (“belly”)  
sodara (“belly”) ← sa + udara (“brother”)
← ie. *Hud-er
→ lat. (B) uterus

upa (“to, near”)  
upa-niṣ-ad f. (according to one interpretation: “what is taught when sitting down and close to”, indische Geheimlehre, see sad)
upa-dēśa (“teaching”, see diś)
← ie. *(s)upō
→ gr. B hypo-thesis (sec. part see dhā), hypo-crite
∼ lat. sub (with lat. s as in super, see upari) with B sub-mit, sub-ject, sub-set
E. Etymological dictionary

∼ but not e. of or off or nhg. auf

upari (“over”)
← ie. *(s)upér(i)
→ gr. B hyperbola, hyper-active (sec. part lat, see aj), hyper-tension (sec. part lat)
∼ lat. super (with lat. s as in sub, see upa) with B superman, supervision, superficial
∼ e. over ∼ nhg. über (note the ie. stress and consult VER)

upastha (“womb, genitals, sheltered place”)
◊ apa (“to, near”) + stha (← sthā, compare p. 136) or
◊ apas (“womb”) +
   • stha (← sthā) or
   • tha (suffix)

upa-s-li m. (“Servant”) ← apa (“to, near”) + zero grade of as

ubha (“both”), probably related to abhā (“around, on both sides, toward”)
∼ e. both ∼ nhg. beide

uru (“wide”)
var-īṣṭas (comparative, “wider”)
var-īṣṭha (superlative, “widest”), see e. st as in widest (p. 72)
f. urvī also (very similar to prihī, see prihu) in
◊ urvī-pati m. (“king”)
◊ urvī-talam (“earth, ground”)

varas (“width, extension”)
urvasi (an apsaras f. (“heavenly nymph” with “extended wishes”) ← *urvasi ← uru +
vaś (“to wish”) + -s-suffix
uras (“(wide) breast”)
ulūka (“with a broad face → owl”) ← uru-Hka, unclear, see ulūka
possibly also ėru m. (“thigh”) with strange analogy

<table>
<thead>
<tr>
<th>bahu (“much, many”) adj.</th>
<th>giving rise to body part:</th>
<th>bāhu m. (“arm”)</th>
</tr>
</thead>
<tbody>
<tr>
<td>just as</td>
<td></td>
<td></td>
</tr>
<tr>
<td>uru (“wide”) adj.</td>
<td>giving rise to body part:</td>
<td>ėru m. (“thigh”)</td>
</tr>
</tbody>
</table>

274
E.2. Vowels

urvarā m. (“fertile soil”)
← ie. *h₂erh₃-vo
→ lat. B ar-able

ulāka m. (“owl”)
← ie. *ul/ *ulul
→ lat. ulul-āre (“to howl”)
∼ e. owl ~ nhg. Eule

See s.v. uru.

us 1. class ḍosati (“to burn, to shine”), the same root as vas²
us-ṇa (“hot”)
us-as f. (“dawn, aurora”)
us-ras (“relating to or seen in the morning, shining”)
← ie. root *Heus
→ lat.
   ◊ B aurora
   ◊ amb-ārere (“to burn around”, see s.v. abhi) (LATₚsr) → am-bārere and hence B com-bustion

∼ the southern direction: lat. auster (“south wind, south”) with
   ◊ lat B Aus-tralia (“southern land”)
   ◊ lat. B Aus-tria

∼ the eastern direction:
   ◊ e. eas-t ~ nhg. Os-t
   ◊ e. Eas-ter ~ nhg. Os-tern

E.2.6. ū

ūti f./m. (“help”), see av (“to help, to promote”) ← ie. *h₂uH-ti (LarₚV)

ūdhar n. (“udder”)
← ie. *ūdh (“abundant”)
E. Etymological dictionary

→ lat. B ex-ub-erant
~ e. udder ~ nhg. Euter

ūṛṇā (“wool”)
← ie. *wℓHn
→ e. wool ~ nhg. Wölle

ūrdhva (“tending upwards, raised, elevated”)
ūrdhvam adv. (“upwards, beyond”)
← ie. *h₃rdh-vo (difficult)
~ ogr. ortho-vox, ortho-pedist (OGR)
~ nir. placename Aird Mhór (British: Ardmore)
~ e. and-ous

ūḥ 1. class: āhati (“to carry, to modify”)
ūḏha PPP
sam-ūḥ (“to heap together”) and sam-ūha (“heap, bulk, union”)
ūḥ goes back to vah (“to drive, to bring”). Long ā may result from PPP by levelling.

ūḥ 1. class: ḍhatē (“to consider”)
ōḥ-as n. (“praise”) (SPal)
← ie. root *Heugʷh
→ lat. B vo-turn, de-vou-t

E.2.7. r

r 1. class: r-cchati/ 3. class: iyarti/ 5. class: r-po-ti (“to rise, to reach”)
On the one hand:
◇ zero-grade r-ta PPP (“proper, right, moved”), but see ar
◇ zero-grade an-r-ta PPP (“false, undeserved”), but see ar
← ie. root *h₃er

276
E.2. Vowels

→ lat. B or-i$q$in, ab-or-tion, orient (“where the sun rises”)

On the other hand, ɪc\c\chati with sk- suffix:

← ie. zero grade *$h_3^r$-sk-e-ti (SIB)

Compare is, ic\chati (“to wish”), gam, gac\chati (“to go") and prac\ch, pr\c\chati (“to ask”).

\rk\sha (“bear”)

← ie. *$h_2^r$tko (SIB)

→ gr. B art\c\tic (“belonging to the bear constellation → with respect to the north pole”), with metathesis of the consonants, similar to ogr. ch\c\thōn s.v. k\c\sam

~ lat. ursus (with difficulties) and PNs Urs and Ursula

See p. 44.

\rt\c\tē (“without") is a loc. of some noun \rt\c\ta but is not clear whether it belongs to r or to ar

\rt\c\tv\i\c\j m. (“offering at the right time → priest”)

← \rt\c\tu (“time of year, right time", see ar) + zero grade of yaj (“to sacrifice”)

\r\c\s 1. class: ar\c\s-a-ti (“to flow, to stream”)

\r\c\sa m. (“sap or juice of plants“)

← ie. root *$h_1$ers/ *$h_1$res (“to flow”)

→ lat. rōs, rōris (“dew“)

See a-lasa.

E.2.8. ̄è, ̄āi

\c\k\a (“one, single")

\c\k\a\c\k\i\c\n (“single, alone") ← \c\k\a + ak (suffix) + in (suffix)

\c\k\a\c\a\c\g\a (“one-pointed, focussed”) with second a\c\g\a (“top, summit, beginning”)

← ie. *Hoi

→ lat. ū-nus (“one”) with B unity
E. Etymological dictionary

∼ e. one ∼ nhg. ein

ēj 1. class: ējatē / ūjatē / (“to stir”)
← ie. root *h₂ēj- (like aj)

Formation of ved. ījatē by reduplication, like sīd-ati (see p. 80):

*ie. h₂i-h₂ēj-e-toi (reduplication with i and zero grade)
→ iēj-e-toi (Lar V)
→ īj-e-toi (PPal)
→ īj-a-tē (aā, DIPH)

ījatē then lead to ējate, by assuming a root ēj.
See aj.

E.2.9. ē, ēu

ēj-as (“power”), see ukṣ (“to get strong”)

ēj-man m. (“strength, power”), see *vaj (“to get strong”)

ěd-man n. (“floods, rain”), see ud (“to make wet”)

ěm-an m. (“protection, grace”), see av (“to help, to promote”)

E.3. Velar stops

E.3.1. k

kanyā (“girl, daughter”)
kana (“girl”)
kani (“girl”)
← ie. *ken-
→ lat. B re-cent
E.3. Velar stops

**kad** ("what")

← ie. *kʷod

→ lat. quod

~ e. what ~ nhg. was

See the related kas, kiyat, kim below.

**kam** ("to wish, to desire")

**ca-kam-ē** ("he wished") pf.

**ci-kam-i-șatē** ("he wishes to desire") desiderative

**kānta** ("beloved") (BA) ← n.at. kāmto (Lar_SY) ← ie. *kmh₂-to

**kāma** ("wish, desire")

← ie. root *kel₂/ *kmh₂

→ lat. cārus ("dear, expensive") with Karitas, a German Catholic welfare organization

→ fr. cher

~ e. whore ~ nhg. Hure

Probably related to kāṅks

**kas** ("who"), see also kōvida

**kad** ("what")

**cid** as in

- **kašcid** ("someone") by BA
- **kadācid** ("sometime")
- **kū-cid** ("somewhere, anywhere")
- **kva-cid** ("somewhere, anywhere")

**kiyat** ("how large, how long") and **kiyan-mātra** ("measuring how much → small")

**ku** ("wherever → unknown origin/source → bad, little") as in

- **ku-sīda** ("lazy") and **ku-sūlam** ("extortion, usury") without RUKI
- **ku-śrutam** ("unfounded rumor")
- **ku-sakhī** ("bad female friend")
- **ku-tūhala** ("strange, wonderful") and **ku-tūhalam** ("interesting thing, curiosity")

may also belong here
E. Etymological dictionary

\textit{kū} (“where”), variant of \textit{ku}
\textit{ku-tas} (“from where”) with common adverbial suffix \textit{tas}
\textit{kū-cid} (“somewhere, anywhere”)
\textit{kva} (“where(to)”)  
\textit{kim} (“what”) where

\begin{itemize}
  \item $k$ instead of expected $c$ (SPal) stems from levelling with \textit{kas} or \textit{ku} and
  \item $\textit{kim}$ (with m as in many other neuter forms like \textit{phalam}) is seen as a very ancient form for expected $\textit{cid}$
\end{itemize}

\textit{kuv-id} (“whether indeed, whether perhaps”) $\leftarrow kū + id$ (see ced under ca)

\begin{itemize}
  \item $\leftarrow$ ie. *\textit{kwe}/*\textit{kwō}$
  \item $\rightarrow$ lat. B (saying) \textit{quid pro quo} (“reward, return service”)
  \item $\sim$ e. \textit{what}, \textit{who} $\sim$ nhg. \textit{was}, \textit{wer}$
\end{itemize}

\textit{kāṅks} 1. class: \textit{kāṅksati} (“to wish, to desire”), unclear connection (if any) with \textit{kam}

\textit{kāla} (“time”)  
\textit{kālāntaka} (“ender of time $\rightarrow$ god of death”), see \textit{anta}  
\textit{kālātmaka} (“determined by time/fate”)  
Two explanations for \textit{kāla}:

\begin{itemize}
  \item $\diamond$ from \textit{kr} (“to make”) because the decisive action has to be undertaken at the right point in time
  \item $\diamond$ from \textit{car} (“to turn”) because “The Times They Are A-Changin” (Bob Dylan)
\end{itemize}

\textit{kāś} 1. class: \textit{kāśatē} (“to appear, to shine”), unclear

\begin{itemize}
  \item $\leftarrow$ ie. root \textit{*kwekē}$
\end{itemize}

Perhaps related to \textit{cakṣ}.

\textit{kāś} 1. class: \textit{kāśate} (“to cough”)  
\textit{kāś} f./\textit{kāsā} (“cough”)  
\textit{kāsa} (“cough”)  

\begin{itemize}
  \item $\leftarrow$ ie. root \textit{*kwāś}$
  \item $\rightarrow$ nhg. \textit{husten} (“to cough”)  
\end{itemize}

280
E.3. Velar stops

*kup* 1. class: *kupyati* ("to be angry")

*kôpa* ("anger")

← ie. root *keup* ("to boil, to be agitated")

→ lat. *cupiō* ("I desire strongly"), lat. B *cupid* (name of god of love), *cupidity* ("lust, desire, greed")

**kuṭi** f. ("bending, curve")

**kuṭila** ("bent, curved, deceitful")

**kâṭiliya** ("deceit, falsity")

**kâṭiliya** (author of the *Arthashaśstra*)

*kulam* ("house, herd, family")

*kulāla* ("producer of objects with holes → potter")

*kulāla-cakram* ("potter’s wheel")

If the original meaning of *kula* is "hole → house → family", then

← ie. *kol*

→ e. *hole, hollow ~ nhg. hohl* ("hollow")

But see s.v. *śānya*.

**kulva** ("bald, bare")

← ie. *kHv*

→ lat. B *calvary* (skull-shaped hill in Jerusalem, the site of Jesus’ crucifixion)

**kū** 1. class *kavatē* /

2. class *kauti//kavīti* ("to cry, to sound")

ā-kū-ṭa ("meaning, intention") PPP (Lar V)

*kavi* m. ("wise, poet") ← ie. *kovh1*- (the laryngeal makes the syllable closed so that Brugmann’s law Lo does not apply)

← ie. root *keuh1*

→ lat. B *caution* and the lat. warning "cave canem" ("beware of the dog")

~ germ.

◊ e. to show ~ nhg. *schaun*

◊ e. *shy ~ nhg. schen* where "careful" is the underlying meaning

◊ nhg. *scheuchen* ("to shoo"), *Scheusal* ("means for shooing/ what one shies away from → monster")
E. Etymological dictionary

\(kūpa\) (“pit, hole”)
\(\leftarrow\) ie. \(^{*}kupa/ kūpa\)
\(\rightarrow\) lat. \(cūpa\) with B \(cup\)
\(\sim\) e. (bee) hive

\(kṛ\) 8. class: \(kārōti\) (“to make”)
\(kara\) (“maker \(\rightarrow\) hand”)
\(su-kara\) (“doable”)
\(pra-kṛta\) (“made, accomplished”) and
\(prakṛti\) f. (“nature, basis, cause”)
\(saṃ-s-kṛta\) with unclear s before k

\(kṛt\) 7. class: \(kṛṇatti\) (“to spin”)
mi. \(kaṭa\) (“mat”) \(\leftarrow\) \(karta\) where r is dropped while cerebralizing \(ṭ\) (pp. 57)

\(kṛt\) 6. class: \(kṛṇtādī\) (“to cut”)
\(\leftarrow\) ie. root \(^{*}(s)ker(t)\)
\(\rightarrow\) e. \(shear\) \(\sim\) nhg. \(scheren\) (“to shear”)
\(\sim\) maybe e. \(hard\) \(\sim\) nhg. \(hart\)

See also \(carman\) (“leather”).

\(kṛp\) f. (“look, beauty”)
\(kṛṣ\)-\(s\)-\(na\) (“bodily \(\rightarrow\) complete, whole”) \(\leftarrow\) \(kṛp\)-\(s\)-\(na\) (by BA because s is a dental sound!)
\(\leftarrow\) ie. root \(^{*}krep\)
\(\sim\) lat. \(corpus\) with
\(\diamond\) B in English \(corps\), \(corporation\),
\(\diamond\) B in German \(Körper\) (“body”)

\(kṛp\) 1. class: \(kṛpatē\) (“to lament, to moan, to beg”)
\(kṛpā\) (“compassion”)
\(kṛcchra\) (“difficult, dangerous”) \(\leftarrow\) n.at. \(kṛp-ra\) (difficult)
\(\leftarrow\) ie. root \(^{*}krep\)

282
→ lat. *crepāre ("to make a sharp loud noise") with B in dis-crep-ancy ("difference in sound or opinion")

**kṛśa** ("thin")

*kraś-īyans* (comparative, "thinner")

*kraś-īṣṭha* (superlative, "thinnest"), see e. *st* as in thinnest (*Lar*_CH*)

**kṛṣ** 1. class: *karṣāti* ("to draw (a furrow), to pull, to drag")

**kṛṣaka** ("farmer")

**kṛṣivāla** ("farmer") where it would certainly be nice to relate *val* to nhg. wühlen ("to dig into")

**karṣū** ("furrow")

**kṛṣṇa** ("the colour of the earth after furrowing → black")

**kṛṣṇa** ("the colour of the earth after furrowing → black")

**kāryman** n. ("furrow, the target designated by a furrow → race target")

**kaṣ** 1. class: *kaṣāti* ("to rub, to rasp") ← *karṣ* where *r* is dropped, but *s* already cerebralied (pp. 57) and also

◊ **kaṣṭa** PPP ("harsh, severe")

◊ **nikaṣa** ("touchstone, criterion")

See also *car* ("to go")

**kṛ** 6. class: *kiriṭi* ("to outpour, to sprinkle")

**kīr-yā** PPP (pp. 118)

**kīr-i** ("who outpours fame or praise → poet")

**ci-kar-i-s-u** (pp. 133)

← ie. root *kerH*

**kētu** m. ("brightness"), see *cit*

← ie. root *keit* ("to be bright") ← ie. *kāi* ("to shine, to burn")

**kōka/ kōkila** ("cuckoo")

← ie. *kouk*

~ e. *cuckoo ~ nhg. Kuckuck (without application of NHG_C) (doubtful, probably just independent onomatopoetic development)
E. Etymological dictionary

**kôvida** (“experienced”) ← **kas vida** (“who knows”) by CpLz

**kratu** m. (“power, energy”)
←  ie. *krelu* (“to freeze, to form a crust”)
→  gr. B demo-cracy
≈  maybe e. hard  ~ nhg. hart

**krand** 1. class: **krandati** (“to lament, to cry”)
←  ie. root *kel*
→  lat.
   ◎ clárus (“loud, clear, famous”), calâre (“to call out, to call together”), clamare, and con-ciliâre (“to join, to make friends with”)
   ◎ B clear, to clarify, clarinet, declaration, council, to claim, and calender (i.e., the days to be called out, the first day of the month when taxes and other monthly payments are due)
≈  nhg. hell, Hall (“resonance”), holen (“to call → to fetch”)

**kravis / kravyam** (“raw meat, clotted blood”) (**Lar_V**)
**krūra** (“bloody, raw, cruel”) ← ie. zero grade *kruh2-ro* (**Lar_V**)
←  ie. *krelu2* (“to freeze, to form a crust”)
→  ogr. kreas (“meat”) (**OGR**) with gr. B crystal (originally “fossilized ice”)
≈  lat. cru-or (“blood”) and
   ◎ crūdas (“raw, clotted”) with lat. B crude, cruel
   ◎ crūsta (“crust, bark”) with lat. B crust (in German: Kruste)
≈  e. raw  ~ nhg. roh  ←  ohg. hrō

**krī** 9. class: **krīṇāti / krīṇīlē** (“to buy”), see p. 188
**vi-krī** (“to sell”)
←  ie. root *kwrēih2*

From *kwrī-neh2-ti*, one should expect *kriṇāti*, with short *i*, instead. See pp. 87.

**krūd** 1. class: **krūdati** (“to play”)

284
E.3. Velar stops

← ie. *krisd (compare nīdam ← ni-sd-am)

**krūš** 1. class: **krōšati** (“to cry, to lament”)
**krōș-tar** (“shrieker → jackal”) p. 100
**kra-kar-a/ kṛ-kar-a** (“partridge”)
← ie. root *kreuk/ *kreuk

≈ e. croak ~ nhg. krächzen (doubtful, may just be independent onomatopoetic development)

**klam** 4. class: **klāmyati** (“to tire”) where walking is tiring:
**kram** 4. class: **krāmyati** (“to walk”), perhaps confusion with otherwise unrelated śram
**krānta** PPP (Lar_ CH, BA)
← ie. root *krelM

**klid** 4. class: **klidyati** (“to get wet”)
**klīnna** PPP (compare p. 110)
**klēda** (“wetness, humidity, decay”)

**klōman** m./n. (“right lung”), possibly dissimilated from **plōman**
← ie. *pleumon (“swimmer → lung”), see pr
→ lat. B pulmonary, pulmology (with second Greek (!) part)

**kṣatram** (“government, leadership”)
**kṣatrija** (“ruling, warrior, ruler”)

**kṣam** f. (“earth”)
← ie. *dhīhom (SIB, see p. 44)
→ ogr. chthōn with B chthonic (“coming from the earth”), with metathesis of the initial consonants

≈ lat.
◊ humus (“earth, ground”) with B hum-ble, humility
◊ homō, hominis (the initial dental plosive of the cluster drops) with B homunculus, human

285
E. Etymological dictionary

∼ nhg. Bräutigam (the initial dental plosive of the cluster drops)

\textit{kṣi} 2. class: \textit{kṣēti} ("to dwell, to possess, to rule")
\textit{kṣīdī} f. ("earth, living place")
\textit{kṣēma} ("habitable, comfortable")
\textit{kṣētram} ("field, place")

\textit{kṣi} 9. class: \textit{kṣīpāli} ("to destroy, to perish")
\textit{kṣīlī} f. ("destruction, doom")
Nomads dwell in a certain place for a while until that place has become destroyed. From that point of view, the first meaning may have lead to the second one.

\textit{kṣip} 6. class: \textit{kṣipati} ("to throw, to dash")
\textit{kṣipta} PPP
\textit{kṣipra} ("fast, quick")
\textbf{\textit{kṣēp-īyans} (comparative, "quicker")}
\textbf{\textit{kṣēp-īṭha} (superlative, "quickest") (Lar\_CH)}
\textit{kṣēpa} ("shot")
\textit{kṣēpā} adv. ("fast")

\textit{kṣud} 1. class: \textit{kṣōdāti} ("to stamp, to crunch")
\textit{kṣuṇa} PPP (p. [110])
\textit{kṣudra} ("small, miserable, mean")
\textbf{\textit{kṣōd-īyans} (comparative, "small")}
\textbf{\textit{kṣōd-īṭha} (superlative, "smallest")}

\textit{kṣudh} 4. class: \textit{kṣudhyati} ("to be hungry")
\textit{kṣudhita} PPP
\textit{kṣudh} f./ \textit{kṣudhā} ("hunger")

\textit{kṣubh} 4. class: \textit{kṣubhyati}/ 1. class: \textit{kṣōbhatē} ("to tremble, to be excited")
\textit{kṣubha} PPP
← ie. root *kseubh
→ e. to \textit{shove, shovel} (NHG\_E)

∼ nhg. \textit{schieben, Schub} (GER) and also somehow \textit{Schaufel, Schippe}

286
E.3.2. *kh*

*khān* 1. class: *khanati* (“to dig”)

*khāṭa* PPP (see p. 118)

*khanitram* (“shovel”) (compare p. 101)

*khani* f. (“pit, mine”)

→ ie. root *kh₂enh₁*

*kham* (“hole, hole containing the axis, air space”)

*sukham* (“smoothly moving axis in the kha → fortune, happiness”)

*kha-ga* (“bird”), see pp. 78

*kha-jalam* (“air space water → dew, fog”)

khād 6. class: *khādati* (“to eat”)

Non-sensical suggestion: kh-ad, see ad

*khila* (“wasteland, rest”)

*khīṭi kr* (“to empty”)

*a-khilam* (“everything, universe”)

*a-khilenā* (“in its entirety, all in all”)

E.3.3. *g*

*gad* 1. class: *gadati* (“to say”)

*gada* (“illness ← result of a curse or cause of a feverish babble”)

*a-gada* (“not ill”)

*a-gada* (“medicine”)

A root with two voiced unaspirated consonants is very rare. It may be a mockword reflecting unnatural pronunciation.

*gandha* or *gandham* (“smell, odor”)

*su-gandhi* (“fragrant”)

*gabha* (“spreading of thighs → vulva”) (DA)

*gabhasti* m. (“arm, hand”) (DA)

← ie. root *ghebh*/ *geb* (“to grab, to hold”)

→ lat.

287
E. Etymological dictionary

◇ habere with B habit, habilitation, in-hibition (see p. 66), ex-hib-ition
◇ habitâre (frequentative of habere) with B habitation

∼ e. to give ~ nhg. geben (but see s.v. āp)

and finally from ie. *ghebbhot (“crotch, especially at the top of a house = gable”)

→ ogr. kephalē (OGR, a Greek version of DA) (“top, head”) with B cephalic, cepha-

logram ←

∼ e. gable ~ nhg. Giebel, Gabel (“fork”)

But not e. to have ~ nhg. haben, see šap

**gam** 1. class: **gacchati** (“to go”)

<table>
<thead>
<tr>
<th><strong>gam</strong> (“to go”)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>present tense</strong></td>
</tr>
<tr>
<td><strong>infinitive</strong></td>
</tr>
<tr>
<td><strong>PPP</strong></td>
</tr>
<tr>
<td><strong>future</strong></td>
</tr>
<tr>
<td><strong>imperfect</strong></td>
</tr>
<tr>
<td><strong>perfect</strong></td>
</tr>
<tr>
<td><strong>them. aorist</strong></td>
</tr>
<tr>
<td><strong>desiderative</strong></td>
</tr>
</tbody>
</table>

1. **BA**
2. **SY_N**
3. i in future or desiderative forms is spilled over from laryngeal verbs.
4. The perfect forms are regular. The sg. is the o-grade plus Lo, the pl. the zero grade (see section C.7, pp. 188).
5. Thematic aorist, but in full grade

On the one hand: **gam**

← ie. *gʷem (see also gā below)

→ gr. B basis with zero grade (**IE_SY_N**) and gr. B acro-bat (“someone who tiptoes”) (for akro- (“top, summit, castle”) see āsman)

∼ lat. (**LAT_v**) venire with B inter-ven-tion, con-vent, con-ven-tion, advent (“co-

ming of Jesus Christ”), e-vent, prevention

288
E.3. Velar stops

\[ \sim \text{ nhg. } \textit{kommen, bequem} \]

On the other hand, with \( \text{sk}-\)suffix: \textit{gacchati} (SIB)

\[ \leftarrow \text{ ie. } *g^m\text{o-}\text{sk} \]

\[ \rightarrow \text{ ogr. } \text{ba-sk-ō} \]

Compare \textit{is}, \textit{ichhatai} (“to wish”), \textit{pracch}, \textit{prochchati} (“to ask”), and \textit{yam}, \textit{yacchati} (“to hold, to restrain”).

\textit{gaya} (“life, possession, dwelling place, family”), see \textit{fēv}

\textit{garudā} (name of a mythical bird)

\textit{garut} m. (“wing”)

\textit{garutman} (“winged one \(\rightarrow\) bird” = \textit{garudā})

These three words are related, but in a difficult manner.

\textit{garj} 1. class: \textit{garjati} (“to roar, to thunder”)

\textit{gaja} (“elephant”), but unclear

\textit{garbha} (“womb, embryo”)

\[ \leftarrow \text{ ie. } *g^w\text{olbh} (“to grab, to hold”) \]

\[ \rightarrow \text{ ogr. } \text{a-}\text{delphos (“from the same womb }\rightarrow\text{ brother”) with place name } \textit{Phil-a-delphia} \]

where the \(a\) is related to \textit{oi}. \textit{sam}

\textit{gar} (“to gulp, to swallow up”)

\textit{gara} (“swallowing”)

\textit{garam} (“potion”)

\textit{aja-gara} (“one who swallows a goat \(\rightarrow\) serpent”)

with \textit{rl}

\[ \diamond \textit{gal} 1. \text{class: } \textit{galati} (“to drop, to trickle”) \]

\[ \diamond \textit{gala} (“neck”) with \textit{gala-dvāram} n. (“throat door \(\rightarrow\) mouth”) \]

\textit{grīva} (“neck”)

\textit{sugrīva} (“one with a beautiful neck”, name of the monkey king who helps Rāma recover Sītā who was abducted by Rāvana)

\textit{daśagrīva} (“one with ten necks”, i.e., Rāvana)

\textit{gā} 3. class: \textit{jigāti} (“to go”)

\textit{gā-lram} (“instrument for going \(\rightarrow\) body limb”)

\textit{gā-tu} m. (“place for going \(\rightarrow\) course, lane”)
E. Etymological dictionary

← ie. root \*gwəh₂

Compare gam.

\textit{gā/gāi} 1. class: \textit{gāyati} / 2. class: \textit{gāti} (“to sing”)
\textit{gātha/gāthā} (“singing”)
\textit{gāthaka} (“singer”)
\textit{gīla} PPP by laryngeal metathesis (compare p. 335) from \*giH-to ← \*gHi-to
← ie. root \*geH-i

\textit{gup} 10. class: \textit{gōpāyati} (“to protect cows → to protect”)
\textit{gō-pā} (“herdsman, cow protector”), see \textit{gō} (“bull, cow”) and \textit{pā} (“to protect”)
\textit{gō-pā-yati} is a denominative and is derived from \textit{gōpā}. This explains long \(ā\) which we do not otherwise see in the 10. class. Originally, an oi. root \textit{gup} did not exist. Splitting \textit{gōp-āyati} rather than \textit{gō-pā-yati} the root \textit{gup} came into being. Stated differently, the oi. root \textit{gup} is obtained by back-formation, for example

\begin{tabular}{|c|c|}
\hline
PPP & with 10. class: \\
\hline
\textit{lap-ta} & \textit{lōpayati} \\
\hline
\end{tabular}

just as

PPP \textit{gup-ta}, falsely with 10. class: \textit{gōpāyati}

\textit{gō} m./f. (“bull, cow”) \\
\textit{gō-pā} m. (“herdsman, cow protector”), for second part, see \textit{pā} \\
\textit{gō-pāla} (“herdsman, cow protector”), for second part, see \textit{par} \\
\textit{gō-pati} m. (“lord of cows, ruler, bull”), for second part, see \textit{pati} \\
\textit{gō-lama} (“possessing many cows → rich”) \\
\textit{gō-tram} (“cowshed”) \\
\textit{gō-stha} (“where the cows stand → cowshed”), for second part, see \textit{stā} \\
\textit{gō-dhā} (“sucking cows” → name for a kind of lizard), for second part, see \textit{dhē}
← ie. \*gwou

→ ogr. \textit{bou-kolos} (“cowherd”) ∼ oir. \textit{bua-chail} (for second parts, see \textit{car})

∼ lat. dialectal \textit{bōs, bovis} with bovine spongiiform encephalopathy (short: BSE) and beef (English, but from Norman invasion)

∼ e. \textit{cow} ∼ nhg. \textit{Kuh}

guru (“heavy”) with \textit{guru} m. (“teacher”)
\textit{gar-īyans} (comparative, “heavier”) \\
\textit{gar-īṭha} (superlative, “heaviest”)
\textit{gārvan} m. (“heavy object → stone”)
E.3. Velar stops

← ie. *gʰᵊ₇h₂u
→ gr. B barometer
~ lat. B gravity

guh 1. class: guhāti ("to hide")

<table>
<thead>
<tr>
<th>guh (&quot;to hide&quot;)</th>
</tr>
</thead>
<tbody>
<tr>
<td>present tense</td>
</tr>
<tr>
<td>gūh-a-ti (2)</td>
</tr>
<tr>
<td>PPP</td>
</tr>
<tr>
<td>gūḍha (1)</td>
</tr>
<tr>
<td>imperfect</td>
</tr>
<tr>
<td>a-gūh-a-t (2)</td>
</tr>
<tr>
<td>perfect</td>
</tr>
<tr>
<td>ju-gūh-a (2, 3)</td>
</tr>
<tr>
<td>sa-aorist</td>
</tr>
<tr>
<td>a-ghuk-š-a-t (5)</td>
</tr>
<tr>
<td>desiderative</td>
</tr>
<tr>
<td>ju-ghuk-š-a-ti (6)</td>
</tr>
</tbody>
</table>

1. PPP gūḍha is perfectly regular:
   ie. *ghuḥ-to (z.g. with to PPP marker)
   → guḍ-dho (DA and ASh)
   → guz-dho (sz before voiced stop)
   → guz-dho (RUKI)
   → guz-ḍha (CerD, aā)
   → guḍ-ḍha (CpLz)

2. gūh-a-ti for expected full grade gōh-a-ti. Levelling may be responsible, see PPP gūḍha.

3. The perfect reduplication with ju is analogic secondary palatalization as in cu-kṣōbh-a (p. 192). However, one should expect the strong form 3. pers. sg. ju-gōh-a.

4. Expected weak form ju-guh-us.

5. sa-aorist with expected appearance of aspiration from ie. root *gheuṣḥ

6. Expected appearance of aspiration as in future form bhōt-sy-a-ti (pp. 38, 105). Palatalization of the reduplicated syllable may be due to analogy from desideratives with î in the stem, i.e., ju-ghuk-š-a-ti similarly to ji-gam-î-š-a-ti.

← ie. root *gheuṣḥ

9. class: gryāṭi ("to mention with praise")
gūṭa ("agreeable, welcome")
gūṭi f. ("praise")
E. Etymological dictionary

← ie. root *gwerH ("to welcome")
→ lat. B grate-ful, grat-uitous, con-grat-ulation, grac-ious

grdh 4. class: grdhyati ("to be greedy") (DA and section r1)
grddha PPP
gardha ("greed")
grdh-yā ("greed")
grdhra ("greedy")
grdhra ("vulture")

← ie. root *gheldh
→ nhg. ver-gelten ("compensate"), Geld ("money")
garh ("to lament") and grabh ("to take, to grab") may somehow be related

grham ("house") ie. *ghr dho (DA and p. 53)
← ie. root *gherdh ("to surround")
→ Slavic placenames like Bel-grade

∼ lat. hortus ("garden") ← ie. t (!)-extension *ghor-to → lat. B horti-culture and possibly (but see s.v. hr) cohort

∼ germ.
  ◊ e. garden ~ nhg. Garten
  ◊ e. to gird, girdle ~ nhg. Gurt ("belt")

granth 9. class: grathnāti ("to bind, to wind")
grantha ("knot, text, book") (Lar_CH)
granthin ("reading books")
grathita PPP (SY_N)
← ie. root *grenth2 and more basically ie. *ger ("turning, to bend, to braid")
→ germ.
  ◊ nhg. krenzen ("to produce or attach something wound") and hence nhg. Kranz
  ◊ nhg. Kringel ("small circle")
  ◊ nhg. krank ("bent, buckled → ill")
  ◊ nhg. Krampf ~ e. cramp

Similar to grabha ("capture", see grabh below), observe
E.3. Velar stops

Revisit subsection C.2.5 (pp. 87) and compare *granth* with *pū*:

<table>
<thead>
<tr>
<th>class</th>
<th>*gana sign</th>
<th>√ (f.g.)</th>
<th>3. pers. sg.</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>*ne</td>
<td>*yeuŋ</td>
<td>*yu-ne-ŋ-ti</td>
</tr>
<tr>
<td>9</td>
<td>*ne</td>
<td>*peuH</td>
<td>*pu-ne-H-ti</td>
</tr>
<tr>
<td>9</td>
<td>*ne</td>
<td>*grentH</td>
<td>*(gr)nte-H-ti</td>
</tr>
</tbody>
</table>

The last line should yield *gratnāti* by SY_ N and Lar_ CH instead of *grathnāti* above. The latter is to be explained by levelling, for example by

<table>
<thead>
<tr>
<th>gratnāti</th>
</tr>
</thead>
<tbody>
<tr>
<td>influenced by</td>
</tr>
<tr>
<td>turns into</td>
</tr>
</tbody>
</table>

**grabh** (later **grah**) 9. class: grbhnantī/ grhntī (“to seize, to take”), see subsection B.3.10 **grabha** (capture)

**grabhtā** PPP with unexpected full grade and unusual long ũ

**grabhntar** (“capturer”) with expected full grade (pp. 100), but funny long ũ

← ie. root *ghrebh

→ germ.

◊ e. to engrave, grave

◊ nhg. graben (“to dig”), Grab (“grave”), Grabe (“pīt”), grübeln (“to brood”)

◊ iterative variants e. to grope ~ nhg. greifen and nhg. Graft (out of use) ~ Dutch gracht with ch as in nhg. Nichte (see naptar)

The oi. root **grabh** (in full grade) and in particular forms like **grabha** (“capture”) show this development:

<table>
<thead>
<tr>
<th>ie.</th>
<th>*ghrebh2-o</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>*ghrebh-o (Lar_ CH)</td>
</tr>
<tr>
<td></td>
<td>ghrabh-a (aa)</td>
</tr>
<tr>
<td></td>
<td>grabh-a (DA)</td>
</tr>
</tbody>
</table>

Similar to **grathnāti** (see **granth**), observe
E. Etymological dictionary

<table>
<thead>
<tr>
<th>class</th>
<th>*gana sign</th>
<th>√ (f.g.)</th>
<th>3. pers. sg.</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>*ne</td>
<td>*yeuś</td>
<td>*yu-ne-ś-ti</td>
</tr>
<tr>
<td>9</td>
<td>*ne</td>
<td>*peuH</td>
<td>*pu-ne-H-ti</td>
</tr>
<tr>
<td>9</td>
<td>*ne</td>
<td>*grentH</td>
<td>*grn-t-ne-H-ti</td>
</tr>
<tr>
<td>9</td>
<td>*ne</td>
<td>*ghrebH</td>
<td>*ghr-b-ne-H-ti</td>
</tr>
</tbody>
</table>

Again, by SY_N and Lar.CH, we should expect *grbṅāti rather than grbhṅāti above. And, again, levelling of the form

<table>
<thead>
<tr>
<th>grbṅāti</th>
</tr>
</thead>
<tbody>
<tr>
<td>influenced by grabha with aspirated t</td>
</tr>
<tr>
<td>turns into grbhṅāti with aspirated t</td>
</tr>
</tbody>
</table>

is responsible. It looks as if the laryngeal caused both the aspiration of b and the gana sign nā. We had a somewhat similar phenomenon with sthā, tiṣṭhati ("to stand") where the laryngeal of ie. *steh3 produced both the aspirated th or tḥ and also the PPP form sthita where i goes back to the laryngeal (see p. 22).

grāma ("troop, village") (Lo)

← ie. *h2грам-o
→ lat. grēmium ("lap, interior") and lat. B in German Gremium ("interior → committee")

E.3.4. gh

gharma ("heat")

← ie. *gʷherm/*gʷhorn
→ gr. B thermic, thermos bottle (OGR)

∼ lat. fur-nace

∼ e. warm

ghas 1. class: ghasati/ 2. class: ghas-ti ("to consume")
a-gdha ("not eaten"), see p. 47
ji-ghat-s-u desiderative

← ie. root *ghas
E.4. Palatal stops

E.4.1. c

cā ("and")
cēd ("if") ← ca + id (see kuv-id under kas)
← ie. *kwe
→ gr. te (OGR)
~ lat. que which is also enclitic: senātus populusque rōmānus (abbreviation: SPQR, "the Roman senate and people")

See pānča and na.

caks 1. class: caksatē/ 2. class: castē ("to see, to appear")
cakṣa ("eye")
cakṣus ("eye")
cakṣas ("eye")
cakṣan n. ("eye")
Probably, caks is the reduplicated form *kwe-kwe (SPal, SIB) ← ie. *kwek, see kāś ("to appear, to shine")
One obtains

ie.*kwe-kwe-tai (3. pers. sg. pres. tense ātm.)
→ ce-kwe-tai (SPal)
→ caks-te (SIB)
→ caks-te (CCl)

cakram ("wheel, circle")
← ie. *kwe-kwe-lo, a reduplicated form from ie. *kwe (see car, cal)
→ gr. B cycle, en-cycl-ical, (en)cyclo-pedia, bicycle, re-cycle

catvāras (nom. pl. m.) "four"
catur "four times"
E. Etymological dictionary

← ie. *kʷetvōr (SPal, Lo)
→ gr. tétraedron

∼ lat. quattuor with B quadrat

∼ e. four ∼ nhg. vier

See turīya (“fourth”)

cand 1. class (“to be white, to glow, to shine”)  
candra (“shining”)  
candra (“moon”)  
candra-ka (“moon”)  
candra-vant (“bright as the moon”)  
candra-kānta (“lovely as the moon”), for second part see kāma (“wish, desire”)

← ie. root *(s)kend (s-mobile)
→ lat.

◇ incendere (“set on fire”) with B incense

◇ B candid (“white → frank”), candle, candidate (men standing for elections in ancient Rome wore white togas)

See chand.

cam 1. class: cāmati (“to slurp”)  
camūs (“bowl, army”)

cal 1. class: calati (“to move”)  
car 1. class: carati (“to go”) (rl), see cakram  
can-cal-yā-lē frequentative (p. 140) (“to stir, to quiver”)  
can-cal-a (“unsteady”).

← ie. root *kʷelh₁
→ ogr. bow-kolos (“cowherd”) ∼ oir. bua-chail (for first part, see gō)

∼ lat.

◇ colere (“be busy, to cultivate”) with B colony, clown, cult, culture and the German town Köln ← “Colonia Agrippina”

◇ collāre (“neck iron for slaves”) with B collar, collarbone and French collier (“necklace”)

◇ an-cul-us (“man-servant”) ← ie. *h₂mbh₁-kʷelh₁-os (for first part, see abhi) with lat. ancilla (“woman-servant”) and the B ancilla-ry (services)
E.4. Palatal stops

∼ nhg. Hal-s (“the mover, the turner → neck’)

kṛṣ (“to pull, to drag”) may also be related, from ie. *kṝol-ś.

carman n. (“leather”) (SPaI)
← ie. *(s)ker-men (“torn skin”)
→ nhg. Schirm, Herbst, Schere, scharf

kṛt (“to cut”) is a t extension.

ci 5. class: cinōti / 2. class: cēti / 1. class: cayati (“to stack, to arrange, to cover”)
caya (“layer, heap, pile, entity’)

ci 3. class: cikēti / 5. class: cinōti / 1. class: cayatē (“to notice, to sift through, explore”)
nis-ci (“to decide”)
niś-caya (“decision, certainty”)
niś-ci-tam (“surely”)
niś-ci-tam (“decision”)
related to cit (“to observe, to appear”) below
← ie. root *kṝei

It seems likely that ci (“to stack”) is related to ci (“to sift through”):

◊ If one sifts through a pile, one cannot help noticing.
◊ If one takes out of a heap, one makes a decision.

cit 1. class: cētati (“to observe, to appear”), see kētu

cékitē frequentitive verb

E.4.2. ch

chad 1. class: chad-āti (“to cover”)
a-ccha (“uncovered”) (see p. 66)
su-a-ccha (“pure, transparent”), see su

chand 10. class: chand-aya-ti (“to seem good, to please”)

chandas (“desire, delight, hymn”)
E. Etymological dictionary

← ie. root *(s)kend ("to shine, to appear") (s-mobile and SIB/ sP(h))
→ lat.
  ◇ *cend-ere ("to ignite, to set fire") with B incense
  ◇ *cand-ere ("to shine") with B cand-le

See cand.

chāyā ("shade")
← ie. root *skeh2 (SIB)
→ e. to shine ~ nhg. scheinen

chid 7. class: chī-na-t-ti ("to split, to cut")
chid-ra ("with holes, damaged"), see pp. 121
← ie. root *skeid (sP(h))
→ gr. B (church) schism

~ germ.
  ◇ e. to shit ~ nhg. scheißen
  ◇ with labial extension rather than the dental one above: nhg. Scheibe ("disc", cut from a tree), Schiefer ("slate")

cho 4. class: chyati ("to cut open, to skin")
← ie. root *skeh2 ("to split")
→ lat. B con-scious, science ("to know" ← "to distinguish, to make a decision")

E.4.3. j

jaks 2. class: ved. jākṣiti ("to laugh")
Probably, jaks is the reduplicated form *ghe-ghs (DA, SPal, SIB) ← ie. *ghes, see has ("to laugh")

jatu n. ("lac, gum")
← ie. *gʷet-u

298
E. 4. Palatal stops

→ lat. (via other languages that show ie. *gʷ → b) B bitu-men

jan 4. class: jāyatē (“to beget, to be born”)
jātu (“from birth, by nature, possibly”)
jana (“man”)
janaka (“father”)
janitar (“father”)

jan (“to beget”)

<table>
<thead>
<tr>
<th>Tense</th>
<th>1st sg.</th>
<th>3rd sg.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Present</td>
<td>jā-y-a-tē (1)</td>
<td>jā-y-a-tē (1)</td>
</tr>
<tr>
<td>Infinitive</td>
<td>jan-i-tum (2)</td>
<td></td>
</tr>
<tr>
<td>PPP</td>
<td>jā-ta (1)</td>
<td></td>
</tr>
<tr>
<td>Future</td>
<td>jan-i-sy-a-tē (2)</td>
<td>jan-i-sy-a-tē (2)</td>
</tr>
<tr>
<td>Imperfect</td>
<td>a-jā-y-a-ta (1)</td>
<td>a-jā-y-a-n-ta (1)</td>
</tr>
<tr>
<td>Perfect</td>
<td>ja-jānē (3)</td>
<td>ja-jān-irē (3)</td>
</tr>
<tr>
<td>Īs-aorist</td>
<td>a-jan-īs-ta (2)</td>
<td>a-jan-īs-ta (2, 4)</td>
</tr>
<tr>
<td>Desiderative</td>
<td>ji-jan-i-s-tē (2)</td>
<td>ji-jan-i-s-u (2)</td>
</tr>
</tbody>
</table>

1. The ie. full grade root is *jenH. The 4. class builds on the zero grade. By Lar_SY, jā-y-a-tē is regular from ie. *jenH-y-tei. Similarly, we have zero grades in imperfect and PPP.

2. By Lar_V, the laryngeal shows up as i between consonants in jan-i-tum ← *jenH-tum and in several other forms.

3. The (weak!) āmanēpada perfect endings are ē and irē for sg. and pl., respectively. Before these vowel-endings, the laryngeal regularly drops.

4. SY_N explains a-jan-īs-a-ta for 3. pers. pl. ending n-ta.

← ie. root *jenh₁

→ gr.

◊ B genealogy

◊ B genesis (in particular, the first book of the Old Testament that describes the creation of Earth and mankind)

∼ lat.

◊ B general (“pertaining to people of the same descent → shared by all”)

◊ B in-gen-eous

◊ B pre-gn-ant
E. Etymological dictionary

- (B) genus and pl. genera (LAT sr) \sim oi. jana (“people, person”)
- B germane (“having the same father and mother \rightarrow belonging, relevant”)
- natus in ante Christum natum (“before Christ was born”) and in the B nation, nature
- B indi-gen-ous
- B primo-gen-iture
- B co-gnate (“to be born with, related”), with ie. ğ still present

\sim e. kin(ship)

\sim nhg. Kind (“begotten”, formally a PPP)

See also jānu and ġāā.

jāni f. jāni (“woman, wife”)
← ie. *gw enh2 (Lar V)
→ gr. B gyn-ecology
\sim e. queen (compare quick under ġv)
\sim oir. ben (“woman”)

jānu n. (“knee”) (Lo)
← ie. *genu/ġonu
→ lat. B genu-flection
\sim e. knee \sim nhg. Knie

Related to ġāā and jan? Alternatively, the basic meaning of ie. *genu/ġonu is “curve” and this word is the same as hanu (“chin”)

jāmālar m. (“son-in-law”) (Lo)
← ie. *gomo/∗γem-ro
→ oirg. gambros (“son-in-law”) (for the b, compare ambrosia s.v. mr)

ji 1. class: jayati (“to conquer”)
jāyā (“who has been captured \rightarrow woman”) or from jan?
jāyā 2. class: jyāti (“suppress”) ← ie. *gy-eh2 (see pp. 79)
E.4. Palatal stops

← ie. *ǵei

jīhva ("Zunge")
← ie. *dı́ ǵ-vh₂

∼ lat. lingua franca with B linguist and in English language via French
∼ e. tongue ∼ nhg. Zunge
∼ nir. mo theanga féin ("my own" tongue in the sense of "language")

jīv 1. class: jīvati ("to live") ← ie. z.g. *ǵi³h₃v-e-ti by SPal and Lar_V
jīva ("living")
gaya ("life, possession, dwelling place, family") ← ie. *ǵo³i³h₃o (no SPal)
← ie. root *ǵ³i³h₃(v)
→ gr. B biology (OGR)

∼ lat. B vital, vitamin, Konvikt (in Germany: a flat shared by catholic students of theology), Viktualienmarkt (market place in Munich)
∼ germ.
 ◦ e. quick
 ◦ nlg. erquicken, quicklebendig
 ◦ nhg. keck

jus 6. class: jusatē ("to like, to enjoy")
jūsa ("satisfaction")
← ie. root *ǵeus ("to choose, to enjoy")
→ lat. gustus in "with gusto" and French "chacun à son goût" where the circumflex is reminiscent of eliminated s (as in hôpital)
∼ e. choose ← Old English œosan ∼ nhg. kiesen (old for "examine, choose") (NHG_E)
∼ nhg. kosten ("to taste, to enjoy") versus erkoren, Kür and Kurfürst by VER

jīr 1. class: jarati ("to waste away")
jīrṇa PPP ("wasted, aged")
jarā ("age")
E. Etymological dictionary

← ie. root *ǵṛ H-no
→ lat. grānum (in “cum grāno salis”) ← ie. *ǵṛ H-no (IE SY L) and B pomegranate or Granatapfel
~ germ.
◊ z.g. e. corn ~ nhg. Korn ← ie. *ǵṛ H-no (IE SY L)
◊ f.g. nhg. Kern

*jū North 9. class: *jānati (“to know”)
jijñāsa (“desire to find out → investigation”)
jijñāsanam (“desire to find out → curiosity”)

<table>
<thead>
<tr>
<th>jūa (“to know”)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>present tense</strong></td>
</tr>
<tr>
<td><strong>infinitive</strong></td>
</tr>
<tr>
<td><strong>PPP</strong></td>
</tr>
<tr>
<td><strong>future</strong></td>
</tr>
<tr>
<td><strong>imperfect</strong></td>
</tr>
<tr>
<td><strong>perfect</strong></td>
</tr>
<tr>
<td><strong>siṣ-aorist</strong></td>
</tr>
<tr>
<td><strong>desiderative</strong></td>
</tr>
</tbody>
</table>

1. The ie. root is *ǵen3. Consider

<table>
<thead>
<tr>
<th>class</th>
<th>*gana sign</th>
<th>√ (f.g.)</th>
<th>3. pers. sg.</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>*ne</td>
<td>*pu3</td>
<td>*pu-ne-H-ti</td>
</tr>
<tr>
<td>9</td>
<td>*ne</td>
<td>*jenH</td>
<td>*jēn-ne-H-ti</td>
</tr>
</tbody>
</table>

One should expect *ja-nā-ti rather than jā-nā-ti above. Note that jā regularly occurs in infinitive and future forms, but also irregular in PPP.

2. For 9. class verbs, the class signs are

◊ nā for strong forms and
◊ nī for weak forms.

However, the 3. pers. pl. is always like here: pu-na-nti, krīṇa-nti, jā-na-nti

3. The infinitive and the future are formed regularly from the full grade ġneh3 → jūa

4. Very unusually, the PPP is formed with the full grade. The regular weak form would have been *ǵṇ H-to → *jā-ta which is the regularly formed PPP of jan. Similarly, the desiderative forms are also irregularly built on the full grade.
5. The perfect endings are āu for sg. Here, as in da-d-āu from dā (“to give”), we seem to have weak forms also in the sg.

← ie. root *ǵneh₃

→ gr. B gnosis (“knowledge of God”), a-gno-stic (for the first part, see p. 66)

~ lat. B

◇ with g: co-gn-ition and re-co-gn-ize (compare co-gnate under jan)

◇ without g word-initial: to note, notion, no-bility

~ e. know ← Old English cnáwan

~ nhg. kennen (originally causative, see Gothic kannjan)

jñā seems a consequential verb (pp. 79) that is related to jan and perhaps also to jānu: The father recognizes his child by setting it on his knee.

E.5. Dental stops and nasal

E.5.1. t

taks 1. class: taksati / 5. class: taksṇōti (“to form by cutting”)
taks-an m. (“carpenter”)

← ie. root tek-s (“to produce”)/ ie. reduplicated root *te-tk-en (SIB)

→ gr. B technical from technē (← tek-sneh₂ where s is lost under aspiration of k)

~ lat. B tex-tile

tad

← ie. *tad

→ lat. is-tud

~ e. that

~ nhg. das

tan 8. class: tanōti (“to stretch”)
tanu (“thin”)
tanu f./ tanū (“body”)
tan-tram (“loom, teaching, manual”)
E. Etymological dictionary

<table>
<thead>
<tr>
<th></th>
<th>tan-ô-ti (3)</th>
<th>tan-v-an-ti (4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>present tense</td>
<td>tan-tum or tan-i-tum (1)</td>
<td></td>
</tr>
<tr>
<td>infinitive</td>
<td>ta-ta (2)</td>
<td></td>
</tr>
<tr>
<td>PPP</td>
<td>tan-i-s-y-a-ti (1)</td>
<td>tan-i-s-y-an-ti (1)</td>
</tr>
<tr>
<td>future</td>
<td>a-tan-ô-t (3)</td>
<td>a-tan-v-an (4)</td>
</tr>
<tr>
<td>imperfect</td>
<td>ta-tân-a (5)</td>
<td>tèn-us (6)</td>
</tr>
<tr>
<td>perfect</td>
<td>a-tan-i-t</td>
<td>a-tan-i-us</td>
</tr>
<tr>
<td>ñ-get-aorist</td>
<td>ti-tam-s-a-ti (7)</td>
<td>ti-tam-s-a (7)</td>
</tr>
</tbody>
</table>

1. The infinitive shows the full-grade form tan. The i in the second infinitive and also in the future forms (RUKI) does not go back to a laryngeal but has been produced by analogy.

2. **SY_ N**

3. See pp. 123 for an analysis of the 8. class: Instead of interpreting tan-ô-ti (i.e., as tan + gana sign ô), it is preferable to analyze ta-ñ-ô-ti as *tô-ne-u-ti instead.

4. The pl. tan-v-an-ti should be analyzed as ta-nv-an-ti, i.e. with SY_ N and gana sign nu (hV). Although tan and all other verbs of the 8. class are athematic, the thematic a is to be expected in the PR II par. 3. pers. pl. forms as in practically all athematic classes except the third one (p. 147). The same holds for imperfect a-ta-nv-an.

5. The o-grade perfect sg. ta-tân-a ← ie. *te-ton-e results from Brugmann’s law Lo as do, for example,
   ◦ ba-bhår-a ← bhṛ (“to bear”) or
   ◦ pa-pát-a ← pat (“to fall”).
See pp. 189

6. tèn-us or pêt-us (the latter from pat, “to fall”) are analogical built on zero-grade forms like
   ◦ sôd- ← ie. *se-sd- (root sad) or
See p. 193

7. Similar to mi-mam-s-a-tê (p. 128) ti-tam-s-a-ti
   ◦ is build irregularly from the full grade (the regular zero-grade desiderative of tan would be *ti-ta-s-a-tê by SY_ N
   ◦ shows anusvāra before s
E.5. Dental stops and nasal

← ie. root *ten

→ gr. B tone (strings (of violins) are stretched to produce a tone)

∼ lat.
  ◇ B ten-acious
  ◇ B ten-sion and with prepositions: de-ten-sion, pre-ten-sion
  ◇ B with preposition sub (s.v. upa): to sus-tain, sus-ten-ance
  ◇ B with preposition con: to con-tin-ue, con-tin-uous

∼ e. thin ~ nhg. dünn

∼ nhg. dehnen (“to stretch”)

tap 1. class: tapati (“to be hot, to burn”)
tapas (“heat, asceticism”)
tapoja (“born from heat”), CpLz

← ie. root *tep

→ lat. B tepid

-tama superlative suffix (Lar_SY)
pra-tama (see pra)
ul-tama (see ud)

← ie. *tmH-o

→ lat. in-timus (“inner”)

tamas n. (“darkness”)
tamisram (“darkness”) (no RUKI because of r after s)

← ie. *temHs

→ lat.
  ◇ tenebrae (pl., only), by dissimilation temHs-r → temas-r → teneb-r
  ◇ B temerity (“acting in the dark → audacity”)

tark 10. class: tarkayati (“to consider, to ponder”)
tarka (“science of reasoning, logic, consideration”)
tarku (“spindle”)
E. Etymological dictionary

← ie. root *terk

→ lat. torquere with PPP tortus (by regular simplification) and B in English torture, retort and B in German torkeln (from lat. torculum ("winepress"))

∼ nhg. drechseln

tíj 1. class: têjati ("to become sharp")

tig-ma ("sharp")

tišna ("sharp") (difficult long ɨ)

← ie. root *(s)teig ("to prick, to sting")

→ gr. B stigma

∼ lat. B in-stig-ation

∼ e. thistle ∼ nhg. Distel

tirás ("sideward, horizontal")

tirac ("sideward, horizontal"), see ańć

tirýac ("horizontally going (animal")

tila ("sesame plant, sesame corn")

táilam ("oil") → pa. têla → pkt. têlla (LawOfMorae)

tud 6. class: tudati ("to strike, to hit")

← ie. root *(s)teu(n)d

→ lat. B studère ("to be thrusting → to strive after") with B study

∼ nhg. stoßen ("to bump, to thrust")

turmra ("big, powerful") ← n.at. oi. root tum (see pp. 121)

← ie. root *teum

→ lat. B tumid, tumour, tumult

Perhaps related to tū.

turīya "fourth" (CC1, Lar V) with zero grade of both vowels compared to ie. *kwetvor

→ cateṣaras (nom. pl. m.) "four"
E.5. Dental stops and nasal

← ie. *kʷtur-iHo

tū 2. class: tauti (“to be strong, to have authority”)

← ie. *teu₇₄

→ lat. B tutor, tutelage

~ e. thumb ~ nhg. Daumen

tṛṣ 4. class: tṛṣyati (“to thirst”)

mi. tasati / tasyati with expected r → a and s → s

← ie. root *ters (“be dry”)

→ lat.

◊ lat. terra (“the dry one, the earth”) with B terrarium, territory, French sou-terrain

◊ B toast ← lat. tostus ← *torstos (“dried”)

~ e. thirst ~ nhg. Durst

tṛ 1. class: tarati / 4. class: tirati (“to cross, to rescue”)

tīrṇa PPP

tīṛṣati desiderative

tīran (“bank, shore”)

tīrtha / tīrtham (“ford, passage → ritual bath place”)

← ie. root *terh₂

→ og. tor-nos → lat. tornas → B in German Turnus (“cycle, rotation”), and, via French tourner, B in English tour, tourist and B in German Turnier (“having horses run in a cycle → competition”), whence Turner (“young fighter” → “gymnast”)

~ lat. trāns (“across, through”) ← pres.P ie. *trh₂nt-s (“crossing”) with B in English transnational, transgender, etc.

~ e. throw, e. thread ~ nhg. Draht (“wire”), nhg. drehen (“to twist”)

See trā.

tē, enclitic for pers. pron. 2. pers. sg. both gen. (for non-enclitic tava) and dat. (for non-enclitic tubhyam)
E. Etymological dictionary

← ie. *toi
→ ogr. toi

tē, 1. pers. pl. of tad
← ie. *toi
→ lat. is-tē
~ nhg. die

tyaj 1. class: tyajati (“to abandon”)
ti-tīk-s-u (“enduring patiently” which is semantically difficult)
← ie. root *tyegw
→ ogr. sebomai (“I worship, I am respectful”) with PPP sebastos (“venerable”) in PN Sebastian.

trayas (“three”)
← ie. *treyes
→ gr. B triad
~ lat. B triumvirate (for second part see vīra)
~ e. three ~ nhg. drei

tras 1. class: trasati (“to tremble”)
mi. tasati with expected tr → t
← ie. root *tres / *ters
→ lat. B terror, terrible

trā 2. class: trāti (“to save”)
Consequential of tr, see pp. 79

tvam (“you”)
← ie. *t-
→ lat. tū

308
E.5. Dental stops and nasal

~ e. thou ~ nhg. du

tvar 1. class: tvaratē (“to hurry”)
tūr-ṇa, tūr-la PPP
sa-tvaram adv. (“fast”)
a-tvārā (“without hurry → leisure”)
← ie. root *tverH

E.5.2. d

damś 1. class: damśati/ 10. class: damśayati (“to speak, to shine”)
pf.P dāśa corrupted from dāśva(n)s (“liberal, giving, a donor”), reduplicated from ie. *de-dk-vo- by (CPLdK) (see p. 224)
← ie. root *de(n)k

dakṣa (“fit, able”)
dakṣīṇa (“right” [right hand is the able one?], “southern” [facing eastward, the southern direction is on the right])
← ie. root *deks
→ lat. B dex-terity

dañḍa (“stick, punishment”), mi. where r has cerbralized ṇḍ.
← ie. *dendr-o
→ ogr. dendron (“tree”) with B rhododendron

danta, see ad

dabh 1. class: dabhati/ 5. class: dabhnōti (“to hurt, to destroy”)
dabh-ra (“little deficient”)
dah-ra (“small, fine”) (see subsection B.3.10)
dhip-s-a-ti (p. 132) desiderative
← ie. root *dhebh (“to build, to fit”)
E. Etymological dictionary

**dam** 4. class: *dāmyati* (“to tame”)

**dānta** PPP

**dāna** (“house”)

← ie. root *dem* (“to build, to fit”)

→ gr. B *despot* ← “dems potis (“lord of the house”, for second part see *pati*)

∼ lat. B *dome, dominate, domesticate*, Italian *madonna* (← *mea domina*, “Maria, the mother of Jesus”), French *madame*

∼ germ.

◊ e. *tame* ∼ nhg. *zahm*

◊ e. *timber* ∼ nhg. *Zimmermann*

◊ nhg. *ziemlich* (“fairly, tolerably” and, unusually, “properly”)

**daša** (“ten”)

← ie. *dekm*

→ ogr. *deka* with B *decade*

∼ lat. *decem* with B *dean* (“leader of 10 men, of a faculty”), *deciliter, decimate* (“to kill every 10. man”)

∼ e. *ten* ∼ nhg. *zehn*

Note ie. *dekmnt* (“a tenner”) in *pañcāsat*. See *śatām*.

**dah** 1. class: *dahati* (“to burn”)

<table>
<thead>
<tr>
<th></th>
<th>dah-a-ti (1)</th>
<th>dah-a-n-ti (1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>present tense</td>
<td></td>
<td></td>
</tr>
<tr>
<td>infinitive</td>
<td><em>dag-dhum</em> (2)</td>
<td></td>
</tr>
<tr>
<td>PPP</td>
<td><em>dag-dha</em> (2, 3)</td>
<td></td>
</tr>
<tr>
<td>future</td>
<td><em>dhak-sy-a-ti</em> (4)</td>
<td><em>dhak-sy-a-n-ti</em> (4)</td>
</tr>
<tr>
<td>imperfect</td>
<td>a-dah-a-t (1)</td>
<td>a-dah-a-n (1)</td>
</tr>
<tr>
<td>perfect</td>
<td><em>da-dāh-a</em> (5)</td>
<td><em>da-dah-us</em> (3)</td>
</tr>
<tr>
<td>is-aorist</td>
<td>a-dhāk-ṣ-t (4, 6)</td>
<td>a-dhāk-ṣ-us (4, 6)</td>
</tr>
<tr>
<td>desiderative</td>
<td><em>di-dhak-ṣ-a-ti</em> (3, 4)</td>
<td><em>di-dhak-ṣ-u</em> (3, 4)</td>
</tr>
</tbody>
</table>

1. From ie. *dhegʷh-e-ti*, *dah-a-ti* is obtained by DA and SPAI.

2. The infinitive *dag-dhum* results from both aspiration laws DA and ASh.
3. **DA** and **ASH** also operate to produce the PPP *dag-dha* which, however, irregularly uses the full grade. Irregular full grade is also seen in the desiderative.

4. The future forms belong to a class of verbs with aspirated voiced stops in both root-initial and root-final positions. Since **ASH** relieves the root-final velar of its aspiration (which cannot be assumed by *s* or *sy*), **DA** cannot be applied. Compare *bhot-sy-a-ti* (p. 38). Here, as in the aorist and the desiderative, the ie. root-initial aspiration is revealed within Sanskrit!

5. For the perfect sg. *da-dāh-a*, consult pp. 188 to see the how Brugmann’s law **Lo** produces the long ā.

6. Irregularly, this *i*-aorist (pp. 200) builds on the lengthened grade. Perhaps, since the PPP uses the full grade rather than the regular zero grade, the aorist employs the lengthened grade rather than the regular full grade.

   ← ie. root *dhegʷh

   → lat. B *fever*

dā 3. class: **da-dā-ti** (“to give”)

<table>
<thead>
<tr>
<th></th>
<th>da-dā-ti (1)</th>
<th>da-d-a-ti (2)</th>
<th>da-tum (3)</th>
<th>di-ta/dat-ta (4)</th>
<th>da-sy-a-ti (3)</th>
<th>da-sy-a-n-ti (3)</th>
<th>a-da-dā-t (1)</th>
<th>a-da-d-us (5)</th>
<th>da-d-āu (6)</th>
<th>da-d-us</th>
<th>a-dā-t</th>
<th>a-d-us</th>
<th>di-t-s-a-ti (7)</th>
<th>di-t-s-u (7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>present tense</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>infinitive</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PPP</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>future</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>imperfect</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>perfect</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>root aorist</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>desiderative</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. The sg. *da-dā-ti* is a strong form (in full grade) and goes back to *de-deh₃-ti*.

2. In contrast, the pl. *da-d-a-ti* is in zero grade. The 3. class does not exhibit the thematic *a* in par. 3. pers. pl. (which is present in the other athematic verbs) so that we find

   ◇ **bi-bhr-a-ti** ← *bi-bhr-ŋ-ti* or
   ◇ **da-d-a-ti** ← *de-dh₃ŋ-ti* (**Lar__CH**: the laryngeal *h₃* leaves no effect before the vowel ŋ).

3. The infinitive and the future show expected full grade.
4. The PPP di-ta is regular where the laryngeal turns into i between consonants. The irregular *datta may have this explanation: The present tense 1. pers. sg. *dad-ā-mi might be misunderstood as dad-ā-mi with root *dad whence a PPP *datta ← dad-ta (BA) would arise.

5. In the third class, the imperfect 3. pers. pl. has ending us so that we have zero grade a-da-d-us. By Lar CH, the laryngeal h₃ drops between consonant d and vowel u. Indeed, dā (“to give”) and dhā (“to set, to put”) are formed regularly with the zero grade. Irregularly, the full grade is present in most verbs of the third class, as in a-bi-bhay-us from bhī or a-bi-bhar-us from bhṛ).

6. The perfect da-d-āu exhibits

Diamond 3. pers. sg. ending āu and

Diamond weak form.

For similar examples like ta-sth-āu from sthā, see p. 192

7. The desiderative (see pp. 126) is formed by reduplication with i, zero grade and suffix s (or maybe H₃):

\[ *di-dh₃-s- \]
\[ → di-d-s- (Lar_V) \]
\[ → di-t-s- (BA) → di-t-s-a-ti \] he wishes to give
\[ → di-t-s-u \] wishing to give
\[ → di-t-s-ā \] desire to give

An irregular alternative desiderative didāsati exists where ā has been taken from da-dā-ti or other forms with long ā.

← ie. root *deh₃

→ gr. B dose (in German, closer to the original: Dosis) also gr. B an-ec-dote (originally “not edited”)

∼ lat. B date and data (PPP forms) with prefixes: lat. B e-dit, man-date, tra-dit-ion

\[ dā \] 4. class: dyā-ti (“to bind”) ← ie. *dH-ye-ti
\[ a-di-ti \] f. (“freedom, liberation”) ← ie. *n dH-ti (SY N; pp. 119 plus Lar_V)

← ie. *deH

dāru n. (“wood”) (Lo)

← ie. *doru

→ e. tree, true

312
E.5. Dental stops and nasal

∼ nhg. Treue, Trost, trauen where \( t \rightarrow ts \) is repressed—just try to pronounce tsneu.

dāš 1. class: dāšati / 2. class: dāstī / 5. class: dāsnoti (“to venerate, to consecrate”?–)
kāš ??warzum lang

dīkš 1. class: dīkša-tē (“to initiate, to consecrate”), desiderative ←“di-dē-s–” (CpLdk)

← ie. root *dek (“to receive, to embellish”)

→ lat.

◇ B decor, dig-nity

◇ desiderative: lat. discere (“to want to perceive → to learn”) or frequentative (“to take in repeatedly → to learn”) with iterative suffix ske (see gam, vānch)

◇ causative: lat. docere (← ie. causative *dek-eye-) (“to make perceive → to teach”) with B docile, document, doctor

dīmam (“day”), see dēva.

dīv 4. class: dīv-y-a-ti (“to play”)
dīpā-ta PPP (“gambling, gaming”)

← ie. root *deiHv (Lar_MTh)

See sir.

diš 6. class: dīšati (“to show”)
dīš f. (“hint, direction”)
dīšī f. (“hint, fortune”) with instrum. dišyā (“Thank God!”)
dēša (“region, land”)

← ie. root *deik

→ ogr. deik-nu-mi (“I show”) with B apo-dic-tic, para-dig-m, syn-dic-ate, all of them in zero grade

∼ lat. dicere (LAT_V) with zero-grade B ver-dict, e-dict, dictator, and, via Italian, in German

◇ ver-male-deit (“accursed”) and,

◇ from the rosary prayer “ge-bene-deit ist die Frucht deines Leibes, Jesus”.

∼ germ.

◇ nhg. ver-zeihen and also zeigen, Zeigefinger
E. Etymological dictionary

- e. toe ~ nhg. Zehe (i.e., finger (pointer) of the foot)
- e. token ~ nhg. Zeichen ("sign")

**dih** 2. class: **dêghdi** ("to smear")

<table>
<thead>
<tr>
<th>dih (“to smear”)</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>present tense</td>
<td>dêg-dhi (1)</td>
<td>dih-an-ti (3)</td>
</tr>
<tr>
<td>infinitive</td>
<td>dêg-dhum (1)</td>
<td></td>
</tr>
<tr>
<td>PPP</td>
<td>dig-dha (1, 2)</td>
<td></td>
</tr>
<tr>
<td>future</td>
<td>dhêk-şy-a-ti (4)</td>
<td>dhêk-şy-a-n-ti (4)</td>
</tr>
<tr>
<td>imperfect</td>
<td>a-dhêk (4, 5)</td>
<td>a-dih-an (3)</td>
</tr>
<tr>
<td>perfect</td>
<td>di-dih-ê (6)</td>
<td>di-dih-irê (6)</td>
</tr>
<tr>
<td>aorist</td>
<td>a-dhiks-us (4, 7)</td>
<td></td>
</tr>
<tr>
<td>desiderative</td>
<td>di-dhik-ş-a-ti (4, 8)</td>
<td></td>
</tr>
</tbody>
</table>

1. The origin is ie. *dheigh*. The full grade yields oi. é and the two aspiration laws DA and ASh lead to dêg-dhi and the infinitive dêg-dhum.

2. The PPP is also explained by the two aspiration laws, of course in zero grade.

3. Although athematic, 3. pers. PRII exhibits an. This holds for all verbs in the 2. class (except sâs, see [163]), but the 3. class shows just n (which would then turn into a).

4. The future form dhêk-şy-a-ti needs three observations:
   - Failed aspiration shift together with expected backward assimilation produces k from gh.
   - Very much like in dhôk-sy-a-ti ← ie. *dheugh-s* from duh ("to milk"), the ie. initial dh is revealed. No need for DA.
   - **RUKI**

5. a-dhêk is explained by CCl and AFP (pp. [44]). AFP is then followed by non-application of DA (similar to 4.).

6. The perfect forms are ātmanêpada and hence weak (pp. [188]).

7. It is not clear what type of aorist a-dhiks-us might be. For dh compare 4.

8. di-dhêk-ş-a-ti is expected desiderative in zero grade and without DA in the second syllable, but DA in the reduplication syllable.

← ie. root *dheigh
E.5. Dental stops and nasal

→ lat. fingere (“to build”) with present-stem nasal infix that is still present in
  ◦ Englisch to feign
  ◦ German fingieren (“to feign”), and
  ◦ German Finte (via Italian)

∼ lat. without the nasal infix, B figure, fiction (backward assimilation)

∼ nhg. Teig ∼ e. dough (also in doughnut = donut)

∼ e. la-dy ← Old English hleof-dīge (“woman who kneads dough → woman whose bread one eats”) where the first part hleof is e. loaf ∼ nhg. Laib.

dīrga (“long”) (rl, Lar _SY)
← ie. *dleHgh

→ lat. B longus with B long-itude

∼ e. long ∼ nhg. lang

dus (“bad, evil”), used in combinations such as
  ◦ dur-uktá (“bad word”)
  ◦ duh-kham (“misfortune”), see su-kham
  ◦ dur-ga (“place that is difficult to get at, danger”), see gam
  ◦ dur-gā (devi) (“inaccessible goddess, Shiva’s wife”)
  ◦ dur-bala (“without power”), see balam
  ◦ dus-krīt (“acting in an evil manner”), see krī

duh 2. class: dōgdhi (“to milk”)

<table>
<thead>
<tr>
<th>dih (“to milk”)</th>
</tr>
</thead>
<tbody>
<tr>
<td>present tense</td>
</tr>
<tr>
<td>infinitive</td>
</tr>
<tr>
<td>PPP</td>
</tr>
<tr>
<td>future</td>
</tr>
<tr>
<td>imperfect</td>
</tr>
<tr>
<td>perfect</td>
</tr>
<tr>
<td>sa-aorist</td>
</tr>
<tr>
<td>desiderative</td>
</tr>
</tbody>
</table>
E. Etymological dictionary

1. The origin is *dheugh or even dheugh₂ if the connection with duhitar is correct. The full grade yields oi. ḍ and the two aspiration laws DA and ASh lead to dōg-dhi and the infinitive dōg-dhum.

2. The PPP is also explained by the two aspiration laws, of course in zero grade.

3. Although athematic, 3. pers. PRII exhibits an. This holds for all verbs in the 2. class (except śās, see pp. 163), but the 3. class shows just n (which would then turn into a).

4. The future, the aorist and the desiderative reflect failed DA and then BA, and RUKI (which explain k-ṣ). DA cannot occur in the main syllable.

5. a-dhōk is explained by CCI and AFP (pp. 44). AFP is then followed by non-application of DA (similar to 4.).

6. The sg. perfect form is in parasmāipada and hence strong (pp. 188). The plural is regularly weak.

7. du-dhaks-a-ti is expected desiderative in zero grade and without DA in the second syllable, but DA in the reduplication syllable.

← ie. root *dheugh

→ ogr. tuchē f. (“hazard, luck”) (OGR, OGR_DA), compare Vedic dugha (“milk cow”)

It has been surmised that oi. duh is back-formation from duhitā (“daughter”)

duhitar f. “daughter”

← ie. *dḥug-ḥ₂TER (see p. 52)

→ ogr. thugatēr

~ e. daughter

~ nhg. Tochter

dūra (“far, distant”)

dav-ījams (comparative, “farther”)

dav-īṣṭha (superlative, “farthest”)

← ie. *dhuḥ₂-ro (“far, long”)

→ lat. B duration

316
E.5. Dental stops and nasal

drh 1. class: darh-a-li (“to make firm”)
dv-darh-i-śa (“he wishes to make firm”) desiderative, irregularly with full grade and “thematic” i
dṛḍha (“fixed, firm, tough”) PPP (see p. 116)
← ie. root *delāh
→ lat. B in-dul-gent (for in see p. 66)

dṛś 1. class: paśyati (“to see”)
dṛś-ta PPP (CerD)
dṛś f. (“sight”)
ī-dṛś, ǔryśa (“as seen → suchlike”)
darśanam (“seeing, system, revelation”)
← ie. root derk
→ ogr. derkomai

dṛ 9. class: dv-pā-li (“to break, to tear”)
didīr̥ṣati (“he wishes to tear”) desiderative (p. 133)
← ie. root *derH
→ gr. B der-mis, der-matology
∼ e. to tear ∼ nhg. xerren

dēva (“god”)
dīvya (“heavenly, divine”)
dīna (“day”)
prati-dinam (“every day”) ← prati + dinam
a-dya (“today”)
dyāus-pitar (“father of the the heaven”)
← ie. *dei
→ gr. god Zeus (“god of heaven and daylight”)
∼ lat.
◊ B divine, divinity, Latin phrase “deus ex machina” (with v-extension like oi. dēva and divya)
◊ god lū-piter ∼ oi. dyāus-pitar
∼ nir. Dia dhuit! (“God be with you” → “hello”)

317
E. Etymological dictionary

See hiyas.

dram 1. class: *dramati* ("to run, to move about")
dru 1. class: *dravati* ("to haste")
drā 2. class: *drāti* ("to run") ← ie. *dr-eh₂* (consequential, see p. 79)

← ie. root *der*/ *drem*/ *drev

dvā ("two"), see dvi below
dvādaśa ("twelve")
← ie. *du(v)īō* (*V + hV*)
→ gr. B duo-poly

~ lat.
○ duo with B duett, dualism, doubt ("which of two alternatives is correct?")
○ duo-decim (see díaśa) with B English dozen and German Dutzend
○ du-plus ("twofold, twice as much", for plus see pṛ ("to fill")) with B English double and German doppelt

~ germ.
○ e. two ~ nhg. zwei
○ e. twig ~ nhg. Zweig

dvi (see dvā above) used in combinations such as

○ dvi-pād ("with two feet") and similar in
  • ogr. dī-pous
  • lat. B bi-ped and
  • Old English twi-fête

○ dvi-dēvata ("for two goods")

○ dvi-ja ("twice born → Brahmin, bird"), for second part see also jan

○ dvi-bhuja ("with two arms")

○ dvi-vacana ("dual"), for second part see vac

○ dvi-jāni ("twice married"), for second part see jani

← ie. *dvis*/ *dvi
E.5. Dental stops and nasal

→ ogr. di and di póus ("with two feet") and gr. B (via Latin) di-ploma ("a certificate that is folded (twice)")

≈ lat.
   ◊ bi and lat. B bi-sexual, bi-annual, bi-lateral
   ◊ lat. dividere ("to separate, to divide") s.v. dhâ
   ◊ lat. bellum ← Old Latin deellum ("war between two parties"), but unclear

≈ nhg. composition form zwie with Zwieback ("rusk"), Zwirn ("thread, yarn"), Zwitter ("hybrid, hermaphrodite"), Zwiesprache ("dialogue"), Zwilling ("twin"), zwischen ("between two parts").

dvâr f. ("door") (with d instead of dh because of dvâ?)
← ie. *dhwer/dhar
→ lat. B forum
≈ e. door ≈ nhg. Tür and Tor

dviš 2 class: dvešti ("to hate")

<table>
<thead>
<tr>
<th>dviš (&quot;to hate&quot;)</th>
<th>present tense</th>
<th>infinitive</th>
<th>PPP</th>
<th>future</th>
<th>imperfect</th>
<th>perfect</th>
<th>so-aorist</th>
<th>desiderative</th>
</tr>
</thead>
<tbody>
<tr>
<td>dvêš-ti (1)</td>
<td>dvêš-tum (1)</td>
<td>dviš-ta (1)</td>
<td></td>
<td>dvêk-sy-a-ti (2)</td>
<td>a-dvêt (3)</td>
<td>di-dvês-a (4)</td>
<td>a-dvik-s-a-ti (2)</td>
<td>di-dvik-s-a-ti (2)</td>
</tr>
<tr>
<td>dvêš-an-ti (3)</td>
<td>dviš-an</td>
<td>dviš-ta</td>
<td></td>
<td>dvêk-sy-a-n-ti (2)</td>
<td></td>
<td>di-dviš-as (4)</td>
<td>a-dvik-s-a-n (2)</td>
<td>di-dvik-s-a-ti (2)</td>
</tr>
</tbody>
</table>

1. Assuming ie. *dveis, we obtain the present tense, 3. pers. sg.
   *dveis-ti (full grade)
   → dvēš-ti (DIPH)
   → dvēš-ti (RUKI)
   → dvēš-ti (CerD)

The infinitive dvēš-tum and the PPP dviš-ta (zero grade) can be explained in very much the same manner.

2. SIB
E. Etymological dictionary

3. *a-dvê-t* is regular:
   
   - *e-dveis-t* (full grade)
   - → *e-dveis-t* (DIPH)
   - → *e-dvês-t* (RUKI)
   - → *a-dvês-t* (CerD, aā)
   - → *a-dvê-t* (AFP)

4. The perfect forms *di-dvês-a* (strong form) and *dvi-dviş-us* (weak form) present no problems (see pp. 188).

← ie. root *dveis

dviş may well be related to dvis/dvi (“twice”).

dvis/dvi (“twice”), see duvā

E.5.3. dh

dhan 3. class: *da-dhan-ti* (“to run, to bear fruit”)
dhanya (“rich”)  
← ie. root *dhenh₂*

→ gr. B eu-thanasia (see su), thanatology (with euphemism “to run away → to die”)

∼ lat. B fountain

dhā 3. class: *da-dhā-ti* (“to set, to put”)
dhātar m. (“founder, preserver, fate”)  
śraddhā (“belief, trust”), see s.v.
svadhā (“custom, home”) ← sva + dhā, see s.v.
dvi-dhā (“twofold”)  
tri-dhā (“threefold”)  
vi-dhā (“to distribute, to determine”) with

◇ vi-dhi m. (“regulation, method, rite”)

◇ vi-dhēya gerundive (“which is to be determined”)

◇ vi-dhēya (“duty, obligation”)

320
E.5. Dental stops and nasal

<table>
<thead>
<tr>
<th>dhā (“to set, to put”)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>present tense</strong></td>
</tr>
<tr>
<td><strong>infinitive</strong></td>
</tr>
<tr>
<td><strong>PPP</strong></td>
</tr>
<tr>
<td><strong>future</strong></td>
</tr>
<tr>
<td><strong>imperfect</strong></td>
</tr>
<tr>
<td><strong>perfect</strong></td>
</tr>
<tr>
<td><strong>root aorist</strong></td>
</tr>
<tr>
<td><strong>desiderative</strong></td>
</tr>
</tbody>
</table>

1. The sg. *da-dhā-ti* is a strong form (in full grade) and originates from IE. *dhe-dheh₁-ti* by DA.

2. In contrast, the pl. *da-dh-a-ti* is in zero grade. The 3. class does not exhibit the thematic a in par. 3. pers. pl. (which is present in the other athematic verbs). Compare bi-bhr-a-ti ← *bi-bhr-n-ti* or da-d-a-ti ← *de-dh₃ₐ-ti* (Lar_CH: the laryngeal $h₃$ drops between consonant $d$ and vowel $n$).

3. The infinitive and the future show expected full grade.

4. For the PPP hī-ta, remember
   ◊ occasional word initial dh → h (p. 53) and
   ◊ Lar_V between consonants

5. In the pl., we have the expected zero grade, as in a-da-d-us from dā (“to give”).

6. The perfect da-dh-āu exhibits
   ◊ 3. pers. sg. ending āu and
   ◊ weak form.

For similar examples like ta-sth-āu from sthā, see p. 192.

7. The desiderative (see pp. 126) is formed by reduplication with i, zero grade and suffix s (or maybe Hs):

   *dhī-dhh₁-s-*
   → dhī-dh-s- (see Lar_V)
   → dhī-d-s- (*ASH, but s not aspiratable*)
   → dhā-t-s- (BA) → dhī-t-s-a-ti he wishes to set

A regular (!) alternative desiderative didhisati exists where the laryngeal does not drop.
E. Etymological dictionary

\[ *dhi-dhh_1\cdot s- \]
\[ \rightarrow dhi-dhi-s- \text{ (Lar}_V\text{)} \]
\[ \rightarrow di-dhi-s- \text{ (DA)} \]
\[ \rightarrow di-dhi-s- \text{ (RUKI)} \rightarrow \text{ didhis } \] he wishes to set

8. Finally, note 2. pers. pres. tense ātm. dhatṣē (not shown in the above table):

\[ *dhe-dhh_1\cdot soi \]
\[ \rightarrow dhe-dh-soi \text{ (see Lar}_V\text{)} \]
\[ \rightarrow dha-dh-sē \text{ (aā, DIPH)} \]
\[ \rightarrow dha-d-sē \text{ (ASH, but s not aspiratable)} \]
\[ \rightarrow \text{ dhatṣē (BA)} \]

In contrast, the corresponding 3. pers. dhat-tē is “wrong”. One should expect the bud-dha result:

\[ *dhe-dhh_1\cdot toi \]
\[ \rightarrow dhe-dh-toi \text{ (see Lar}_V\text{)} \]
\[ \rightarrow dha-dh-tē \text{ (aā, DIPH)} \]
\[ \rightarrow dha-d-dhē \text{ (ASH)} \]
\[ \rightarrow da-d-dhē \text{ (DA)} \]

However, proportional analogy produced

\[
\begin{array}{|c|c|}
\hline
\text{dā} & \text{with 3. pers. sg. pres. tense ātm.} & \text{dat-tē} & \leftarrow \text{*dāt-tē} \\
\hline
\text{just as} & & & \\
\text{dhā} & \text{with 3. pers. sg. pres. tense ātm.} & \text{dhat-tē} & \\
\hline
\end{array}
\]

Alternatively, one may surmise that a laryngeal somehow prevented ASh to affect the tē-ending.

← ie. root *dheh₁ (“to put”)

\[ \rightarrow \text{ agr. ti-thē-mi (OGR, OGR_ DA)} \]

◊ with k-extension (archaic) B apothecary (in German: Apotheke), B in German: Bibliothek, Theke

◊ with other extensions thesis and theme

◊ ogr. ēthos in B ethics (OGR_ DA twice, OGR_ DA) ← ie. *s(v)ed⁶us (see s.v. svadhā)

∼ lat.

◊ facere (“to make, to do”) with B af-fect, perfect, efficient, deficit, fak-simile, dif-fic-ult, fac-ulty, pre-fec-ture

◊ ponti-fex (“bridge maker”) and even: pontiff (for first part see s.v. panth)
E.5. Dental stops and nasal

- **dēvidere** ("to separate, to divide") ← ie. *dvi-dhh₁-* ("to separate, to distinguish")
  (for first part, see s.v. *dvi*; for second part, compare) with B *division*, *dividend*
- **cēdere** ("to go, to proceed") ← ie. *kys-dhh₁* (see s.v. *sidh* ("to interdict, to drive away"))
- B multi-*fa-rious*, compare oi. *dvi-dhā*

~ French *façon*, hence English *fashion*
~ germ.
- e. *do* ~ nhg. *tun*
- e. *deed* ~ nhg. *Tat*
- ending e. *-dom* ~ nhg. *-tum* in *Christendom*/*Christentum*

See also *dhē*.

**dhē** 3. class: *di-dhī-tē* ("to think, to reflect")
**dhū-ra** ("steady, head-strong"), see pp. C.4.6
← ie. root *dheiH*

**dhū** 5. class: *dhū-nō-li* / 6. class: *dhuvati* ("to agitate, to blow away")
**dhūma** ("smoke")
**dhū-li** f./m. ("dust, fog"), *l*-extension
← ie. root *dheuH* with *m*-extension or with other extensions
→ gr. B thyme
~ lat. B *fume* (*LAT_f*), *per-fume*, French *par-fumé* ("perfumed")
~ germ.
- e. *deer* ~ nhg. *Tier* ("animal", semantically similar *animal* s.v. *an*)
- e. to *doze* ~ nhg. *dōsen* ("to doze")/*Döskopp* ("dozy idiot") and also nhg. *Tor* ("intoxicated → fool")

**dhr** 1. class: *dhar-a-ti* ("to hold, to keep")
**dhar-ma** ("law, religion, duty")
**dhar-man** n. ("law")/*dhar-man* m. ("upholder")
← ie. root *dher* with *m*-extension
→ lat. B *firm* (*LAT_f*), to *con-firm*, *firm-ament*
E. Etymological dictionary

**dhrs** 5. class: *dhrsṇoti* ("to dare")

← ie. root *dhrs*

→ e. *dare* (but not nhg. *trauen*, see *dāru*)

**dhē** 1. class: *dhayati* ("to suck, to slurp")

*dhēnā* ("milk cow")

*dhēmu* f. ("milk cow")

*dhātrī* ("mursé"), but see *dhātar* under *dhā*

*dhāru* ("sucking")

*dhāsyu* ("willing to drink, willing to eat")

*gōdhā* ("sucking cows" → name for a kind of lizard), for first part see *gō*

← ie. root *dheh₁-i* (i-extension of ie. *dheh₁* s.v. *dhā*, here baby is put to mother’s breast)

→ lat. (**LAT_f**)  
  ◇ B *fe-candity*
  ◇ B *fe-licity* ~ ci. *dhā-ru*
  ◇ B *fe-minine*
  ◇ *fi-lius* ("son")
  ◇ B *fe-tus*
  ◇ B *fe-llatio*

**dhyā(i)** 4. class: *dhyā-ya-ti* ("to think, to contemplate")

**dhyā** 2. class: *dhyā-ti* ("to think, to contemplate")

*dhyā-nam* ("meditation") → pa. *jāna* → Zen (Buddhism)

*dhyā* consequental of *dhī*, see pp. [79](#)

**dhruti** f. ("leading astray, corruption, deception")

← ie. root *dhrēu*

→ lat. B *frau-d* (**LAT_f**)

E.5.4. **n**

**na** ("not, no")

← ie. *ne*, full grade of ie. *n* (see alpha privatium *a*)

324
→ lat. ne in B ne-gative, to ne-gate, to ne-glect
→ lat. neque ~ oi. na ca ("and not") ← ie. *nekʷe (see ca)
∼ nhg. nie ("never") ← ie. *ne + i (deictic particle, see iha)

naklam ("night")
← ie. *nokʷt
→ lat. B noc-turnal
∼ e. night ~ nhg. Nacht

nagna ("naked, bare")
← ie. *no-gʷ
→ with nasal prefix: ogr. gymnos with gr. B gymnastics
→ without nasal prefix
  ◇ lat. B nude
  ◇ e. naked

nadḥ ("to bind") (in dictionaries normally under nah)
naddha ("bound") PPP, see pp. 108 (SY_N)
naddhi f. ("binding") ← nadḥ-ti, see pp. 119 (SY_N)
← ie. root *nendḥ

nand 1. class: nandati ("to rejoice, to be satisfied")
ānanda/āṇandam ("delight"), hence
sānanda ("delighted") with first part sa ("together with")

nap-tar m. ("grandson")
← ie. *nepot ("male descendant other than son")
→ lat. B nepotism
∼ germ.
  ◇ e. nephew ~ nhg. Neffe
  ◇ e. niece ~ nlg. Nichte ← ie. *nepti f. (with Low German cht for Germanic ft, as in Dutch gracht s.v. grabh)
E. Etymological dictionary

It is thought that ie. *nepot might mean “not master → minor” (see pati).

**nabh** 1. class: nabhatê (“to burst”)  
**nabhas** (“sky, mist”)  
← ie. root *nebh  
→ lat. nebula with B nebulos  
~ nhg. Nebel  

Compare abhram and ambhas.

**nabhya** (“nave”)  
← ie. *h₃nebh  
→ lat. B umbilicus  
~ e. nave ~ nhg. Nabel

**nam** 1. class: namati (“to bow”)  
**nam-as** n. (“bowing, adoration”)  
**nam-ra** (“bowing down, humble”), see p. 122  
← ie. root *nem

**nara** (“man”)  
**nārāyāna** (epithet for Visnu)  
**snānāra** (“to have good men → powerful”) ← ie. *h₁su-h₂nero (Lar V), (for first part see su).  
← ie. *h₂ner (“be strong, possessing vital powers”)  
→ ogr. anēr, andros with B andrology (d inserted to ease pronunciation)  
~ lat. PN Ner-ð

**nava** (“new”)  
← ie. *nevo  
→ gr. B neo-liberal, Neolithic (OGR)  
~ lat. novus (LAT V) with B novice, renovate, innovate, novelty

326
E.5. Dental stops and nasal

∼ e. new ~ nhg. neu

nava ("nine")
← ie. *neun
→ lat. B November (LAT_V) ("the ninth month, with March being the first one in the Roman calendar")
∼ e. nine ~ nhg. neun

naš 4. class: našyati ("to reach, to attain")
ved. iyakṣati ("he wishes to reach"), desiderative (see p. 131)
← ie. *h2ne(n)k

naš 4. class: našyati ("to perish")
nanṣ-tum, p. 105
naṣṭa PPP (CerD)
← ie. root *h2ne(n)k
→ gr. B nec-ro-logy
∼ lat B per-nic-ious, inter-nec-ine
∼ lat B ob-noxious, in noc ence (for in see s.v. a)

nas 1. class: nasatê ("to unite with somebody")
as-tam PPP (SY_N) ("where someone returns to safely → home, home country"), also
astam gacchati ("he dies", "it (the sun) sets"), but see also as
← ie. root *nes ("to return home safely")
→ ogr. PN Nestor
∼ nhg. nähren (causative: "to make return home safely → to save"), but not related to e. nourish

nas f. ("nose")
← ie. *Hneb2 -s
→ e. nose ~ nhg. Nase
E. Etymological dictionary

nas gen./dat./acc. (“us, our”)
← ie. *nas
→ germ.
◊ e. B paternoster (a lift where the cabins are like the pearls on a rosary)
◊ e. us ∼ nhg. uns ← ie. *n̂s (IE_SY_N, NHG_E)

nah see nādh

nādh 1. class: nādhātē (“to be needy, to beg”)
ādhra (“needy, weak, poor”) ← ie. *n̂Hdh-ro (Lar_SY)
← ie. root *neHdh

Unrelated nāth has the same meaning as nādh.

nāman n. (“name”) (Lo), see pp. 228
← ie. *nomn̂
→ ogr. o-nomastic with difficult word-initial o
∼ lat. nōmen (with long ō by “wrong” levelling with (g)nō, see jīnā) with B nominal
∼ e. name ∼ nhg. Name

ni (“down, into”)
ni-larām adv. (“down from, completely”)
nī-ac (“directed downward”) ← ni-aṅc, see aṅc above
nī-ag-rōdha-pāda-pā (“fig tree”) ←
◊ nyac
◊ + rōdha (“climbing, growing”, but here dh instead of h, see rudh and ruh)
◊ + pāda (“foot”, see pad)
◊ + pa (“drinking”, see pā)

nyak kr (“to humiliate”)
nyak bhū (“to debase oneself”)

nir/nis (“out of, away from”)
nirūga (“healthy”) ← nis + rōga (CpLz), see ruj

328
E.5. Dental stops and nasal

nūrasa (“dried up”) ← nis + rasa (CpLz), see rṣ

ni 1. class: nayati (“to lead”)
śēnā-ṇī m. (“army general”)
grāma-ṇī m. (“village leader”)
agra-ṇī m. (“leader”)
← ie. root *neyH

The three agent nouns sēnā-ṇī etc. are declined along the lines of feminine nadi (“river”) in having y before vowel endings. Otherwise, feminine forms are avoided as much as possible. Thus, we get the marut endings in many cases:

<table>
<thead>
<tr>
<th>sēnā-ṇī m. case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>nom.</td>
<td>sēnā-ṇī-s (1)</td>
<td>sēnā-ṇī-āu (4)</td>
<td>sēnā-ṇī-as (4)</td>
</tr>
<tr>
<td>voc.</td>
<td>sēnā-ṇī-s (2)</td>
<td>sēnā-ṇī-āu (4)</td>
<td>sēnā-ṇī-as (4)</td>
</tr>
<tr>
<td>acc.</td>
<td>sēnā-ṇī-ām (3)</td>
<td>sēnā-ṇī-āu (4)</td>
<td>sēnā-ṇī-as (3)</td>
</tr>
<tr>
<td>instr.</td>
<td>sēnā-ṇī-ām (4)</td>
<td>sēnā-ṇī-bhyām (4)</td>
<td>sēnā-ṇī-bhīs (4)</td>
</tr>
<tr>
<td>dat.</td>
<td>sēnā-ṇī-ē (5)</td>
<td>sēnā-ṇī-bhyām (4)</td>
<td>sēnā-ṇī-bhyās (4)</td>
</tr>
<tr>
<td>abl.</td>
<td>sēnā-ṇī-ās (5)</td>
<td>sēnā-ṇī-bhyām (4)</td>
<td>sēnā-ṇī-bhyās (4)</td>
</tr>
<tr>
<td>gen.</td>
<td>sēnā-ṇī-ās (5)</td>
<td>sēnā-ṇī-ōs (4)</td>
<td>sēnā-ṇī-ām (5)</td>
</tr>
<tr>
<td>loc.</td>
<td>sēnā-ṇī-ām (6)</td>
<td>sēnā-ṇī-ōs (4)</td>
<td>sēnā-ṇī-śu (4)</td>
</tr>
</tbody>
</table>

1. Observe nom. sg. marker m./f. here in sēnā-ṇī-s, in contrast with nom. sg. nadi.
2. The voc. sg. equals the nom. sg. sēnā-ṇī-s while we have short i in the the voc. sg. nadi.
3. The acc. sg. and pl. are like marut, not feminine as in nādīm and nādīs.
4. Many endings are the same as for marut and nadi.
5. Feminine forms are avoided and marut forms are taken instead in instrum. sg. sēnā-ṇī-ā versus nādī-āi and four other forms.
6. The loc. sg. is the feminine form sēnā-ṇī-ām instead of *sēnā-ṇī-i, perhaps because the ending ny-i is impossible in word-final position?

nīḍam (“nest”) (see sad)
← ie. *nizdo
→ e. nest

nīḍa (and very similarly mīḍha) can be explained by a series of sound laws:
E. Etymological dictionary

ni-sd-o (sd z.g. of sad)
ni-zd-o (sz before voiced stop)
→ ni-zd-o (RUKI)
→ ni-zē-a (CerD, aā)
→ nūd-a (CpLz)

nu 1. class: navatē (“to go”)
← ie. root *neu
→ lat. nuere (“to nod”) with B innuendo

nūnām (“now”)
← ie. *nu/ *nū
→ e. now ∼ nhg. nun

nūt 4. class: nūtyati (“to dance”)
mi. nāta (“dancer”)

nāu f. (“ship”)
← ie. *neh₂-u
→ ogr. nautilos m. (“seafarer”), gr. B nautical, Nautilus (fictitious ship in novels by Jules Verne)
∼ lat. B nau-igation (for second part, see aj)
→ e. nest

E.6. Labial stops and nasal
E.6.1. p

paṅk-ti f. (“a line or set of five”)
← ie. *penk (“fist”)
→ e. fist ∼ nhg. Faust
E.6. Labial stops and nasal

pac 1. class: *pacati* ("to cook, to ripen")
← ie. root *pek*
→ lat.
   ◊ *coquus/* cocus ("cook") (assimilation p...kw → qu...qu, similar to *quínque*, s.v. *pañça*) with B e. cook ~ nhg. Koch
   ◊ *prae-cox* ("premature"), B to con-coct
   ◊ B English kitchen ~ German Küche

pañca (*five*)
B punch ("drink with 5 components")
← ie. *penkü*e (← *penk-kw*e ("and five"), see pan-ti and ca)
→ gr. B pentagon
~ lat. *quínque* (assimilation p...kw → c...qu, similar to *coquus*, s.v. *pac*) with B quint-essence, quintet
~ e. *five* (NHG_E) ~ nhg. *fünf*

pañcášat (*fifty*)
← ie. *penkü*e-dkmt (CPLdk)
← *penkwe* ("five") + dkmt ("tenners"), see pañca and *daší*
Compare viñšati.

pañdíta (*wise, learned*) ← (not ie.) *pañdā* ← paññā ← praññā f. ("intellect"), see jñā (ndo is a hypercorrection: in other cases, no here, nd → ñnd)

pat 1. class: *patati* ("to fly, to fall")
pat-tram ("bird, feather, letter")
← ie. root *pet*
→ lat.
   ◊ *petere* ("to strive for") with B to compete, to repeat, appetite, petition, im-pet-us
   ◊ *penna* ("feather") ← ie. *pet-nēh₂* (similarly lat. annus, see at). In German, school boys are sometimes called Pennäler, i.e., those who carry a Pennal containing the writing utensil *penna*, and the school itself is colloquially called Penne.
E. Etymological dictionary

∼ e. feather ∼ nhg. Feder

pati m. ("lord, husband")
← ie. *poti
→ gr. B despot ← *dems poti ("lord of the house", for first part see dam)
∼ lat. pot-esse and B potent, potential
See na-pter.

pad 4. class: pad-ya-atē ("to go")

pad m. ("foot")
pāda m. ("foot, chapter, verse") with
◇ pāda-pa m. ("foot drinker → tree"), for second part, see pā ("to drink")
◇ pāda-jā m. ("āśūdra"), for second part, see jan ("to be born")
◇ pāda-rajas ("dust at the feet")
← ie. *pōl/ *ped (two dialectal variants)
→ gr. B (from o-grade) anti-pode, podium (with lat. ending), polyp ← ogr. poly-pous
(for first part see pr)
∼ lat. B (from e-grade) ped-al, pedi-curist (for second part see sicher, p. 71), pedes-
trian, centi-pede (for first part see šatām), ex-ped-itio, im-ped-iment
∼ e. foot ∼ nhg. Fuß

panth m. ("path") with declension

<table>
<thead>
<tr>
<th>panth m.</th>
<th>case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>nom.</td>
<td>panth-ās (2)</td>
<td>panth-ān-āu (1)</td>
<td>panth-ān-as (1)</td>
<td></td>
</tr>
<tr>
<td>voc.</td>
<td>panth-ās (2)</td>
<td>panth-ān-āu (1)</td>
<td>panth-ān-as (1)</td>
<td></td>
</tr>
<tr>
<td>acc.</td>
<td>panth-ān-am (1)</td>
<td>panth-ān-āu (1)</td>
<td>path-as (3)</td>
<td></td>
</tr>
<tr>
<td>instr.</td>
<td>path-ā (3)</td>
<td>path-i-bhyām (4)</td>
<td>path-i-bhis (4)</td>
<td></td>
</tr>
<tr>
<td>dat.</td>
<td>path-ē (3)</td>
<td>path-i-bhyām (4)</td>
<td>path-i-bhyās (4)</td>
<td></td>
</tr>
<tr>
<td>abl.</td>
<td>path-as (3)</td>
<td>path-i-bhyām (4)</td>
<td>path-i-bhyās (4)</td>
<td></td>
</tr>
<tr>
<td>gen.</td>
<td>path-as (3)</td>
<td>path-ōs (3)</td>
<td>path-ām (3)</td>
<td></td>
</tr>
<tr>
<td>loc.</td>
<td>path-ī (3)</td>
<td>path-ōs (3)</td>
<td>path-ī-su (4)</td>
<td></td>
</tr>
</tbody>
</table>

1. The strong forms with oi.

332
E.6. Labial stops and nasal

\[ \tilde{a} + n + \text{vowel ending} \]
go back to ie.

\[ o + n + \text{vowel ending} \]
according to Brugmann’s law Lo. They seem to be formed on nouns like \( r\text{\=a}jan \).

2. Nom. and voc. sg. \textit{panth-\=a}s is difficult.

3. By SY\_{N}, one obtains the weak forms before vowel-initial endings like instr. sg. \textit{pa\,th-\=a}.

4. \textit{path-i-bhis} may be explained in lines similar to \textit{sthita} where the laryngeal is responsible for both \( i \) and the aspiration. Originally, one might have a form like \textit{pat-i-bhis}, but levelling would then provide for the aspiration in these forms, too.
A more plausible explanation may be that \textit{path-i-bhis} is formed by analogy with other forms like \textit{mun-i-bhis}. In fact, without the “thematic vowel” \( i \), the resulting \textit{pad-bhis} would be confusing.

\[ \leftarrow \text{ie. } *\text{ponth}_2 \text{ (Lar CH)} \]
\[ \rightarrow \text{lat. } B \text{ ponti-fex (for second part see p. 322)} \]

\textbf{not} related are e. \textit{path} \( \sim \text{nhg. Pfad} \)

\textit{pa\,r\=a} (“away, off”), see \textit{pa\,l\=a\,jat\=e} s.v. \( i \)

\textit{pa\,ri} (“around”)

\[ \leftarrow \text{ie. } *\text{peri} \]
\[ \rightarrow \text{gr. } B \text{ perimeter, periphery (see bhr)} \]
\( \sim \text{lat. } \text{per as in pay-per-view, per se} \)
\( \sim \text{nhg. } \text{ver as in ver-laufen (“to lose one’s way”)} \)

\textit{pard} 1. class: \textit{pardat\=e} (“to fart”)

\[ \leftarrow \text{ie. } *\text{pard} \]
\[ \rightarrow \text{e. } \text{fart} \sim \text{nhg. furzen} \]

\textit{pal\=a\,j} 10. class: \textit{pal\=a\,jat\=e} (“to flee”), see \( i \) and \( pa\,r\=a \)

\textit{pa\,su} m. (“cattle”)
E. Etymological dictionary

← ie. *peku
→ gr. B perimeter, periphery (see bhr)
∼ lat.
  ◦ pecus (“cattle”) with B e. fex ∼ nhg. Vieh (“cattle”)
  ◦ pecúnia (“wealth”) with B pecuniary
  ◦ pecūdium (“money in possession”) with B peculiar

paš-ya-ti with oi. root drš (see there)
← ie. root *(s)pek with s-mobile (compare schlecken on p. E.7.3)
→ gr. B scope, skepticism(where p and k are interchanged)
∼ lat. B spectrum, a-spect, ex-spect
∼ e. to spy ∼ nhg. spähen (“to peer”)

pā 2. class: pā-ti (“to protect”)
← ie. root *peh₂
→ lat. pāstor (“shepherd”) with B pastor

pā 1. class: pibati (“to drink”)

<table>
<thead>
<tr>
<th>pā (“to drink”)</th>
</tr>
</thead>
<tbody>
<tr>
<td>present tense</td>
</tr>
<tr>
<td>infinitive</td>
</tr>
<tr>
<td>PPP</td>
</tr>
<tr>
<td>future</td>
</tr>
<tr>
<td>imperfect</td>
</tr>
<tr>
<td>perfect</td>
</tr>
<tr>
<td>root aorist</td>
</tr>
<tr>
<td>desiderative</td>
</tr>
</tbody>
</table>

1. pi-b-a-ti is a reduplicated form, somewhat similar to ti-št-a-ti. From the ie. root *peh₃, one obtains
   *pi-ph₃-eti (reduplication with i and zero grade)
   → *pi-b-eti (Lar CH: h₃ makes p voiced)
   → pi-b-ati
E.6. Labial stops and nasal

Similarly, we have the imperfect *a-pi-b-a-t.

2. The long-ā forms pā-tum and pā-sy-a-ti are both regularly full-grade from the same ie. root *peh₃ → pā.

3. pī-ta cannot simply be explained from the ie. root *peh₃. Instead, one sometimes assumes the ie. root *peh₃i. However, the zero grade *ph₃i could not have led to long ā. One way out may be metathesis *pih₃ and then Lar₃ V. The same explanation may hold for the passive pī-y-atē.

4. See section C.7, pp. 188.

5. Perfect plural pa-p-us and root aorist plural a-p-us are similar. While the perfect has reduplication, the root aorist does not. Both have ending us.

← ie. root *peh₃/*peh₃i
→ gr. B symposium (with lat. ending)

~ lat.
   ○ B (magic) potion
   ○ B in German Pokal (“cup, trophy”)

pāda (“foot, chapter, verse”), see pad

pāṣa m. (“snare, noose”)
← ie. *peh₂k
→ lat. pax (“peace”) and B pact ~

~ nhg. fügen (“to join”), Fuge (“joint, seam”), be-fug-t (“authorised”)

pika m. (“Indian cuckoo”)
← ie. *spiko
→ nhg. Specht (“woodpecker”)

pī-lar m. (“father”)

pī-trya (“paternal, ancestral”)

pī-tyeya (“father’s brother”)
← ie. *ph₂ter
E. Etymological dictionary

→ gr. paτér with B patriot, patriarch (clear indication of h₂, see subsection B.1.4)

∼ lat. B patron, patrician, German Patrone (“cartridge”)

∼ e. father ∼ nhg. Vater (VER)

Connection with pā (“to protect”) unclear.

piš 7. class: pi-na-š-ti (“to grind, to cruch”)
← ie. root *peis/ *pei(n)s
→ lat. pī-lum (“javelin, pike”)

piš 6. class: pimš-a-ti (“to adorn”)
← ie. root *pei(n)k
→ lat. pīg-ment, pic-ture

pīḍ 1. class: pīłatē (“to pinch, to oppress”)
from oi. root piš ← ie. *pis with d-extension

\[
\text{piš-d-ati} \\
→ \text{pizd-ati (sz before voiced stop)} \\
→ \text{pizd-ati (RUKI)} \\
→ \text{pī-zd-ati (CerD)} \\
→ \text{pīd-ati (CpLz)}
\]

Compare sīd-ati (p. 80) and nīḍa (dictionary).

pi-van (“swelling, fat”) (z.g.)
pay-as n. (“milk”) (f.g.)
← ie. root *peH

putra (“son”) (rl), uncertain
← ie. *pu-tlō
→ gr. B pe-dagoque
∼ lat. B puerile
E.6. Labial stops and nasal

∼ e. foal ∼ nhg. Fohlen

**pumant** ("male, man")
← ie. difficult
→ lat. B puberty

**puş** 1. class **poş-ă-li** ("to thrive, to flourish")
← ie. *peus
→ lat. B pustule

**pū** 9. class **pu-nă-li** ("to clean")
← ie. root *peuH
→ lat. pūrus with B pure

**pūrva** ("front, former")
← ie. *prvo/*prmo
→ e. former

**pr** 3. class **pi-par-li** ("ferry over")
**gō-păla** ("herdsman, cow protector") (rt) (uncertain)
**pūra** ("further shore or opposite bank of a river, the utmost reach or extent")
← ie. root *per
→ gr. B pore and porous (both via Latin), place name Bos-porus with the following story:

The Bos-porus is the strait near Istanbul that separates Europe from Asia. In Greek mythology, the father of gods Zeus lusted after beautiful human females, and also after Io. His sister and spouse Hera observed his erotic escapades with great jealousy. In order to hide his latest conquest, Zeus transformed Io into a cow. Hera pretended to admire this beautiful cow and made Zeus give her the cow as a present. The poor cow tried to escape Hera’s torments. During the flight, Io crossed the strait at Istanbul which has carried the name Bosporus ("ford of the cow") ever since.

∼ lat. B to deport, to export, to report, port,
E. Etymological dictionary

∼ germ.

◊ without dental extension:
  • nhg. *fahren/Fahre/führen
  • e. fare/farewell

◊ with dental extension:
  • e. ford ∼ nhg. Furt
  • e. Oxford ∼ nhg. Ochsenfurt

pr (*to battle*)

pr f. (*battle, contest*)

← ie. root *per-t (*to press*)

→ lat. B to express, to compress, impression

prthu (*wide, large*)

prthi/ prthivi (*earth, land*), also (very similar to urvi, see uru) in

◊ prthi-pati m. (*king*)

◊ prthi-talam (*earth, ground*)

← ie. *plth2v-ih2 (compare sthita s.v. sthā)

→ gr. (via lat.) B plate

plu 1. class: plav-a-tē (*to swim, to float*)

plava (*floating, boat*) (V+hV)

with rl:

◊ pū (*to fill, to fulfill*)

◊ pūrṇa PPP (p. C.25) ie. *prh1-no (Lar_SY)

◊ pur f. (*plentitude*) with inst. pl. pūrbhis

◊ puru (*much, plenty*) (Lar_CH) ie. *plh1-v

← ie. root *plh1/*plh1v

→ gr. B polyphony, polygamy, poly (*o.gr. poly-pous (for second part see pad)*)

∼ lat.

338
E.6. Labial stops and nasal

- plēnus ("full") with B plenum, plenary, plenitude, plenty, complete, complement, complementum, manipulation with first part lat. manus ("hand"), i.e., "a handful of substances → artifice"
- plēbs ("people") with B plebiscite
- B plu-ial ("rainy")
- B plus

≈ germ.
- e. full ≈ nhg. voll
- e. folk/folklore ≈ nhg. Volk

See klōman.

pra ("before, in front of"), regularly without Lo
pra-tara (comparative: "an earlier one") and adv. prataram ("in the future")
pra-tama (superlative: "the earliest") and adv. pratamām ("especially, preferably"), see -tama
prāc ("directed forward, eastern"), see aśc
prāk ("in front, in the east")
prālar ("early in the morning")
pra-bhu m. ("lord, master"), see p. 137

← i.e. *pro
→ gr. B pro-biotic, prophecy (see bhā), prophylactic

≈ lat. B such as proverb, protest, product

≈ nhg. ver as in ver-laufen

pracch 6. class: prāčchati ("to ask")
On the one hand:
- full grade nouns pra-ś-na ("question") and pra-ś-tar ("questioner")
- zero-grade PPP pra-ch-ś-

← i.e. full grade *prek ("to dig, to muzzle") and i.e. *porko ("nuzzler → pig")
→ lat. porcus ("pig") and diminutive porcellus ("farrow, piglet") whence porcelain (i.e., "china")

On the other hand, with sk-suffix: zero-grade PPP prāčchati (CC1, SIB)
← i.e. zero grade *pr̥k-sk̥
E. Etymological dictionary

→ nhg. er-forsch-en ("to research") (IE_SY_L)

Besides, one has full grade pracchā ("inquiry") ← ie. full grade *prāk-š-. Compare mūrchā.

prati ("against")
pratīpa ("against the stream, going in opposite direction → adverse, displeasing") ← prati + zero-grade h₂p from ap (Lar_V).
pratī-kaṇa, pratī-kāra ("vengeance, retaliation"). Could it be due to words like pratīpa?
← ie. preti
→ lat. pretium ("reward, prize") with B precious

praś-na m. ("basket-work, a plaited basket")
← ie. root *plek
→ lat. B com-plex, im-plic-ation
∼ nhg. flechten ("to weave, to plait")

See also s.v. pracch

prāc ("directed forward, eastern") see pra and ain

pri 9. class: prīṇāti ("to please, to love")
priya ("beloved, dear") (V +hV)
← ie. root *preiH
→ lat. B pro-priety
∼ germ.
◇ e. friend ∼ nhg. Freund
◇ e. free ∼ nhg. frei
◇ e. Friday ∼ nhg. Freitag from the goddess Frijā ← Old Icelandic Frigg ("the loved one")
◇ nhg. freien ("to court, to marry"), Friede ("peace" ← "protection, friendship")

plīhan m. ("spleen")
← ie. *splīh-en/ *splīh-ēn

340
E.6. Labial stops and nasal

→ gr. B spleen (in German: “eccentricity”)

plusi m. (“insect”)
← ie. *plus
→ e. flea ~ nhg. Floh

E.6.2. ph

phena ("foam") (sp(h))
← ie. *spoi
→ lat. B spume
~ e. foam

E.6.3. b

bandh 9. class: badh-nā-ti (“to bind”)
bandhu m. (“relative”)

<table>
<thead>
<tr>
<th>bandh (“to bind”)</th>
</tr>
</thead>
<tbody>
<tr>
<td>present tense</td>
</tr>
<tr>
<td>infinitive</td>
</tr>
<tr>
<td>PPP</td>
</tr>
<tr>
<td>future</td>
</tr>
<tr>
<td>imperfect</td>
</tr>
<tr>
<td>perfect</td>
</tr>
<tr>
<td>s-aorist</td>
</tr>
<tr>
<td>desiderative</td>
</tr>
</tbody>
</table>

1. bandh goes back to ie. *bhendh. In this verb, the nasal belongs to the root (see the e. cognate bind). However, the speakers seem to have been confused about this. Thus, the n is missing even in full-grade forms such as the infinitive badh-dhum. By SY_N, the PPP shows correct zero grade. As in bud-dha from budh (“to know”), we witness the effect of both aspiration laws DA and ASh.

2. badh-nā-ti is modeled on verbs like pu-nā-ti (“he cleans”), see pp. 87
E. Etymological dictionary

3. Similar to
   - \( bhôt-sy-a-ti \) ← i.e. *bheudh-s from \( bugh \) (“to know”) or
   - \( dhôk-sy-a-ti \) ← i.e. *dheugh-s from \( duh \) (“to milk”)

\( bhant-sy-a-ti \) ← i.e. *bhendh-s is regular in showing ASh (but failed) and BA (s is voiceless). Since t-sy is not aspirated, there is no need for DA.

4. The desiderative forms exhibit DA, not in the main syllable but in the reduplication syllable.

5. The perfect form \( ba-bandh-a \) is regularly in full grade. However, the pl. \( ba-bandh-us \) is also in full grade, but should be in zero grade (pp. 188).

\( \leftarrow \) i.e. root *bhendh
\( \rightarrow \) e. bind ~ nhg. binden

\( babhru \) (“brown, tawny”) (DA)

\( \leftarrow \) i.e. *bhe-bhr-u/ *bhe-bhr-o
\( \rightarrow \) germ.
   - also reduplicated: e. beaver ~ nhg. Biber
   - not reduplicated: e. brown ~ nhg. braun

\( bar-bar-a \) (“any one not a Sanskrit speaker, not an Ñryan”)  
\( bal-bal-ā-kṛ \) 8. class bal-bal-ā-kṛ (“to stutter, to stammer”)

\( \leftarrow \) i.e. *bl-bl (onomatopoetic)
\( \rightarrow \) gr. B / PN (via Latin) barbaric / Bar-bar-a

\( balam \) (“strength, power”)
\( bāla \) (“strong one (to be) → boy”)

\( \leftarrow \) i.e. *belo
\( \rightarrow \) lat. B de-bil-ity

\( bah-u \) (“much, many”), z.g.

\( \leftarrow \) i.e. *bhengh (“dense”)

342
E.6. Labial stops and nasal

→ gr. *pachus (“thick, plumb”) with B *pachy-cephalo-saurus (“thick headed dinosaur”) and *pachy-dermia (“thickness of tissue”)

bāhu m. (“arm”) (DA, PPal)
← ie. *bhāghu
→ nhg. *Bug (“bow, front part of a ship”)

Note the strange analogy

<table>
<thead>
<tr>
<th>bāhu (“much, many”) adj.</th>
<th>giving rise to body part:</th>
</tr>
</thead>
<tbody>
<tr>
<td>bāhu m. (“arm”)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ṛuru (“wide”) adj.</th>
<th>giving rise to body part:</th>
</tr>
</thead>
<tbody>
<tr>
<td>ṛuru m. (“thigh”)</td>
<td></td>
</tr>
</tbody>
</table>

budh 1. class: bōdhati (“to know”)

<table>
<thead>
<tr>
<th>budh (“to know”)</th>
</tr>
</thead>
<tbody>
<tr>
<td>present tense</td>
</tr>
<tr>
<td>bōdh-a-ti (1)</td>
</tr>
<tr>
<td>bōdh-a-n-ti (1)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>infinitive</th>
</tr>
</thead>
<tbody>
<tr>
<td>bōdh-i-tum (2)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PPP</th>
</tr>
</thead>
<tbody>
<tr>
<td>bud-dha (3)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>future</th>
</tr>
</thead>
<tbody>
<tr>
<td>bhôt-sy-a-ti (4)</td>
</tr>
<tr>
<td>bhôt-sy-a-n-ti (4)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>imperfect</th>
</tr>
</thead>
<tbody>
<tr>
<td>a-bōdh-a-t (1)</td>
</tr>
<tr>
<td>a-bōdh-a-n (1)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>perfect</th>
</tr>
</thead>
<tbody>
<tr>
<td>bu-bhud-ē (5)</td>
</tr>
<tr>
<td>bu-bhud-irē (5)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>is-aorist</th>
</tr>
</thead>
<tbody>
<tr>
<td>a-bōdh-ē-t (6)</td>
</tr>
<tr>
<td>a-bōdh-ēs-us (6)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>desiderative</th>
</tr>
</thead>
<tbody>
<tr>
<td>bu-budh-i-ś-a-ti (7)</td>
</tr>
<tr>
<td>bu-budh-i-ś-u (7)</td>
</tr>
</tbody>
</table>

1. The origin is ie. *bheudh. The full grade yields oi. ò (DIPH) and Grassmann’s DA bōdh-a-ti.

2. The infinitive is regularly in full grade. The i goes not originate from a laryngeal, but has been borrowed from roots like bhū (“to be”). There, ie. *bheuH + infinitive ending tum yields bhav-i-tum by Lar V. As in pat-i-tum and other roots, i-tum instead of tum has become productive.

3. Regularly, by ASh and DA, the zero grade PPP bud-dha results. Compare dug-dha ← ie. *dheugh-to from duh (“to milk”).

4. With respect to the future form bhôt-sy-a-ti, observe:
   ♦ Failed ASh together with BA produces t from dh.
   ♦ Similar to dhôt-sy-a-ti ← ie. *dheugh-s (oi. duh, “to milk”), the original initial bh emerges (no DA possible).
E. Etymological dictionary

5. The perfect forms are atmanêpada and hence weak (pp. 188).

6. a-bôdh-î-t is an is-aorist which can be clearly seen from the pl. a-bôdh-is-us. For “thematic” i see section C.8 pp. 196

7. Desiderative bu-budh-is-a-ti again shows i taken by analogy from set roots.

budh-nam (“depth, ground”) (DA)
← ie. *buddh-no
→ lat. fundament (LAT_f) and pro-found, where n and d are interchanged (as in lat. unda, see udam)
~ e. bottom ~ nhg. bieten (“to bid, to offer”)

bhô 6. class: bhô-a-ti (“to grow, to increase”) (DA)
bhô-as-pati m. (“lord of the prayer”) gen. sg. of a root noun bhô, see vanam
bhô-ant pres.P (“thick, large, abundant”)
pari-bhôha (“firm, dense”) PPP (see similarly compare p. 116)
brah-man n. (“the absolute”)/ brah-man m. (“the creator god”) (from n.at. barh-man similar to drastum by a sound law similar to MET_rSP?)
← ie. root *bherh
→ lat. B fortitude (LAT_f)

E.6.4. bh

bhaj 1. class: bhajati (“to divide, to allot”)
bhaga (“wealth, happiness”)
bhagini (“sister”)
bhakti f. (“allotment, division, love, devotion”)
bhâga (“part”)
bhikṣ 1. class: bhikṣa-a-tê (“to wish to share, to beg”), originally a desiderative (p. 130)
bhikṣu (“begging”)
E.6. Labial stops and nasal

← ie. root *bheg

→ gr. B bacteriophage

∼ nhg. Backe (“eater → cheek”)

**bhan** 1. class: bhanati (“to speak”)

← ie. root *beh₂/*bhen

→ gr. B (OGR)

◊ blas-phemy where the origin of the first part is dubious, but has lead to French blâmer, German blamieren (“to disgrace oneself”)

◊ eu-phemism where ogr. eu ∼ oi. su

◊ a-phasis with alpha privativum (p. 66)

◊ prophet

◊ phone, phonetics, phoneme

∼ lat. B (LAT_f)

◊ fame, famous, in-famous where lat. in ∼ oi. a ∼ e. un

◊ fate (“spoken by gods → destiny”), fatal and French and hence English fairy and German Fee (“fairy”) and gefeit (“immune”)

◊ fable, fabulous

◊ profession, professor

◊ in-fant, in-fantile (“who does not speak → baby”, semantically compare puerile at oi. putra), infantryman (“child → boy → foot soldier”)

∼ germ. *ben

→ e. ban ∼ nhg. Bann

∼ French banal

∼ Italian bandito

**bhañj** 7. class: bhanakti (“to break”)

bhaṅga (“breaking, defeat”)

bhagna PPP

**bhand** 1. class: bhandatē (“to shine, to gleam”)

bhād-ra (“happy, lucky”), zero grade by SY_N, for other examples see pp. [121]

bhār gas n. (“radiance, lustre”)
E. Etymological dictionary

← ie. *bhelg

→ lat. B fulminant (LAT_f)

∼ nhg. Blech (“metal sheet”), nhg. blechen (“to fork out ← to make a shining coin visible”)

bhā 2. class: bhāti (“to shine”)

bhās 1. class: bhāsati (“to shine”)

← ie. root *bheH(s)

→ gr. B phenomenon, photo, phos-phor (“which carries light”, for second part see bhγ)

∼ nhg. bohnern (“to make shiny → to polish (the floor)“)

bhīd 7. class: bhinatti (“to split”)

bhīn-na PPP (p. 111)

← ie. root *bheid

→ lat. B fissure, fission (both by LAT_f and LAT_DD)

∼ germ.

◇ e. bite ∼ nhg. Biss

◇ e. bitter ∼ nhg. bitter (p. 73)

bhī 3. class: bi-bhē-티 (“to be afraid”)

bhay-a-m (“fear, danger”)

bi-bhē-vans/ bi-bhē-vas (“one who is afraid”) pf.P

← ie. root *bheih₂

→ nhg. reduplicative be-ben (“to tremble”), bi-bbern (“to jitter”)

bhuj 7. class: bhu-na-k-ti/ bhunkte (“to enjoy, to consume”)

bhoga (“enjoyment, suffering”)

bhogin (“enjoying, king”)

← ie. root *bheu(n)g

→ lat. B fung-ible (assets) from lat. fungi, fungor (“to enjoy, to suffer”)

346
E.6. Labial stops and nasal

bhuj 6. class: bhuj-a-li/ bhurikte ("to bend, to make crooked")
bhoga ("expanded hood of a snake, snake")
bhōgin ("snake")
← ie. root "bheug"
→ gr. B phug-oid (a specific aircraft flight motion) seemingly from phugē ("escape"), but here employed in the sense of airplane (!) flight
~ lat. B fug-itive (LAT_f)
~ germ. (compare s.v. aratni)
  ◇ e. bow ~ nhg. biegen
  ◇ e. elbow ~ nhg. Ellenbogen

bhū 1. class: bhavati ("to be")
punar-bhū ("remarried widow")
bhū ("earth")

pru-bhu, m. ("lord, master"), see p. C.4.9

| bhū ("to be") |
|---|---|
| present tense | bhav-a-ti (1) | bhav-a-n-ti (1) |
| infinitive | bhav-i-tum (2) |
| PPP | bhū-ta (3) |
| future | bhav-i-ṣy-a-ti (2) | bhav-i-ṣy-a-ti (2) |
| imperfect | a-bhav-a-t (1) | a-bhav-a-n (1) |
| perfect | ba-bhūv-a (5) |
| root aorist | a-bhū-t (3) |
| desiderative | bu-bhū-ṣ-a-ti (3, 4) |

1. From ie. *bhewH, bhav-a-ti is regular full grade (see Lar_V).
2. The infinitive bhav-i-tum (and similarly the future forms) is regular full grade where i originates from the laryngeal (Lar_V).
3. The laryngeal also shows in zero grade PPP bud-dha, the desiderative, and the root aorist.
4. DA
5. ba-bhūv-a is irregular. The "correct" form is *bu-bhav-a ← ie. *bhu-bhouH-e, with reduplication vowel u and with full grade. Note that Lo does not apply because the syllable is not open because of the laryngeal.
E. Etymological dictionary

← ie. root *bheuH
→ gr. B physics

∼ lat.
   ◊ B future (LAT_\textit{f}), super-b, \textit{fiat} money
   ◊ \textit{probus} (“excellent, good”) ∼ oi. \textit{prabhu} (see p. 137)

∼ germ.
   ◊ e. \textit{be} ∼ nhg. (ich) \textit{bin}, (du) \textit{bist}
   ◊ nhg. \textit{bauen} (“to build”), Bauer (“farmer”)

See \textit{abhva}.

\textit{bhūrja} (“birch”) (P\textit{Pal})

← ie. *\textit{bher}gH
→ e. \textit{birch} ∼ nhg. Birke

\textit{bhūṣ} 1. class: \textit{bhūṣati} (“to strive after”)

← ie. root *\textit{bhh}g\textit{ev}
→ lat. B \textit{favour} (LAT_\textit{f})

\textit{bhṛ} 1. class: \textit{bhārati}/ 3. class: \textit{bibharti} (“to carry”)

← ie. root *\textit{bher}
→ gr. B
   ◊ \textit{peri-phony} where first part is cognate with oi. \textit{pari}
   ◊ \textit{meta-phor}
   ◊ PN Christo-\textit{pher} (lat. version \textit{Christophorus})
   ◊ \textit{phos-phor} (“which carries light”, for first part see \textit{bhā})
   ◊ \textit{eu-phoric} where ogr. \textit{eu} ∼ oi. \textit{su}

∼ lat.
   ◊ B \textit{pre-fer}, \textit{con-fer}, \textit{dif-fer}, \textit{trans-fer}, \textit{fer-tile}, \textit{Luci-fer} (“carrier of light” → PN of angel, see \textit{ruc})
   ◊ B \textit{for-tunate}

∼ germ.

348
E.6. Labial stops and nasal

- e. bear
- e. bier ~ nhg. Bahre (“stretcher”)
- nhg. ge-bören (“to give birth”), Zu-ber (“tub”), Ge-bör-de (“gesture”)

bhṛṣṭi f. (“point, edge”)
← ie. bhers
→ e. to burst ~ nhg. bersten

bhrātar m. (“brother”)
← ie. *bhrāter/ *bhr-eh2-ter (see ie. *bher s.v. bhr)
→ lat. B to fraternize, fraternity (LAT_f)
≈ e. brother ~ nhg. Bruder
≈ English Gypsy pal with B pal

Ie. *bhr-eh2 might mean “group of males born from the same mother” and ie. *bhr-eh2-ter “belonging to ie. *bhr-eh2”. Compare oi. sodara s.v. udara.

E.6.5. m

majj 6. class: majjati (“to sink into”)
← ie. root *mesg
→ lat. B to merge

madhu n. (“sweet drink, honey”)
← ie. *medhu
→ gr. B methane
≈ e. mead ~ nhg. Met

madhya (“middle”)
← ie. *medhya
E. Etymological dictionary

→ gr. B Mesopotamia (“between two rivers”)  
∼ lat. B medium, media, medi-ocre (second part s.v. ašri)  
∼ e. mid, middle ∼ nhg. Mitte (but not: mit)

man 4. class: manyatê (“to think”)  
man-as n. (“mind”)  
mali f. (“thought, mind”) (SY_N)

← ie. root *men  
→ lat.  
   ◊ mēns (compare CpLs), mentis with B ment-al and de-ment-ia  
   ◊ (reduplicated) me-min-i (“to remember”) with B me-mory, com-me-moration  
   ◊ B (causative) de-mon-stration, mon-strance  
∼ e. mind

See amati, amnas, mnā

mahī (“great”), used in Vedic as an adj. in nom. and acc. sing. n.  
mahant (“great”), pp. 219

← ie. *meḥ́₂ (see p. 52)  
→ gr. B megafon, megawatt, megabyte and, in German, megageil (youth slang: “fantastic altogether”)  
∼ lat.  
   ◊ B magnitude, magnate, maj-esty  
   ◊ magister with B master  
∼ e. much

Perhaps, ved. mak-ṣu (“much, many → quick, soon”) is an old loc. pl. building on this root. Then, lat. mox (“soon”) may be related.

mā 3. class: mimāli (“to measure”)  
← ie. root *meḥ₁  
→ gr. B me-ter (via French mètre), geometry  
∼ lat. t-extension finally the B meas-ure, di-mens-ion, im-mense (“unmeasurable”, see p. 66)
E.6. Labial stops and nasal

∼ nhg. l-extension ma-l (“from time to time”), Ma-l (“moment”) ← ohg. māl ← ie. *meh₁-lo

See mās.

māņsa m. (“meat”)
← ie. *meh₁(n)s
→ lat. B member

mās m. (“moon, month”)
← ie. *meh₁(n)s
→ lat. mēnsis (“month”) ← ie. *meh₁-n-s with B menstruation, se-mester (for first part, see sat), tri-mester (for first part, see trājas)

∼ Germanic languages use related, but different forms for the two meanings:
  ◊ e. moon ∼ nhg. Mond
  ◊ e. month ∼ nhg. Monat

mālar f. (“mother”)
← *ie. *me-h₂tér
→ lat. B maternity

∼ e. mother ∼ nhg. Mutter

As in pitar, the ie. accent follows the t so that VER applies.

mitram “contract → friendship → friend”
On neuter (!) mitram see [Thieme 1957].

mith 1. class: méthati (“to meet, to quarrel”)
← ie. root *meith₂
→ lat. mit-tēre (“to release, to send”) with B to e-mit, e-mis-sion (LAT_DD), to per-mit, to trans-mit, mis-sile
E. Etymological dictionary

mil 6. class: milati (“to unite, to happen”)
mêl-a (“assembly, association”)  
mêl-aka (“assembly, association”)  
mêl-anam (“assembly, association”)  
mêl-ū (“assembly, association”)  
← ie. root *meil

mîś (“to mix”)
mîś-ra (“mixing, diverse”)  
mîś-la (“mixing, diverse”) (rl)  
mî-mîk-ṣu (“desiring for mixing”)  
On the one hand, the above words  
← ie. root *meik

On the other hand, with sk-suffix, micch as in pres.P micchanāna  
← ie. zero grade *mîk-sk (SIB)  
→ lat. misc-ere (“to mix, to blend”) with B to mix, mixture, pro-misc-uity, B in German mischen (“to mix”)  
→ fr. mélange (“mixture”)  
Compare pracchā (s.v. pracch). The oi. root mîks as in causative mēkṣayati is difficult because it contradicts SIB.

mih 1. class: mēhati (“to urinate”) (PPal)  
mih f. (“mist, haze, fog”)  
mēgha (“cloud”)  
← ie. root *meigh

Compare mīgha. Semantically, compare vār.

mī 9. class: mi-nā-ti (“to lessen, to diminish”)  
← ie. root *meih1  
→ lat. B mi-nus, mi-nute, di-mi-nish, mi-nister

mīdhām (“wage, price”)  
← ie. *mizdho  
→ e. meed ~ nhg. Miete (“rent”)
E.6. Labial stops and nasal

$mîdh$a (and very similarly $nîdra$) can be explained by a series of sound laws:

ie. $^*$miz$до$
\[ \rightarrow \text{miz}^\text{dho} \quad (\text{RUKI}) \]
\[ \rightarrow \text{miz}^\text{dha} \quad (\text{Cer} \ D, \ a\ddot{a}) \]
\[ \rightarrow \text{mîdh}a \quad (\text{CpLz}) \]

From the sound laws, $mîdh$a might be a PPP of $mih$ (“to urinate”) (similar to $lîdh$a, p. 115). Perhaps, rain as a price for sacrifice?

$mîv$ 1. class: $mîvati$ (“to move”)
$mûta$ in $kâma-mûta$ (from n.at. $myûta$)
\[ \leftarrow \text{ie. root } ^*myevh} \]
\[ \rightarrow \text{lat. B to move, movement, mobility} \]

$muc$ 6. class: $mu$nc$ati$ (“to set free, to let go”)
\[ \leftarrow \text{ie. root } ^*mu(n)k \]
\[ \rightarrow \text{lat. B (nasal) mucus} \]

$muni$ m. (“holy man”)
$mûka$ (“dumb, silent”)
\[ \leftarrow \text{ie. } ^*mu/ ^*mû \]
\[ \rightarrow \text{lat. B mute} \]

Perhaps a person who cannot say anything but $mu$ or $mû$?

$mûşa$ (“mouse”)
\[ \leftarrow \text{ie. } ^*muHs \]
\[ \rightarrow \text{e. mouse } \sim \text{nhg. Maus} \]

$mprü$ 1. class: $marati$ 4. class: $mri-yo$-tê (“to die”) (p. 21)
\[ \leftarrow \text{ie. root } ^*mer \]
\[ \rightarrow \text{gr. B a-mbr-osia with ogr. alpha privativum a (see p. 66). b has been introduced in order to facilitate pronunciation.} \]
E. Etymological dictionary

∼ lat. B *mor-tal, mor-bid, to amortize (“to make dead → to redeem a loan”)

∼ e. murder ∼ nhg. Mord

See mār-ay-a-ti on p. 53. See mār.

mṛd 1. class: mardati/ 9. class: mṛdnāti (“to press, to destroy”) (rl)
mṛd f. (“mud, clay”)

mṛdu (“soft, mild”)  
  mṛad-īyans (comparative, “softer”)  
  mṛad-īṣṭha (superlative, “softest”)
← ie. root *meld

→ lat. B in German  
  ◦ a-Moll (“A minor”)  
  ◦ mollig (“chubby”)

mṛ 9. class: mṛṇāti (“to bruise, to smash”)
On the one hand, mṛṇāti ← ie. *mṛ-ne-h₂-ti (Lar_V)
← ie. root *mer-h₂ (h₂-extension of *mer s.v. mṛ)

→ lat.  
  ◦ mora (“delay, lapse of time”), see law of morae on p. 54  
  ◦ mor-tārium (“bowl, mortar”) with e. B mor-tar, nhg. B Mör-ser (“mortar”)  
  and Mör-tel (“mortar, grout”)

∼ nhg. mürbe, morsch
On the other hand, mūrchā f. (“delusion, fainting”), with sk-suffix
← ie. zero grade *mṛh₂-sk (Lar_SY, SIB)

Compare pracchā (s.v. pracch).

me enclitic for pers. pron. 1. pers. sg. both gen. (for non-enclitic mama) and dat. (for non-enclitic mahyam)
← ie. *moi

→ ogr. moi

mnā 2. class: mnāti (“to mention”) ← ie. *mn-en-h₂  
Consequential of man, see pp. 79 and 67
E.7. Half vowels

E.7.1. y

yaj 1. class: yajati (“to sacrifice”)
iṣ-ta PPP
iṣ-ti f. (“offering”)
← ie. root *Hyeḫ
→ gr. B hag-iography

yam 1. class: yacchati (“to hold, to restrain”)
On the one hand:
◇ full grade nouns yam-a (“restraining”)
◇ zero-grade PPP ya-ta
← ie. full grade *Hyem

On the other hand, yacchati with sḵ-suffix:
← ie. zero grade *yem-sḵ (SIB)

yama / yamala (“a twin, one of a pair or couple”)
← ie. root *yemH
→ lat. B geminate, with analogical g from genus (s.v. jan)

yā 2. class: yā-ti (“to go”), consequential of i, see pp. 79
← ie. *h₁i-eh₂
→ lat. iānuš (“doorway”, name of a god) with B janu-ary
∼ nir. place name “Baile Ætha Cliath” (“town (baile) of the ford (āth) of lattice (cliath): Dublin”)

yu 1. class: yu-cchati-ti / 3. class: yu-yā-ṭi (“to keep apart, to separate”)
On the one hand, full grade nouns:
◇ yava (“barley”)
E. Etymological dictionary

◇ **ava-yava** (“part”), see ava

← ie. root *yeu

On the other hand, **yu-cchatiti** with sk-suffix:

← ie. zero grade *yu-sk (SIB)

Compare is, icchati (“to wish”), gam, gacchati (“to go”), prach, prechati (“to ask”), and yam, yacchati.

**yu** 2. class **yâuti** / 9. class **yunâti** (“to unite, to mix”)

*yûsa* m. (“soup, broth”) ← ie. *yuH-s-o

← ie. root *yeuH

→ gr. B en-zy-me

**yuj** 7. class: **yu-na-k-ti** (“to yoke”)

*yugam* (“yoke”)

*yôga* (“yoking”)

← ie. root *yeug

→ lat. B junction, adjunct, conjugation, Spanish and Portuguese junta (“council, meeting”)

∼ e. yoke ∼ nhg. Joch

**yudh** 4. class: **yudh-ya-tê** (“to fight”)

*yudh* f. (“fight, battle”)

**yudh-i-sthira** PN with loc. in compound

← ie. root *Hieudh

→ lat. iubere (“to order”) with PPP iussus and B jussive mood (commanding with the subjunctive as in nhg. “man nehme”)

**yuv-an** m. (“youngster”), see p. 227

**yuv-at** (“young”)

*yuv-îyans* (comparative, “younger”)

*yuv-îziha* (superlative, “youngest”)

**yuv-aśa** (“young”)

← ie. *yuv
→ lat. B iuvenile

∼ e. young ∼ nhg. jungen

∼ nir. Tír na nÓg (“land of (eternal) youth”) where Tír is cognate with lat. terra (see tyr)

E.7.2. r

rākṣas (“demon”)
ṛkṣa (“bear”)

Perhaps both in the sense of infringer.

raghu (“light”) rl, see laghu, both zero grade from

← ie. *le(n)gʷ’h

→ lat. B levity (LAT_v)

∼ e. light ∼ nhg. leicht

∼ nhg. f.g. ge-leng-en (“to succeed”) and o-grade ge-lang-en (“to arrive, to reach”)

raj (“to get red”)
rajaka (“washerman”)
rakta (“coloured, red”)
dūrakta ← *dur-rakta (“badly coloured”) (CpLr)

ratha (“charriiot”)

← ie. *rotī

→ lat. B rotate

∼ nhg. Rad (“wheel”)

raji f. (“line, direction”)
rājana n. (“king”), see p. 226
rāṣṭram (“kingdom”)

← ie. *regh (“to extend in a straight line, to direct”)

→ lat. regere (“to direct, to guide”) and rēgula (“line, rule”) with B
E. Etymological dictionary

◇ PN Regina from lat. rēgīna ("queen")
◇ in English
  ● with g: reg-ion, reg-ime, inter-reg-num
  ● with c before voiceless t: di-rec-t, cor-rec-t
  ● without g: rule, rail-road (compare nail, p. 74)
◇ in German reg-ieren, Reg-el, Regisseur

∼ nhg. richtig, recht

∼ in German, but of Celtic origin: reich, Reich, PNs Heinrich, Richard

randhra ("vent, cavity") (rl)
← ie. *londh-v-o
→ lat. lumbus ("hips, loins") with B loins
∼ nhg. Lenden

rasa ("juice"), see rs

ric 7. class ri-na-k-ti ("to empty, to leave behind") (rl)
← ie. root *li(n)kʷ
→ lat. B de-linqu-ent, re-lic
∼ germ.
  ◇ e. to loan ∼ nhg. leihen ("to borrow, to lend"), Darlehen ("loan")
  ◇ e. loan word ∼ nhg. Lehnwort

riš 6. class: rišati ("to tear, to plug")
← ie. root *h₁reik
See likh with another extension.

rī 9. class: ripāti ("to flow")
← ie. root *h₃reih
→ lat.
  ◇ B. ir-ri-tation

358
E.7. Half vowels

- rīus (“small stream”) with B rival (“who shares the use of a stream”)

\[ ∼ \] e. run ∼ nhg. rinnen (“to flow, to trickle”)

**ru** 2. class: rāuti (“to cry, to roar”)

**rava** (“roaring”)

with dental extension: **rud** 2. class: rôditi (“to cry, to roar”)

\[ ← \] ie. root *h₃ reuH

\[ → \] lat

- rāvis (“hoarse”)

- B rumour

**rudhira** (“red”)

**lohita** (“red, copper”) (rl)

\[ ← \] ie. *rudhro

\[ → \] lat. ruber (with b after a) with B

- English ruby and German Rubin

- English rubric and German Rubrik

\[ ∼ \] e. red ∼ nhg. rot

**ruc** 1. class: rôcatê (“to shine, to please”) (rl)

\[ ← \] ie. root *leuk

\[ → \] gr. B lynx, leuk-emia

\[ ∼ \] lat. B Lucifer (“carrier of light” → PN of angel, see bhr), lūx in ex oriente lūx

\[ ∼ \] germ.

- e. light ∼ nhg. Licht

- nhg. Luch-s (“lynx”), er-lauch-t (“illustrious”), twice in lich-ter-loh (“blazing”)

See lōka.

**ruj** 6. class: rujati (“to break, to cause pain”)

See nis.

**rudh** 7. class: ru-pa-ddhi (“to detain, to check”)

359
E. Etymological dictionary

rōdha (“holding back”)

rudh 1. class: rōdhati (“to climb, to grow”) (rl)
ruh 1. class: rōhati (“to climb, to grow”) (see pp. 53
ruḍha PPP (pp. 116)
rōha (“growing, sprout”) with h instead of dh (pp. 53)
← ie. root *h₁leudh

rēkh-ā (“line, strip, picture”), see s.v. likh

rāi 1. class: rāyati (“to bark”) (rl)
← ie. root *leḥ₂(y)
→ lat. B to la-ment

rāi f. (“possession, wealth”)
rāyas-kāma (“desirous of property”)
← ie. root *Hre₁-i
→ lat.
◇ medīās in rēs (“in the middle of things → without an introduction”)
◇ reus (“defendant”) in in dubio pro reo
◇ B real, realtor, real estate

E.7.3. 1

likh 6. class: likhati (“to write”) (rl, Lar_CH)
lēkha (“line, letter”)
rēkha (“line, letter”)
← ie. root *h₁reikk₂
→ nhg. Reihe (“series, line”)
See riś with another extension.

laghu (“small”)
lagh-īyans (comparative, “smaller”)
lagh-īṣṭha (superlative, “smallest”)
raghu (“light”) by rl and zero grade from

360
E.7. Half vowels

← ie. *lengo’h

→ lat. B levity, to levitate

∼ germ.

◊ e. light ~ nhg. leicht
◊ nhg. f.g. gelingen (“to succeed”) and o-grade gelangen (“to arrive, to reach”)

lih 2. class: lêdhi (“to lick”)

<table>
<thead>
<tr>
<th>lih (“to lick”)</th>
</tr>
</thead>
<tbody>
<tr>
<td>present tense</td>
</tr>
<tr>
<td>infinitive</td>
</tr>
<tr>
<td>PPP</td>
</tr>
<tr>
<td>future</td>
</tr>
<tr>
<td>imperfect</td>
</tr>
<tr>
<td>perfect</td>
</tr>
<tr>
<td>redup. aorist</td>
</tr>
<tr>
<td>desiderative</td>
</tr>
</tbody>
</table>

1. lê-dhi is to be explained by

   ie.*leiḥ-ti (full grade)
   → lêiḥ-ti
   → lêiḥ-dhi (ASH)
   → lêz-dhi (sz before voiced stop)
   → lêz-dha (Ruki)
   → lêz-dhi (Cer D)
   → lê-dhi (CpLz, but ê already long)

   The infinitive follows a similar development.

2. Along very similar lines, we find the PPP

   ie. *liḥ-to (z.g. with to PPP marker)
   → liḥ-dha (ASH)
   → liz-dha (sz before voiced stop)
   → liz-dha (RUKI)
   → liz-dha (Cer D)
   → lê-dha (CpLz)
E. Etymological dictionary

3. Although athematic, 3. pers. PRH exhibits an. This holds for all verbs in the 2. class (except sās, see [163], but the 3. class shows just a (which would then turn into a).

4. The future form lēk-ṣy-a-ti is clear from
   a) failed aspiration shift together with
   b) BA

5. Parasmāipada imperfect sg. has a-lēt in both the 2. and 3. pers. For the 3. pers., we have
   
   ie. *e-leigh-t (full grade with ie. imperfect marker e)
   → a-lēj-dh (ASH)
   → a-lēz-dh (sz before voiced stop)
   → a-lēz-dh (RUKI)
   → a-lēz-dh (CerD)
   → a-lē-dh (CpLz, but ḍ already long)
   → a-lē-t (AFP, p. 45)

6. li-lēh-a is par. and hence regularly strong (pp. 188). li-lih-us is atm. and weak.

7. li-lik-ṣ-a-ti is expected desiderative in zero grade.
   ← ie. root *(s)leig
   → e. lick (in contrast to GER kk rather than g)
   ∼ nhg. lecken and also schlecken with s-mobile

lū 9. class: lunāti (“to cut, to destroy”)
   ← ie. root *luH
   → gr. B ana-ly-sis
   ∼ lat. so-lv-ere (“to release”) with first part so ← se as in sēcūrus (p. 71), B: ab-sol-ute, dis-sol-ution, re-sol-ute

lubh 4. class: lubhyati (“to desire”)
   ← ie. root *leubh
   → lat. quod libet (“what pleases”), lat. B libido
   ∼ e. to love ∼ nhg. lieben
E.7. Half vowels

lôka ("space, earth") (see ruc) from o-grade
← ie. *loukos
≈ PN Waterloo

lohitâ, see rudhim.

E.7.4. v

vâc 2. class: vakti ("to speak")
ukta PPP
sûktam ("well said, hymn") ← su ("good") + ukta
vâc f. ("word, voice")
← ie. root *vekw
→ gr. B epic (twice OGR)
≈ lat. B

◊ in English: to pro-voke, ad-voc-ate, voc-ative, vowel, voice
◊ in German: Vogt ("(dike) reewe") ← middle Latin vocâtus

vaj 1. class: vajati ("to get strong")
vaj-ra ("the hard or mighty one")
ôj-as ("power")
ôj-man m. ("strength, power")
vâj-a ("fight, strength")
← ie. root *veg
→ lat. B vig-orous, veg-ation, veg-ilant
≈ e. to wake ~ nhg. wachen and causative wecken, wacker (p. 73)

Perhaps related to uks.

vadhû ("bride, daughter in law")
← ie. root *vedh ("to pledge (a girl for marriage)")
E. Etymological dictionary

→ e. to wed ~ nhg. wetten (“to bet, to gamble”)

van 8. class: vanōti (“to win’’)
← ie. root *venH (“to like, to get used to”)
→ lat. goddess of love Venus
~ e. to win, PN: Winfred, Erwin ~ nhg. gewinnen, Wonne, wohnen

See vānch.

vanam (“forest”)
van consonantal noun (“tree, wood”), hence with genitive vanas in
vanas-pati m. (“lord of the forest, tree”)

vandhur (“plaited seat of carriage or plaited frame-work of carriage”)
← ie. root *vendh (“to twine”)
→ nhg. winden (“to twine”) and Wand (“originally plaited) wall”)

vam 1. class: vamiti (“to vomit”)
← ie. root *vem
→ lat. B to vomit

vas 2. class: vaṣṭi (“to wish”), paradigm pp. 160
a-vaṣṭyam adv. (“not to be wished ~ necessarily, indeed”)
← ie. root *vek

vas is not cognate with wish, but vānch is.

vas1 2. class: vastē (“to clothe”)
← ie. root *ves
→ lat. B to invest, investiture and German Weste
~ e. wear

364
**E.7. Half vowels**

**vas**

 Vas 2 ("to shine"), probably the same as *us*

**už-as** f. ("dawn") ← ie. *Hus-es

**ucchati** f. ("dawn") ← ie. *Hu-sk-

← ie. root *Hves

**vas**

1. class: **vasati** ("to live, to be")

**ušita / ušta / vasita** PPP

future **vat-sy-a-ti** by SIB

← ie. root *h2ves

→ e. was

~ nhg. ge-wes-en

**vah**

1. class: **vahati** ("to drive, to bring")

**anadvah** n. ("ox, draught animal ← pulling a cart") with first part *amas* (difficult cerebralization)

<table>
<thead>
<tr>
<th>vah (&quot;to drive&quot;)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>present tense</td>
<td>vah-a-ti</td>
</tr>
<tr>
<td>infinitive</td>
<td>vôdhum (2)</td>
</tr>
<tr>
<td>PPP</td>
<td>ū-dha (1)</td>
</tr>
<tr>
<td>future</td>
<td>vak-sy-a-ti (3)</td>
</tr>
<tr>
<td>imperfect</td>
<td>a-vah-a-t</td>
</tr>
<tr>
<td>perfect</td>
<td>u-vāh-a (4)</td>
</tr>
<tr>
<td>s-aorist</td>
<td>a-vāk-ši-t</td>
</tr>
<tr>
<td>desiderative</td>
<td>vi-vak-š-a-ti (3)</td>
</tr>
</tbody>
</table>

1. The ie. root of vah is *veqh. ū-dha* is regular by

ie. *uqh-to* (z.g. with to PPP marker)

→ uṣ-dha (ASh)

→ uz-dha (sz before voiced stop)

→ už-dha (RUKI)

→ uz-dha (CerD)

→ ū-dha (CpLz)

2. The infinitive *vôdhum* is not quite regular. One should have obtained
E. Etymological dictionary

ie. *veg-h-tum (full grade and tum-marker for infinitive)
→ vaj-dhum (ASH)
→ vaz-dhum (sz before voiced consonant)
→ vo-dhum (CpLz, pp. 50)

Here, leveling from regularly formed PPP u-dha is responsible for vodhum, with cerebral ḍh.

3. The future form vak-sy-a-ti is clear from failed ASh together with BA. Similarly the desiderative.

4. Lo

5. Samprastāna: By MVS, the reduplicative vowel u combines with the same vowel from the zero-grade root to produce u.  

← ie. root *veg (“to carry”)
→ lat. B vehicle, vec-tor, con-vex
≈ e. a-way ← Old English onweg
≈ nhg. be-weg-en, Weg, weg, Wiege, Woge, wägen, wiegen

vā (“or”)

← ie. *ue (“or”)
→ lat. ve (“or”)

vā 2. class: vāli (“to blow”)  
vāta (“wind”), see vātāyanam under i (“to go”)  
vāyu m. (“wind”)

← ie. root *h₂veh₁
→ lat. B velocity, to ventilate
≈ nhg. wehen (“to breeze, to blow”)

vāṇch 1. class: vāṇchati (“to wish”) with

◇ ie. iterative suffix śke → ocha as in gacchati (see gam)
◇ analogic insertion of n (otherwise *vācch)
← ie. *vn₁ H-ske (“to like, to get used to”)
→ e. wish \(\sim\) nhg. wünschen

\(\text{vār}\) n. (“rain”)
\(\leftarrow\) ie. *\(veh_1r\) (“water”)
\(\leftarrow\) lat. B ur-ine
Semantically, compare \(mih\).

\(\text{vi}\) (“away, from, off”), see \(dvi\) and \(viṃśati\)

\(\text{viṃśati}\) (“twenty”) f., not dual (for first part, see \(dvi\))
\(\leftarrow\) ie. \(*dvi-dkmnt-ih_2\) (“two tenners”), with ie. dual ending \(ih_2\) (see p. \(206\))
Compare \(pañcāsat\).

\(\text{vid}\) 2. class: \(vēṭṭi\) (“to know”), see \(vind\) below
\(\text{vēḍānta}\) (“end of Vedic literature”), see \(anta\)
\(\leftarrow\) ie. root \(*veid\)
→ gr. B \(\text{ide}\), ideology by OGR
\(\sim\) lat. B \(\text{video}\), lat. B \(\text{visa}\) (requirements) from lat. \(\text{vīsus}\) (“seen”)
\(\sim\) germ.
- Swedish \(\text{vetenskap}\) \(\sim\) nhg. \(\text{Wissenschaft}\)
- e. \(\text{wise}\) \(\sim\) nhg. \(\text{weise}\)
- nhg. \(\text{gewiss, bewusst}\)

\(\text{vēḍa}\) (“he knows”), an old “perfect” (with stative meaning, not with a temporal one) without reduplication
\(\text{vid-vān}\), perfect active participle, again without reduplication

\(\text{vidhavā}\) (“widow”)
\(\leftarrow\) ie. \(*\text{vidhevā}\)
→ e. \(\text{widow}\) \(\sim\) nhg. \(\text{Witwe}\)

Going even further back in time, one might reconstruct as ie. \(*h_1\text{v}-\text{dh}h_1-\text{ev-o}\) \(\leftarrow\) \(*\text{dvi-dhh}_1-\text{ev-o}\) where \(h_1v\) would have been dissimilated from \(dv\). The latter comprises “two” (see s.v. \(dvi\)) as in lat. B \(\text{di-division}\).

\(\text{vind}\) 1. class: \(\text{vind-a-ti}\) (“to find”), see \(\text{vid}\) above
E. Etymological dictionary

← ie. root *veind

\textit{vip} 1. class: \textit{vēpatē} ("to tremble, to be excited")
\textit{vip-ra} ("excited, wise") with
\begin{itemize}
  \item \textit{vipra} ("poet, learned brahmin")
  \item \textit{vipra-rājyam} ("Brahmin government")
  \item \textit{vipra-vīra} ("Helden begeisternd")
\end{itemize}
\textit{vēp-anam} ("trembling")
← ie. root *veip/ *veib
→ lat. B \textit{vibr-ant}

\textit{viś} 6. class: \textit{viśati} ("to enter")
\textit{viś} f. ("house, people") z.g., see pp. 108
← ie. root *veiṅ
→ gr. B \textit{economics (OGR)}
\sim lat. \textit{vīcus (LAT\_V)} ("village") and hence English \textit{vicinity} and French \textit{voisin}
("neighbor")

\textit{viśa} z.g. ("poison")
← ie. *veis
→ lat. \textit{vīrās (LAT\_V, LAT\_sr)} ("venom, poison")
\begin{itemize}
  \item B \textit{virus}
  \item B \textit{virulent}
\end{itemize}

\textit{vīra} ("man")
← ie. *vī-no
→ lat. B \textit{vir-ile, trium-vir-ate} (for first part see \textit{trayas})
\sim e. \textit{were-wolf} \sim nhg. \textit{Werewolf, Wergeld} ("expiation money" in Germanic law)

\textit{vr} 9. class: \textit{vṛṇīlē} ("to choose") (\textit{rd})
\textit{vara} ("choice, boon")
E.7. Half vowels

← ie. root *velh₁
→ lat. B bene-vol-ent (for bene, see s.v. diṣ), vol-untary

~ germ.
  ◊ e. will ~ nhg. wollen ("to want"), Wille ("will, intention"), Will-kür ("arbitrariness") (for second part, see s.v. jus)
  ◊ nhg. Wahl ("choice, election")

vr 5. class: vṛṇōti ("to cover, to conceal")
← ie. root *h₂ver
→ lat. aperīre ("to open") ← ie. *h₂ep-h₂ver with B aperitif (for first part, see s.v. apa)

vrka ("wolf") by p. 46 from
← ie. *w₁kʷo (SYConf, otherwise n.at. urka)
→ lat. (dialectal) lupus in "homo homini lupus est", also "a skin disease"

~ e. wolf ~ nhg. Wolf (IE_SY_L)

vṛj 7. class: vṛ-ṇa-k-ti ("to twist")

varga ("division, group")
← ie. root *verg
→ lat. B to di-verge, to conve-merge, on the verge

vṛt 1. class: vartatē ("to turn, to roll, to be")
← ie. root *vert
→ lat. B vertical, versus, verse

~ nhg. werden, Wurm

vāi 1. class: vāyati ("to be dry, to be extinguished")

nir-vāṇa ("extinguished, extinction")
ūna ("empty, deficient") z.g.
← ie. root *h₁veh₂
E. Etymological dictionary

→ lat. B vane, vanity

vyādh 4. class: vidhyati (“to pierce, to drill through”)
vyaḍha ("hunter")
vyaḍhī m. ("illness")
vyaḍhita ("ill")
vid-dha ("pierced, perforated")
aber nicht vi-dhi (see dhā)

vra-ta ("vow, religious observance, commandment")
← ie. *ver and with dental extension *verdh in the cognates below
→ lat. B verb, verbal
~ e. word ~ nhg. Wort (z.g., see IE_SY_L)

E.8. Sibilants

E.8.1. ś

śams 1. class: śamsati ("to declare, to recite")
← ie. root *kens
→ lat. B census, censorship, censure

śaṅk 1. class: śaṅkatē ("to doubt, to hesitate declare")
← ie. root *kenk
→ lat. cunctāri ("to be slow, to hesitate")
~ n. to hang ~ nhg. hängen and also nhg. Verhängnis ("doom"), Hängepartie ("adjourned game")

śatām ("hundred")
← ie. *kmṭōm ← ie. *dkmṭōm ("the tenth" tenner)
→ lat. B centipede (for second part see pad), centimeter (for second part see mā), percent
∼ e. *hund-red

∼ German *hundert from Old Saxon

See daša and pañcāśat.

śad (“to fall”)
śa-śāda pf.
śat-sy-ati fut.

← ie. root *ked

→ lat. B ac-cid-ent, cad-aver, oc-cas-ion

śap 1. class: śapati (“to vow, to curse”)

← ie. root *kap

→ lat.

◊ B cap-ture, cap-tive, cap-tion
◊ lat. cap-sula with English cap-sule
◊ lat. dē-cipere with English to de-ceive
◊ lat. re-cipere with English to re-ceive
◊ B inter-cep-t, to ac-cep-t, capable
◊ B prin-cep-al, parti-cep-ation, parti-cep-le

∼ german

◊ e. to heave ~ nhg. heben
◊ nhg. Haft (“imprisonment”), also sind haft (“sinful”) wahrhaftig (“truthful”)

śaranam (“protection”)
śarman n. (“shelter”)
āśāra (“shelter”)
śara (“skin on milk → fresh butter”)
śālā (“hall, large room”)

← ie. root *kel (“to cover, to hide”)

→ gr.

◊ B cal-yx, eucalyptus (“well-hidden calyx → name of a tree”) (first part see su)
◊ B apo-cal-ypse (“uncovering, revelation, end of the world”, part of the bible) (first part see apa)
E. Etymological dictionary

∼ lat.
   ◇ *cella* with B in English *cell* and B in German *Keller*, *Kellner* (early borrowings reflect pronunciation of lat. *c* as *k*), *Zelle* (later borrowing show that lat. *c* was pronounced as a voiceless sibilant before *e* or *i*)
   ◇ B *oc-cul-t*
   ◇ B *col-our*


**šaša** (“hare”) (with oi. forward assimilation š..s → š..š)
« ie. *šasó* (“grey”)
→ e. *hare* ∼ nhg. *Hase* (where e. *r* can be explained by VER, but nhg. *s* cannot)

**šas** 2. class: *šasti* (“to cut, to slaughter”)
**šastram** (“knife, weapon”)
« ie. root root *šēs*
→ lat. B to *castrate*

**šās** 2. class: *šāsti* (“to teach, to rule”)
**šāstram** (“rule, manual, teaching”)
« ie. root *šēHs*

**šīras** n. (“scull, head”)
« ie. *šērh₂*
→ lat. B *cer-ebal*

∼ nhg. *Hir-n*
Related to *šrīga*.

**šīva** (“favourable”)
« ie. *šēivo* (“friendly, intimate, dear”)
→ lat. B *civil*, *civilization*
Perhaps related to śṛ.

śṛ 2. class: śetē / 1. class: āyatē (“to lie, to sleep”)
śāya (“lying, sleeping”)
śayu (“lying, taking a rest”)
śayā (“bed”)
śayyā (“bed”) gerundive
śayyā-gṛham (“bedroom”)
ā-śaya (“stay, sojourn”)
jālā-śaya (“stay of water → lake”) ← jala (“water”) + ā-śaya

← ie. root *keyH

→ lat. cūnae f. pl. (“cradle”) with B incunable in the sense of “nappies, cradle”
   → “the earliest stages or first traces in the development of anything”
   → “a book or pamphlet printed in Europe before the year 1501, i.e., just after the
   invention of the printing press”

∼ e. home ~ nhg. Heim

śuc 1. class: śocate (“to shine, to grieve”) (PPal, SPal)

← ie. root keuk

śus 4. class: śusyati (“to become dry”)

← ie. root keus

śūnya (“empty”) 

← ie. root keuh₁

→ nhg. hohl, but see s.v. kula

śṛṅgam (“peak, horn”)

← ie. *kṛno

→ lat. B corner

∼ e. horn ~ nhg. Horn and furthermore nhg. Hirsch (“who carries a horn → stag”)

Related to śiras.

śraddhā f. (“belief, trust”)
E. Etymological dictionary

← ie. *kr̲d-dheh₁ (“to place in the heart → to believe”)

→ lat. B credit, credible, credo (literally 1. pers. sg.: “I believe”). Compare
  ◦ hyd
  ◦ διώδει s.v. ὅδα

śram 4. class: śrāmyati (“to tire”), compare the unrelated klam under kram
śrānta PPP (Lar_SY)
← ie. root *krem₁

śrī 1. class: śrayati (“to resort to, to lean”)
← ie. root āklem (i-extension of root found s.v. śar-ana)

→ gr.
  ◦ B cli-max (ogr. “ladder” in ogr. → English “highlight, summit”)
  ◦ B clinic (short for klinik technē (“the technique for healing bedridden people
  → medical science”), for technē see s.v. taks)

∼ lat.
  ◦ B client from pres.P ie. *kl̲-ent- (“leaning”), see ab-s-ent (p. 265)
  ◦ B climate (named after the position (inclination) of the sun)
  ◦ B with v-extension pro-cli-v-ity
  ◦ B with n-extension: in-clin-ed, de-cline, de-clin-ation

∼ germ.
  ◦ with n-extension: e. to lean ∼ nhg. lehnen, with w.-i. ie. ēr/ īl → e./nhg. r/
  l s.v. śrū
  ◦ e. ladder ∼ nhg. Leiter (compare climax under this entry)

śrī (“fortune, success, beauty, fame”)
śrēyans (comparative, “more beautiful, more exquisite”)
lagh-ūtha (superlative, “most beautiful, most exquisite”)

śrū 5. class: śṛyōti (“to hear”) (see pp. 88) (ṛt)
śravas (“fame”)
śrōmatam (“fame, renown”)
śloka (“verse, praise”)
← ie. root *klem
E.8. Sibilants

→ germ.
  ◇ e. loud ~ nhg. laut, läuten ("to ring, to toll"), with w.-i. ie. ūr/ūl → e./nhg. r/l s.v. ūri
  ◇ nhg. lauschen ("to listen")
  ◇ nhg. Leumund ("reputation"), with m-extension as in šromatan
  ◇ modern German name Lud-wig ← ohg. name Chlod-vig ("who is famous (in battles)")

ślaksṇa ("slippery, meagre, thin") ← n.at. ślakṣ
  ← ie. *ślōj
  → lat. B languid, lax
  ~ e. slack

śvāṇa ("dog")
  ← ie. *kroṇ
  → gr. B cynic
  ~ lat. canis in "cave canem"
  ~ e. hound ~ nhg. Hund

śvaśura ("father in law") with oi. backward assimilation s..ś → š..š
śvaśrū ("mother in law")
  ← ie. *svēkuro
  → nhg. Schwäher (unusual, "father in law") and Schwager ("son of the father in law") (VER)

śvas 2. class: śvasīti ("to hiss, to snort")
śvāsa ("sighing, breathing")
  ← ie. root *kvas
  → lat. querē ("to complain, to protest") with B querulous

śvēla ("white")
śvīr-ra ("whitish, white leprosy")
E. Etymological dictionary

← ie. root *kiyeit
∼ e. white ∼ nhg. weiß

E.8.2. s

sat/sas ("six")
← ie. *sveks
→ gr. B hexagon
∼ lat. sex with B sextet
∼ e. six ∼ nhg. sechs

Note:
◇ For final consonant, see subsection 3.3.5
◇ For initial consonant, see SI which is not really fitting.

śṭīv 1. class: śṭīvati ("to spit")
← ie. root *spieuH / *speiHu / *tspieuH (various suggestions, unclear)
→ lat. PPP spūtum with B sputum
∼ e. spew ∼ nhg. speien

E.8.3. s

sa ("with, provided with"), used in compounds for saha such as
◇ sodara ("belly") ← sa + udara ("brother")
◇ sa-dhana ("rich"), for second part see dhanam ("wealth") under dha ("to set, to put")

sakhi m. ("friend") Lar CH
← ie. *sok\w-h₂
→ lat. B social

376
See sac.

**sac** 1. class: *sacē* (“to follow”)

← ie. root *sekʷ*

→ lat. *sequi* with B *sequence, second* (i.e., “the following one”), German *Sekunde*

~ e. see ~ nhg. *sehen* (i.e., “to follow with the eyes”)

See o-grade sakhi.

**saj** 1. class: *sajati* (“to adhere, to stick”)

pa. bodhisatta (“a Buddha saint”) may go back to oi. bodhisattva (often written bodhisatva) (“an enlightened being”) or to *bodhisakta* (“who clings to enlightenment”)

**sad** 1. class: *sidati* (“to sit”) (see p. 80 and nīḍa)

upa-ni-sad f. (according to one interpretation: “what is taught when sitting down and close to”, indische Geheimlehre, see upa)

vi-sūda (“sorrow”)

← ie. root *sed*

→ gr. B via lat. cat-hedra (OGR):

◊ German *Kat-heder* (“lectern”)

◊ English *cathedral* (i.e., “a bishop’s seat”)

◊ French *chaire* (“rocking chair”)

~ lat.

◊ sīdere ~ oi. sidati (similar, but independent development)

◊ B *sed-entary, pre-sid-ing, re-sid-ing*

◊ ses-sion, obses-sion (LAT_DD)

**san** 8. class *sanōti* (“to obtain, to possess”)

sā-la PPP

gō-ṣaṇi (“acquiring cattle”), for first part see gō

← ie. root *senh₂*

→ lat. B sin-ister

**sana** (“old”)
E. Etymological dictionary

← ie. *seno
→ lat. B senate, senator

*sap* 1. class: *sapati* (“to worship”)
← ie. root *sep
→ lat. B sepulture

*sapta* (“seven”)
← ie. *septem*
→ ogr. hepta (as in heptagon)
∼ lat. septem
∼ e. seven ~ nhg. sieben

*sam* (“together”)
← ie. *sem* (“one”)
→ gr. B homosexual
∼ lat.
  ◊ semper (“always”) with B sempiternal ← semper + eternal
  ◊ B similar, simple
∼ germ.
  ◊ e. same
  ◊ nhg. sammeln (“to collect”), samt, sämtlich
  ◊ e. -some ~ nhg. -sam, both meaning “of same quality”, as in
    * e. tiresome, wholesome
    * nhg. kleidsam, gleichsam

See sāmi.

*sarpis* n. (“clarified butter”) *(rl)*
← ie. *solpī*
→ lat. B sulphur with difficult *ph*
E. Siblants

∼ e. *salve ("ointment") ∼ nhg. Salbe (VER: see accent in oi. sarpīs)

sarva ("all, every, whole") (rl)
→ ie. *sēHvo
→ gr. B holocaust, hologram
∼ lat. salūs, salūtis ("health, well-being") with B to salute (i.e., "to wish health"),
safe
∼ nir. slān ("good-bye")

sāmi ("in one → one of the two → half")
← ie. *sēmi loc. sg. ("in one")
→ gr. B hemi-sphere
∼ lat. B semi-final
See sam.

sidh 4. class: sidhyati ("to have success, to be valid")
sidh-ra ("perfect, good"), zero-grade ra-adjective
sādh 1. class: sādhati ("to be successful, to lead to one’s goal")
sādh-u ("able, noble, obedient")
← ie. root *seHdh

sādhayati is regular causative from ie. *seHdh.

sidh 1. class: sēdhati ("to interdict, to drive away")
← ie. *kjes-dhh₁ (sz, aā, CpLz)
→ lat. cōdere ("to go, to proceed") with B to proceed, to succeed, recession, credible,
credo (literally 1. pers. sg.: "I believe"). Compare dīvidere s.v. dhā and compare šraddhā.

siv 4. class: sīv-y-a-ti ("to stitch")
syū-la PPP ("bag")
← ie. root *seiHv (Lar_MTh)

379
E. Etymological dictionary

See div.

su (“good”)
sūktam (“well said, hymn”) ← su + akta (PPP of vac, “to say”)
sv-annam (“good food”, for second part see ad)
su-kham (“happiness, pleasure”)
su-ĝtu adv verb (“well”)
su-carita (“well-done”)
su-gandhi (“fragrant”, for second part see gandha, “smell, odor”)
sv-a-ccha (“pure, transparent”), see s.v. chad

← ie. *h₁su

→ ogr. eu ← *eh₁u in B

◇ ev-angelic, German Evangelium (lat. ending, “gospel”)
◇ eu-phemism, see bhan
◇ hygiene (similar to oi. su-ĝjvita (“living happily”), see ĝjv

May well be related to ie. *h₁es (see as)

su 5. class: suṇɔtī (“to press”)
suta (“squeezed”) PPP
savi-anam (“pressing Soma, childbirth”) or below at su (“to beget”)
ul-sav-a (“(drinking) festival”)
sōma (“Soma plant / juice”)

sura (“god”), back-formation (see p. 7) from asura (“lord of life, god, demon”):

<table>
<thead>
<tr>
<th>a-dēva (“demon”)</th>
<th>with negating a from:</th>
<th>dēva (“god”)</th>
</tr>
</thead>
<tbody>
<tr>
<td>just as</td>
<td>a-sura (“demon”), falsely</td>
<td>with negating a from:</td>
</tr>
</tbody>
</table>

su 2. class: sūtē (“to beget”)
sūla PPP (“having given birth”) and also suta (probably mixed in from su, “to press”)
sū m. (“father”)
sav-ana-m (“childbirth”) or above at su (“to press”)
savi-tar m. (“activator, father”)
← ie. root *seuH

sūkara m. (“pig”)
sūnu m. ("son")
← ie. *sūnu
∼ e. son ~ nhg. Sohn

sr 1. class: sarati ("to go, to flow") (rl)
← ie. root *sel
→ agr. hal-ma (as in board game) (OGR)
∼ lat.
 ◦ sal-īre ("to jump") with B sal-to via Italian
 ◦ B serum

sṛp 1. class: sarpatri ("to crawl, to creep")
← ie. root *serp
→ gr. B herpes ("spreading skin condition")
∼ lat. B serpent

skand 1. class: skandati ("to jump")
← ie. root *skend
→ lat. B to de-scend, to tran-scend

stan 1. class: stanati ("to thunder, to hum")
← ie. root *(s)ten
→ germ.
 ◦ with s-mobile: nhg. stöhnen ("to groan") (see subsection B.5.5)
 ◦ without s-mobile: e. thunder ~ nhg. donnern

stari ("a barren cow")
E. Etymological dictionary

← ie. *ster

→ lat. B sterile

stigh 5. class: stighnôti ("to step, to mount")

← ie. root *steigh

→ nhg. steigen, Steg, Steigeisen

stîr 5. class: strînôti / 9. class: strînâti, ("to spread")
stîrja PPP

vi-stara ("extension, detail")
vi-starêga ("at length")

← ie. root *sterH

→ gr. B a-stro-logy, a-stro-nomy, aster, desaster

∼ lat.

◇ stêlla ← *stêr-la with B con-stella-tion, stellar

◇ B sub-stratum

∼ nhg. Stern

sthag 10. class: sthagayati ("to hide, to cover")

← ie. root *(s)th2eg

→ lat.

◇ (B) toga

◇ têgula ("tile") → B German Ziegel

∼ e. thatcher ~ Dach ("roof")

See other instances of s-mobile at carman and lih.

sthâ 1. class: tiśhâti ("to stand")
sthâman n. ("station, position, strength")
stâman (meaning unknown) (see 2. below)

ul-thâja gerund "standing up" (DzD)
sthîra-rh ("steady, durable"), see pp. 121
sthîra-rh ("strong"), see below

yudhî-sîhra PN with loc. case ending

su-sthu adverb ("well"), see su

sthîyâ ("standing water") (see 3. below)
1. The ie. root is *sth₂. DA is not involved, but one obtains tištḥaṭi from

*ti-sth₂-e-ti (reduplication with i, z.g. root, thematic vowel)
→ *ti-sth-eti (Lar₁ CH: h₂ aspirates t)
→ ti-ṭh-ati (RUKI)
→ ti-ṭh-ati (CerD)

2. The aspirated oi. root stḥa is in full grade, as in the infinitive stḥa-tum and the future forms. The laryngeal seems to have caused both aspiration and lengthening of the vowel. However, ie. *sth₂-sy-e-ti should have produced stā-sy-a-ti. The rest is done by levelling:

<table>
<thead>
<tr>
<th>influenced by</th>
<th>with aspirated th</th>
</tr>
</thead>
<tbody>
<tr>
<td>stḥa-sy-a-ti</td>
<td>ti-ṭh-ati</td>
</tr>
</tbody>
</table>

Stāman is the regular form without levelling while sthāman shows levelling encountered also in the future forms.

Remember that voiceless aspirated plosives are mostly explained by laryngeals (as here) or by preceding s as in oi. sphira (SP). Aspiration in oi. root stḥa finds two explanations.

3. Similar to the future form, sthi-ta also shows double reflex of the laryngeal (both Lar₁ CH and Lar₁ V). Without aspiration, we have stiyā ("standing water").

4. The perfect ta-sth-āu is similar to da-d-āu from ḍā ("to give"). See p. 192

5. The desiderative is irregular in using the strong form.

← ie. root *sth₂

→ lat.

◊ si-stere (with reduplication similar to tištḥati) with B to desist, to resist, to subsist

---

E.8. Sibilants

<table>
<thead>
<tr>
<th>stḥa (&quot;to stand&quot;)</th>
</tr>
</thead>
<tbody>
<tr>
<td>present tense</td>
</tr>
<tr>
<td>infinitive</td>
</tr>
<tr>
<td>PPP</td>
</tr>
<tr>
<td>future</td>
</tr>
<tr>
<td>imperfect</td>
</tr>
<tr>
<td>perfect</td>
</tr>
<tr>
<td>root aorist</td>
</tr>
<tr>
<td>desiderative</td>
</tr>
</tbody>
</table>
E. Etymological dictionary

◇ B status, station

∼ e. *stand ∼ nhg. *stehen

sthūra ("strong")
sthūla ("big, fat")

sthav-īyans (comparative, "bigger")
sthav-īṣṭha (superlative, "biggest")

← ie. *sth2u-ro (from ie. *steh2 s.v. sthā above)

→ lat. B re-staur-ation, to restore

∼ nlg. stur ("stubborn")

snā 1. class: snāli ("to take a bath, to purify oneself"), consequential of n.at. san snā-la PPP

ni-ṣṇāla, ni-ṣṇa ("having plunged into → experienced")

← ie. root *sn-eh2

snāvan m. ("muscle, sinew")

← ie. *sneh1

→ gr. B neuron, neurology

∼ lat. B nervous

snih 4. class: snihyati ("to stick, to adhere, to like")

snih-dha PPP ("attached, lovely")

snih-a ("love, oil")

← ie. root *sneih2

→ e. snow ∼ nhg. Schnee

smi 1. class: smayalē ("to smile, to laugh")

smera ("smiling")

← ie. root *smei

→ lat. māras ("laughter → remarkable"), also in annus mira-bilis ("a wonderful year")

and in B miracle
smr 1. class: smarati (“to remember”)
← ie. root *(s)mer

sprḥ 10. class: sprḥayati (“to long for, desire intensely”)
← ie. root *sperḥ
→ with nasal infix e. to spring ~ nhg. springen

sphāy 1. class: sphāyatē (“to grow large or fat”)
sphi-ra (“fat”) (sP(h))
← ie. root *sphɛh₁
→ lat. spēs f. (“hope”) with B esperanza
∼ lat. B pro-sper, pro-sper-ity

spfic f. (“buttock, hip”)
← ie. *sp...
→ nhg. Speck (“bacon”)

sva (“own”)
← ie. *svo
→ lat. suus in

◊ “Iustitia suum cuique distribuit” (“Justice renders to everyone his due.”) by the Roman politician Marcus Tullius Cicero (106 BC – 43 BC)
◊ sui generis (“of its (his, her, or their) own kind; in a class: by itself; unique”)

∼ oir. féin ← *sve-(de)sin (“own, self”). Sinn Féin (“we ourselves”) is a political party in Ireland, active in both parts. See also nir. mo theanga féin (“my own language”)

∼ nhg. sich

See svadhā.

svadhā (“custom, home”) ← sva + dhā
← ie. *(v)edhūs
E. Etymological dictionary

\[\rightarrow\] ogr. \(\text{\textit{\textit{etos}}}\) in B \textit{ethics} (\texttt{OGR\_DA} twice, \texttt{OGR\_DA})

\[\sim\] nhg. \textit{Sitte}

\textit{svan} 1. class: \textit{svanati} (“to sound”)

\[\leftarrow\] ie. root \(*s\text{ven}\text{H}\)

\[\rightarrow\] lat. \textit{son-are} (by \textit{sve} \rightarrow \textit{swo} \rightarrow \textit{so} as in \textit{sol\textcircled{\textbf{o}}r}, see \textit{svasar}) with B \textit{son-\textit{ata}}, \textit{son-ic}, \textit{re-sonance}

\textit{svap} 2. class: \textit{svapiti} (“to sleep”)

\[\leftarrow\] ie. root \(*svep\)

\[\rightarrow\] gr. B \textit{hypnosis} (\texttt{OGR})

\[\sim\] lat. \textit{somnus} (by \textit{p} \rightarrow \textit{m} before nasal) with B \textit{somnambulant}, \textit{somniferous} (for second part see \texttt{bhr})

\textit{svar} 1. class: \textit{svarati} (“to sound”)

\textit{svara} (“sound, voice, vowel”)

\textit{su-svar-am} adv. (“very sweetly”)

\[\leftarrow\] ie. \(*s\text{vever}\)

\[\rightarrow\] e. \textit{an-swer} \leftarrow Old English \textit{and-s\text{w}ar\text{u}} (“to sound against”) \sim nhg. \textit{Antwort}, e. \textit{swear} \sim nhg. \textit{schwören}

\textit{svar} (“the space above the sun”) \leftarrow ie. \(*s\text{hev\text{el}}, related to \textit{s\text{urya}} (“sun”)) \leftarrow ie. \(*s\text{ub\text{a\text{-}}yo} by \texttt{Lar\_CH}

\[\leftarrow\] ie. \(*s\text{hev\text{el}-}\)

\[\rightarrow\] gr. B \textit{helio-centric}

\[\sim\] lat. \textit{s\text{ö}l} (“sun”) in famous neapolitan song: \textit{o sole mio}

\textit{svasar} f. (“sister”)

\[\leftarrow\] ie. \(*s\text{ves\text{o\text{-}}r}\)

\[\rightarrow\] lat. \textit{so\text{o\text{-}}r} (by \textit{s\text{\textcircled{\textbf{e}}\text{e}}} \rightarrow \textit{s\text{\textcircled{\textbf{w}}}o} \rightarrow \textit{so} as in \textit{son\textcircled{\textbf{a}}re}, see \textit{svan}) with B \textit{sorority}

\[\sim\] e. \textit{sister} \sim nhg. \textit{Schwester}

386
**E.9. Aspirant h**

**svad** 1. class: **svadatê** (to taste, to be sweet or pleasant to the taste)

svādu (sweet)

← ie. root *svēh₂du* (with difficult to explain a in svad)

→ gr. B *hedonic* (OGR)

~ lat. B *suave*

~ e. sweet ~ nhg. süβ

**svāmin** m. (master, owner) ← sva + (perhaps) amā + in

**svid** 1. class: **svēdatê** (to sweat)

← ie. root *svēid*

~ e. sweat ~ nhg. Schweiß

---

**E.9. Aspirant h**

ha (enclitic emphasizing particle meaning “indeed”), see s.v. iti

**han** 2. class: **han-ti** / 10. class: **pra-ghnālayati** (to hit, to kill)

ghna (killing) as in **satru-ghna** (killing the enemies, one of Rāma’s brothers), see pp. 135

vytra-han (“Vṛtra killer, Indra”) with ved. nom. sg. vytra-hā (compare rājā on p. 50)

a-ghnyā gerundive: pp. 141 (“not to be killed → cow”)

**hīṃsa** (“violence”, see pp. 126)

<table>
<thead>
<tr>
<th>han (“to hit”)</th>
</tr>
</thead>
<tbody>
<tr>
<td>present tense</td>
</tr>
<tr>
<td>infinitive</td>
</tr>
<tr>
<td>PPP</td>
</tr>
<tr>
<td>future</td>
</tr>
<tr>
<td>imperfect</td>
</tr>
<tr>
<td>perfect</td>
</tr>
<tr>
<td>desiderative</td>
</tr>
</tbody>
</table>

1. han-ti is regularly produced from ie. *gʷhen-ti* (SPal). The strong form han is also seen in the infinitive.
E. Etymological dictionary

2. The future forms also use the strong form. The \( i \) is a reflex of laryngeals, in this case. By analogy with laryngeal verbs like \( jan \), \( i \) has spread to other verbs like \( han-i-sy-a-ti \). A second future form is \( han-sy-a-ti \).

3. SPal does not occur before consonants. Thus, we find (with the regular loss of the labial element) the weak (!) PRII 3. pers. pl. forms. Similarly perf. 3. pers. pl.

4. The PPP ha-ta is not fully explainable by SY \( \_N \), because one should expect ghat-a, without SPal. Analogy with forms like na-ta (see p. 112) may be responsible.

5. Identical parasmâipada imperfect 2. and 3. pers. sg. are common in athematic verbs. Due to CCI, the endings \( s \) (2. pers.) and \( t \) (3. pers.) are lost:
   \( \diamond a\text{-}han \leftarrow a\text{-}han-s \)
   \( \diamond a\text{-}han \leftarrow a\text{-}han-t \)

6. Lo and no secondary palatalization because of ie. root vowel \( o \) in strong perfect form.

7. There exist two different desideratives for \( han \) ("to kill") \( \leftarrow \) ie. *\( gw \)hen, depending on the suffix. On the one hand, we have the \( Hs \) desiderative shown in the table above:

\[
\begin{align*}
^*g^w & hi-g^w h_n^o - Hs- \\
\rightarrow & g^w hi-g^w h\tilde{a}-s- \text{ (laryngeal after syllabic } g) \\
\rightarrow & g^w i-g^w h\tilde{a}-s- \text{ (DA)} \\
\rightarrow & ji-gh\tilde{a}-s- \text{ (SPal)} \\
\rightarrow & ji-gh\tilde{a}m-s- \text{ (lev. from ha\(m-sy-a-ti\)?)} \rightarrow ji-gh\tilde{a}m-s-a-ti \text{ he wishes to kill} \\
& \rightarrow ji-gh\tilde{a}m-s-u \text{ revengeful} \\
& \rightarrow ji-gh\tilde{a}m-s-\tilde{a} \text{ revenge}
\end{align*}
\]

On the other hand, the \( s \) suffix yields:

\[
\begin{align*}
^*g^w & hi-g^w h_n-s- \\
\rightarrow & hi-g^w h-n-s- \text{ (SPal)} \\
\rightarrow & hi-n-s- \text{ (CCI)} \\
\rightarrow & hi-m-s- \rightarrow him-s-a-ti \text{ he injures} \\
& \rightarrow him-s-\tilde{a} \text{ injury}
\end{align*}
\]

\( \leftarrow \) *ie. root \( gw \)hen

\( \rightarrow \) lat. (B) to de-fen-d

\textbf{ha\(mpsa \) ("goose")}

388
E.9. Aspirant h

← ie. *ʔhans
→ germ.

◊ e. goose ~ nhg. Gans (NHG_E)
◊ e. yawn ~ nhg. gähnen (i.e. the goose is the yawner) (compare e. yellow ~ gelb)

hanu (“chin, jaw”) (PPal)
← ie. *ʔen-u
→ e. chin ~ nhg. Kinn

Perhaps, the basic meaning of ie. *ʔen-u/ʔonu is “curve” and this word is the same as jānu (“knee”).

hari/ hiri (“golden, yellow”, name of Viṣṇu)
← ie. *ʔēlh₃
→ gr. B chl-orine

~ lat. helvus (“yellow”) in the Latin name for Switzerland: Confoederatio Helvetica
   (abbreviation: CH)
~ e. yellow ~ gelb (compare e. yawn ~ nhg. gähnen)

hary 1. class: haryati (“to desire, to yearn after”) (PPal)
← ie. *ʔher
→ gr. B char-isma
~ nhg. gern(e)

has 1. class: hasati (“to laugh”)
← ie. root *ghes (SPal)

See jaks.

hasta (“hand”)
← ie. *ʔhes-/ *ʔhes-r
E. Etymological dictionary

→ gr. B chir-uryg

hi 5. class: hinōti ("to push, to move, to promote")
he-tu ("reason, argument")

hima ("winter, snow") with B Himalaya (PPal)
← ie. *gheim

→ lat. B to hi-bernate

hu 3. class: juhōti ("to sacrifice")
juh-ū ("ladle")

<table>
<thead>
<tr>
<th></th>
<th>present tense</th>
<th>infinitive</th>
<th>PPP</th>
<th>future</th>
<th>imperfect</th>
<th>perfect</th>
<th>s-aorist</th>
<th>desiderative</th>
</tr>
</thead>
<tbody>
<tr>
<td>hu</td>
<td>jū-hō-ti (3)</td>
<td>hō-tum (1)</td>
<td>hu-ta (5)</td>
<td>hō-ṣy-a-ti (2)</td>
<td>a-ju-hō-t (3)</td>
<td>jū-hav-a (7)</td>
<td>a-hāu-ṣ-ṣ-t</td>
<td>jū-hā-ṣ-a-ti (8)</td>
</tr>
<tr>
<td></td>
<td>jū-hv-a-ti (4)</td>
<td></td>
<td></td>
<td>hō-ṣy-a-n-ti (2)</td>
<td>a-ju-hav-us (6)</td>
<td>jū-hav-us (7)</td>
<td>a-hāu-ṣ-us</td>
<td>jū-hā-ṣ-a-ti (8)</td>
</tr>
</tbody>
</table>

1. From ie. *gʰeu, we regularly obtain the full-grade infinitive hō-tum by DIPH and PPal.
2. The future forms are also in full grade, with the application of RUKI.
3. The present tense 3. pers. sg. jū-hō-ti is, of course, in full grade:
   ie. *gʰu-gheu-ti
   → ġu-ğhō-ti (DA)
   → jū-hō-ti (PPal)
   Similarly, impf. sg.
4. jū-hv-a-ti (and, similarly, bi-hhy-a-ti) regularly reflect SY_ N and hV.
5. The expected zero grade is present in the PPP hu-ta.
6. As a peculiarity of the 3. class, the imperfect 3. pers. pl.
a) is in full grade and
b) shows the ending us,
here in a-ju-hav-us and similarly in a-bi-bhay-us from bhī.

7. ju-hāv-a is regular:
   ie. *ḍhu-ḍhou-e (reduplication, o-grade)
   \[\rightarrow \]  ḍu-ḍhou-e (DA)
   \[\rightarrow \]  ju-hōv-e (PPal, hV)
   \[\rightarrow \]  ju-hōv-e (Lo)
   \[\rightarrow \]  ju-hāv-a (aā)

By V + hV, perfect pl. ju-hav-us is regular.

8. ju-hū-s-a-ti shows irregular (but not isolated) long ū where the zero grade would be expected.

\[\leftarrow \]  ie. root *ḍhùeu and ie. *ḍhùeud
\[\rightarrow \]  lat. B fondue, con-fus-ion, in-fus-ion (LAT_f)
\[\sim \]  nhg. gießen

**hurch**
1. class: hūrchati (“to be crooked, to deceive”)
   hūrchana (“the act of going crookedly, crookedness”)

On the one hand, full-grade hvar-as n. (“crookedness, dishonesty”) \[\leftarrow \]  ie. *hevHeres (Lar_CH)

\[\leftarrow \]  ie. root *hevHer

On the other hand, hūrchati \[\leftarrow \]  ie. *hr H-sk-e-ti, with sk-suffix

\[\leftarrow \]  ie. zero grade ie. *huHr-sk-e-ti (Lar_V, SIB)

Compare gam, gacchati.

**hṛ**
1. class: harati (“to take, to rob”) (PPal)

\[\leftarrow \]  ie. root *ḍher (“to take, to grab”)

\[\rightarrow \]  lat. B co-hor-t (but may alternatively belong to lat. hortus s.v. grha)

**hṛd** n. (“heart”) with mysterious oi. h

su-hṛd m. (“having a good heart → friend”)
E. Etymological dictionary

→ gr. B cardiology

∼ lat. cor, cordis with B dis-cond, French cordialement

∼ e. heart ∼ nhg. Herz

See also śraddhā.

hrṣ 1. class: hrṣati/ 4. class hrṣyati ("to bristle, to become erect (as the hair of the body") (PPal)

← ie. root *ṛḥers ("to stiff, to be surprised")

→ lat. (B) horror and lat. B horrific

hyas ("yesterday")

← ie. *ṛḥ-di-es ("yesterday") (with simplification of initial cluster in most languages)

→ e. yes-terday ∼ nhg. ges-tern

See a-dya s.v. déva.
Index

A

ādhra, 122, 267, 328
ādi, 21
ājī, 251
ājñāpayati, 62
ākāśa, 64
ākūta, 281
ānā, 254
āṇāvēdi, 62
ānanda, 31, 325
āp, 90, 173, 176, 267
āpād, 109
āpāt, 109
āpānāti, 90, 267
āpānuhī, 175
āpānumas, 90
ārṣya, 261
ārṣyasutra, 60
ās, 19, 268
āsa, 265, 269, 270
āsam, 154
āsana, 268
āsandā, 268
āsā, 264
āśāra, 371
āśāya, 373
āśisṭha, 200
āśu, 21, 264
āśvaśa, 21, 264
āsīs, 154
āsīt, 154
āstē, 268
āṭithya, 253
āṭmaja, 136
āṭman, 228, 267

ātmanepada, 144-146, 148
āṭmanvīt, 136
āuṣṭam, 161
āvīs, 268
āyam, 155
āyām, 155
āyus, 268
ah, 258
abha, 257-259
abhas, 136
abhdi, 257
abhdis, 135
abduction, 258
abh, 258
abhântsus, 202
abhī, 259, 265
abhī-i, 98, 120, 209
abhīṣṭa, 259
abhīṣu, 259
abhūta, 120, 269
abhūṭis, 120, 269
abhīvyakta, 252
abhīva, 131, 259
abhīyāsa, 263
abhīyasta, 265
abhīyāyas, 98
abhībhar, 166
abhībhagam, 168, 169
abhībhagus, 169, 391
abhībhēs, 168, 169
ablaut, 234-260, 67, 68
abhīdēś, 200
abhīdhīt, 344
abhīdhīt, 200

393
abódhiṣu, 344
abortion, 277
abravīś, 163
abravīt, 163
abstent, 265
absolute, 362
abstraction, 258
a-budh, 217
ac, 252
acati, 252
accept, 257
accha, 357
accident, 357
accusatives, 210
Achse, 250
acht, 66, 73, 264, 265
acirat, 213
acirēna, 245
Acker, 73, 252
acre, 73, 252
acrobat, 288
act, 251
action, 251
active, 251
actual, 251
ad, 85, 253, 264
adadhūs, 321
adadhus, 312
addha, 62, 63
adelphos, 289
addept, 268
adha, 60
adhākṣīt, 311
adharā, 254
adhas, 254
adhēk, 314, 316
adhisī, 59
adhī-i, 98, 109, 110, 120, 209
adhita, 110, 120, 209
adhītis, 120, 209
adhōk, 156
adhīyagānam, 99
adhīyugas, 98
adīti, 312
adīta, 121
adjudicate, 268
adjunct, 356
admas, 85
adopt, 268
aduhi, 156
adus, 199
advent, 288
adverbs, 244-246
ablative, 245
accusative, 245
adhā-suffix, 246
instrumental, 245
locative, 246
sas-suffix, 246
tas-suffix, 246
val-suffix, 246
advēl, 320
advocate, 363
adya, 317
acdifficium, 270
acēris, 260
aes, 260
acēterminus, 268
affect, 322
after, 258
aga, 133, 249
agada, 287
agatika, 26, 66
agenda, 251
agent, 251
agent nouns, 231-233
agēlos, 252
aggha, 63
aggi, 62
aghma, 388
aghnya, 251
aghnya, 251
aghnya, 387
agile, 251
agitate, 251
agni, 62, 251
agra, 31
agnam, 251
agnam, 249
agnam, 277
agnam, 135, 329
<table>
<thead>
<tr>
<th>Term</th>
<th>Page(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>agrarian</td>
<td>252</td>
</tr>
<tr>
<td>agrarius</td>
<td>252</td>
</tr>
<tr>
<td>agratas</td>
<td>240</td>
</tr>
<tr>
<td>agrêe</td>
<td>251</td>
</tr>
<tr>
<td>aha</td>
<td>60</td>
</tr>
<tr>
<td>ahám</td>
<td>266</td>
</tr>
<tr>
<td>ahan</td>
<td>162, 266, 388</td>
</tr>
<tr>
<td>ahár</td>
<td>266</td>
</tr>
<tr>
<td>ahinas</td>
<td>183</td>
</tr>
<tr>
<td>ahorâtra</td>
<td>266</td>
</tr>
<tr>
<td>áima</td>
<td>155</td>
</tr>
<tr>
<td>Áird Mhór</td>
<td>276</td>
</tr>
<tr>
<td>áit</td>
<td>155, 270</td>
</tr>
<tr>
<td>aithô</td>
<td>270</td>
</tr>
<tr>
<td>aj</td>
<td>251</td>
</tr>
<tr>
<td>aja</td>
<td>251</td>
</tr>
<tr>
<td>ajayara</td>
<td>289</td>
</tr>
<tr>
<td>ajati</td>
<td>251</td>
</tr>
<tr>
<td>ajîrtis</td>
<td>121</td>
</tr>
<tr>
<td>ajîra</td>
<td>251</td>
</tr>
<tr>
<td>ajjiûtta</td>
<td>60</td>
</tr>
<tr>
<td>ajma</td>
<td>251</td>
</tr>
<tr>
<td>ajman</td>
<td>251</td>
</tr>
<tr>
<td>ajra</td>
<td>252</td>
</tr>
<tr>
<td>ajhuavam</td>
<td>169</td>
</tr>
<tr>
<td>ajhuavus</td>
<td>169</td>
</tr>
<tr>
<td>ajhûos</td>
<td>169</td>
</tr>
<tr>
<td>akâla</td>
<td>66</td>
</tr>
<tr>
<td>akhiîa</td>
<td>287</td>
</tr>
<tr>
<td>akhiîêna</td>
<td>243, 287</td>
</tr>
<tr>
<td>akkhi</td>
<td>58, 64</td>
</tr>
<tr>
<td>akrîya</td>
<td>66</td>
</tr>
<tr>
<td>akropolis</td>
<td>264</td>
</tr>
<tr>
<td>aksa</td>
<td>250</td>
</tr>
<tr>
<td>aksan</td>
<td>250</td>
</tr>
<tr>
<td>aksi</td>
<td>58, 64, 250, 271</td>
</tr>
<tr>
<td>alakâm</td>
<td>260</td>
</tr>
<tr>
<td>alâm</td>
<td>254, 260</td>
</tr>
<tr>
<td>alasa</td>
<td>263</td>
</tr>
<tr>
<td>alerted</td>
<td></td>
</tr>
<tr>
<td>alet</td>
<td>158, 362</td>
</tr>
<tr>
<td>alibi</td>
<td>256, 271</td>
</tr>
<tr>
<td>alibiî</td>
<td>271</td>
</tr>
<tr>
<td>alius</td>
<td>256</td>
</tr>
<tr>
<td>allegory</td>
<td>256</td>
</tr>
<tr>
<td>allergy</td>
<td>256</td>
</tr>
<tr>
<td>allos</td>
<td>256</td>
</tr>
<tr>
<td>alpha</td>
<td>62, 102</td>
</tr>
<tr>
<td>alphagein</td>
<td>262</td>
</tr>
<tr>
<td>alpﬁyas</td>
<td>102</td>
</tr>
<tr>
<td>am</td>
<td>259</td>
</tr>
<tr>
<td>amâ</td>
<td>259</td>
</tr>
<tr>
<td>amâî</td>
<td>260</td>
</tr>
<tr>
<td>amâîya</td>
<td>260</td>
</tr>
<tr>
<td>amateur</td>
<td>259</td>
</tr>
<tr>
<td>amâtî</td>
<td>259</td>
</tr>
<tr>
<td>amâtra</td>
<td>259</td>
</tr>
<tr>
<td>ambâî</td>
<td>260</td>
</tr>
<tr>
<td>ambha</td>
<td>260</td>
</tr>
<tr>
<td>ambîence</td>
<td>259</td>
</tr>
<tr>
<td>ambiuous</td>
<td>259</td>
</tr>
<tr>
<td>ambî</td>
<td>260</td>
</tr>
<tr>
<td>ambivalenê</td>
<td>259</td>
</tr>
<tr>
<td>ambrossa</td>
<td>353</td>
</tr>
<tr>
<td>ambu</td>
<td>260</td>
</tr>
<tr>
<td>amicus</td>
<td>259</td>
</tr>
<tr>
<td>aqîhas</td>
<td>250</td>
</tr>
<tr>
<td>aîhu</td>
<td>250</td>
</tr>
<tr>
<td>amicable</td>
<td>259</td>
</tr>
<tr>
<td>amîî</td>
<td>259</td>
</tr>
<tr>
<td>Amme</td>
<td>260</td>
</tr>
<tr>
<td>aînas</td>
<td>260, 350</td>
</tr>
<tr>
<td>a-Mol</td>
<td>354</td>
</tr>
<tr>
<td>amortize</td>
<td>354</td>
</tr>
<tr>
<td>amphitheater</td>
<td>259</td>
</tr>
<tr>
<td>an</td>
<td>254</td>
</tr>
<tr>
<td>ana</td>
<td>254</td>
</tr>
<tr>
<td>anâgata</td>
<td>249</td>
</tr>
<tr>
<td>anâîrmañîa</td>
<td>66</td>
</tr>
<tr>
<td>anâyaka</td>
<td>66</td>
</tr>
<tr>
<td>anâîrvaîk</td>
<td>254, 365</td>
</tr>
<tr>
<td>anakîîa</td>
<td>230</td>
</tr>
<tr>
<td>anakîîî</td>
<td>252</td>
</tr>
<tr>
<td>anâla</td>
<td>254</td>
</tr>
<tr>
<td>analogical change</td>
<td>6</td>
</tr>
<tr>
<td>analogy</td>
<td>6</td>
</tr>
<tr>
<td>anâîlysis</td>
<td>362</td>
</tr>
<tr>
<td>ananta</td>
<td>26, 66, 249</td>
</tr>
</tbody>
</table>
Index

anaptýxis, 55
anarchy, 60 250
anas, 254
ań, 252
ańcatis, 252
ancilus, 296
an, 85
anderer, 74 256
andrology, 326
andros, 256
anecdote, 212
anéka, 250
anër, 256
aniqara, 251
angel, 252
angere, 250
Angst, 250
ánula, 254
anima, 255
animal, 255
animas, 85
animalia, 255
animated, 255
animus, 255
anti, 250
aniti, 85 254
ańj, 252
anka, 64 65 250 252
anna, 253
annual, 253
annus, 253
anya, 250
antam, 250
antama, 255
antar, 255
antam, 255
antarāṇa, 255
antarīkṣa, 255
antarīkṣa, 255
antarṣya, 255
antarṣyā, 255
antastya, 255
ante, 250
anti, 250
antibiotics, 256
antimitra, 256
antipode, 256 332
Antwort, 386
anyünci, 256
anu, 201 255 257
anu-i, 98 120 209
anuja, 255
anútāpa, 137
anuttama, 273
anūpa, 257
anvāk, 252 255
anvaitic, 253 256
anvartha, 20
anvayas, 98
anvita, 240 269
anvitis, 240 269
anzious, 250
anya, 256
anyónya, 256
anyónyam, 256
aorist, 199 202
root aorist, 198 199 199
sigmatic aorist, 199 202
thematic aorist, 197 198
ap, 256
apia, 257
apāna, 255
apāk, 252
apāna, 255
apānc, 257 258
aparna, 257
apaptat, 77
apara, 257
apasa, 258
apatanam, 257
apatya, 257
aparitif, 369
aphasia, 345
api, 258
apama, 258
apor, 258
apocalypse, 258 371
apodictic, 373
apothecary, 322

396
Index

Apotheke, 322
appa, 62
appetite, 331
apsuja, 136, 256
apsujit, 136, 256
apunām, 187
apuni, 187
apus, 335
apurta, 66
ar, 97, 261
ara, 260
arable, 275
aram, 260
aramati, 260
arṇa, 261
arṇi, 261
arṇya, 261
arṇyangāsīn, 261
arṇyangākas, 261
aras, 97
aratha, 66
aratni, 261
Arbeit, 262
arth, 262
arc, 98, 261
arcati, 98, 261
arctic, 277
ardent, 269
ardha, 262, 262
ardour, 269
ardous, 276
argent, 262
argentum, 262
argha, 63
argument, 262
arh, 262
arhat, 262
ari, 261
arid, 269
arity, 261
arjata, 262
arjun, 262
arkas, 98
Arm, 272
arm, 262, 272
armament, 261
armature, 261
armilla, 271
armillary, 271
arṣati, 277
arśas, 262
artha, 20, 31, 262
arṇas, 180
arṇat, 180
arṇa, 261
arṇaman, 261
as, 85, 121, 153, 265
Asche, 269
Aschermittwoch, 269
āś, 176, 177, 188, 264, 269
āśā, 188, 264
āśās, 163
āśāt, 163
āśītum, 264
āśīman, 264
āśīnāti, 188, 264
āśinīti, 264
āśīnutē, 177
āśīnvātē, 177
āśīnvē, 177
āśīri, 264
āśīla, 264
āśīla, 41
āśīlā, 264
āśīva, 21, 264
āśīvattha, 264
āśīvin, 264
ās, 154, 265
āsk, 35, 44, 271
āsmākam, 209
āsmāsu, 208
āsocial, 67
aspect, 334
aspiration dissimilation, 37
aspiration laws, 37, 38, 93, 95, 104
aspiration shift, 97, 104
āstra, 122, 265
Index

asrj, 266
assimilation, 39, 41
astam, 265, 327
astam gacchati, 327
aster, 382
asthi, 266
asti, 25, 58, 66, 73, 83, 265
astrology, 382
astronomy, 382
asu, 31, 265
asura, 265
asuras, 7
asīgati, 266
asati, 122, 265
at, 253
atanvan, 304
atati, 253
atva, 253, 270
Aten, 267
atha, 60
atheist, 66, 250
athematic classes, 84-89
athematic nouns, 203
athematic verbs, 142, 146-148, 151, 160
endings, 142, 148
athiti, 60
ati, 31, 253
at-i, 98
atīta, 81
atīva, 31, 253, 270
atithi, 253
atthi, 98
atti, 85, 253
atvarā, 309
atya, 253
atyayas, 98
auction, 272
auctoritas, 272
audacity, 263
Auge, 250
augment, 272
Augustus, 272
aurora, 273
aus, 71, 273
āuśva, 160
auster, 275
Australia, 275
Austria, 275
authority, 272
av, 96, 100, 263
ava, 263
avāk, 252, 263
avāksus, 201
avāṅc, 263
avākā, 152
avolakita, 58
avama, 263
avara, 263
avare, 263
avasāna, 263
avasātr, 263
avasyam, 243, 249, 364
a-vat, 160
avati, 96, 263
avatīna, 63
avayava, 356
avēs, 153
avēt, 153
avi, 263
avid, 263
avidus, 153
avitar, 100
avitum, 96, 100, 263
avōcata, 92
avayya, 98
avyayam, 98
avyayas, 98
away, 366
axis, 250
axle, 250
ayāsīt, 201
ayana, 31, 269
ayas, 260
āyogī, 260
ayus, 152

B
bāhu, 343
Index

bāla, 342
babandha, 342
babandhás, 342
babhān, 304
babhrū, 342
babhvā, 38
Backe, 345
back-formation, 7
backward assimilation, 39
bacteriophage, 345
Bad, 72
badhā, 112
badhānā, 188
badhnāti, 124
badhyatā, 124
Bahre, 349
bahu, 32
bahuḍā, 246
bahuḍāśṇam, 32
balam, 342
balavān, 218
balavadeśas, 218
balavant, 203
balabalākṛ, 342
ban, 345
banal, 345
bandh, 66
bandita, 345
Bann, 345
Barbara, 342
barbara, 342
barbaric, 342
barg, 68
barometer, 67
Bartholomae, Christian, 37
Bartholomae’s law, 37
basis, 288
baskō, 35
bath, 72
bāuddha, 26
bauen, 348
Bauer, 348
be, 348
bear, 349
beaver, 342
beben, 346
bhēbhīditī, 138
bhēbhīdyatē, 138
bed, 72
beef, 290
Beet, 72
befugt, 335
beide, 274
Belgrade, 292
believe, 73
bellum, 319
ben, 300
benevolent, 369
bequem, 289
bergen, 68
bersten, 349
Bett, 72
bewegen, 366
bewusst, 367
bhā, 78
bhā, 86
bhāga, 137
bhāmas, 86
bhās, 346
bhāsati, 57
bhāsati, 57
bhāsita, 118
bhāsitum, 96
bhāti, 86
bhāv, 346
bhāva, 137
bhāvyātā, 107
bhadra, 345
bhaqa, 344
bhaqa, 346
bhaqa, 347
bhag, 98
bhagini, 344
bhag, 111
bhaja, 345
bhaj, 98
bhajati, 344
bhakti, 344
bhambhrami, 140
bhambhramyata, 140
bhān, 345
<table>
<thead>
<tr>
<th>Term</th>
<th>Page Numbers</th>
<th>Page Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>bhanakti</td>
<td>111, 345</td>
<td></td>
</tr>
<tr>
<td>bhanat</td>
<td>345</td>
<td></td>
</tr>
<tr>
<td>bhand</td>
<td>345</td>
<td></td>
</tr>
<tr>
<td>bhandam</td>
<td>107</td>
<td></td>
</tr>
<tr>
<td>bhandatê</td>
<td>345</td>
<td></td>
</tr>
<tr>
<td>bhaṅga</td>
<td>345</td>
<td></td>
</tr>
<tr>
<td>bhaṅgas</td>
<td>97</td>
<td></td>
</tr>
<tr>
<td>bharīj</td>
<td>97, 111, 345</td>
<td></td>
</tr>
<tr>
<td>bhantsyati</td>
<td>105, 112, 342</td>
<td></td>
</tr>
<tr>
<td>bharāṇas</td>
<td>144</td>
<td></td>
</tr>
<tr>
<td>bhāra</td>
<td>220</td>
<td></td>
</tr>
<tr>
<td>bhāranta</td>
<td>220</td>
<td></td>
</tr>
<tr>
<td>bhārat</td>
<td>91, 109, 124, 348</td>
<td></td>
</tr>
<tr>
<td>bhārga</td>
<td>345</td>
<td></td>
</tr>
<tr>
<td>bhart</td>
<td>62</td>
<td></td>
</tr>
<tr>
<td>bhārtas</td>
<td>101, 231, 232</td>
<td></td>
</tr>
<tr>
<td>bhārtum</td>
<td>91, 101, 104</td>
<td></td>
</tr>
<tr>
<td>bhāskaras</td>
<td>97</td>
<td></td>
</tr>
<tr>
<td>bhāta</td>
<td>56</td>
<td></td>
</tr>
<tr>
<td>bhāta</td>
<td>62</td>
<td></td>
</tr>
<tr>
<td>bhāvea</td>
<td>137</td>
<td></td>
</tr>
<tr>
<td>bhāvān</td>
<td>221</td>
<td></td>
</tr>
<tr>
<td>bhāvant</td>
<td>221</td>
<td></td>
</tr>
<tr>
<td>bhāvas</td>
<td>98</td>
<td></td>
</tr>
<tr>
<td>bhāvati</td>
<td>27, 61, 80, 96, 117, 347</td>
<td></td>
</tr>
<tr>
<td>bhāvānti</td>
<td>61</td>
<td></td>
</tr>
<tr>
<td>bhāvāntyāta</td>
<td>141, 142</td>
<td></td>
</tr>
<tr>
<td>bhāvātum</td>
<td>27, 96, 104</td>
<td></td>
</tr>
<tr>
<td>bhāvija</td>
<td>141</td>
<td></td>
</tr>
<tr>
<td>bhāyam</td>
<td>98, 346</td>
<td></td>
</tr>
<tr>
<td>bhādhas</td>
<td>97</td>
<td></td>
</tr>
<tr>
<td>bhāttum</td>
<td>92, 103</td>
<td></td>
</tr>
<tr>
<td>bhībhārti</td>
<td>86</td>
<td></td>
</tr>
<tr>
<td>bhīd</td>
<td>90, 92, 97, 103, 111, 138, 177, 181</td>
<td></td>
</tr>
<tr>
<td>bhī, 87, 98, 117, 121, 125, 126, 168, 169, 236, 346</td>
<td></td>
<td></td>
</tr>
<tr>
<td>bhīyate</td>
<td>125</td>
<td></td>
</tr>
<tr>
<td>bhīks</td>
<td>81</td>
<td></td>
</tr>
<tr>
<td>bhīks</td>
<td>344</td>
<td></td>
</tr>
<tr>
<td>bhīkṣatē</td>
<td>344</td>
<td></td>
</tr>
<tr>
<td>bhīkṣu</td>
<td>130, 344</td>
<td></td>
</tr>
<tr>
<td>bhinattī</td>
<td>90, 92, 111, 177, 346</td>
<td></td>
</tr>
<tr>
<td>bhīndantī</td>
<td>182</td>
<td></td>
</tr>
<tr>
<td>bhīndatē</td>
<td>182</td>
<td></td>
</tr>
<tr>
<td>bhīndmas</td>
<td>90, 177</td>
<td></td>
</tr>
<tr>
<td>bhīnna</td>
<td>111, 346</td>
<td></td>
</tr>
<tr>
<td>bhōca</td>
<td>57, 59</td>
<td></td>
</tr>
<tr>
<td>bhōdāti</td>
<td>77, 79, 123</td>
<td></td>
</tr>
<tr>
<td>bhōdayati</td>
<td>106</td>
<td></td>
</tr>
<tr>
<td>bhōditum</td>
<td>104, 105</td>
<td></td>
</tr>
<tr>
<td>bhōgas</td>
<td>98</td>
<td></td>
</tr>
<tr>
<td>bhōjana</td>
<td>57, 59</td>
<td></td>
</tr>
<tr>
<td>bhōjanam</td>
<td>99</td>
<td></td>
</tr>
<tr>
<td>bhōtsyati</td>
<td>105, 112, 343</td>
<td></td>
</tr>
<tr>
<td>bhṛ</td>
<td>86, 87, 91, 101, 104, 109, 119, 124</td>
<td></td>
</tr>
<tr>
<td>bhrātar</td>
<td>349</td>
<td></td>
</tr>
<tr>
<td>bhrāma</td>
<td>140</td>
<td></td>
</tr>
<tr>
<td>bhrāṃś</td>
<td>82</td>
<td></td>
</tr>
<tr>
<td>bhrasyati</td>
<td>82</td>
<td></td>
</tr>
<tr>
<td>bhṛyate</td>
<td>124</td>
<td></td>
</tr>
<tr>
<td>bhṛyati</td>
<td>349</td>
<td></td>
</tr>
<tr>
<td>bhṛyā</td>
<td>56, 109, 119, 136</td>
<td></td>
</tr>
<tr>
<td>bhṛyas</td>
<td>119</td>
<td></td>
</tr>
<tr>
<td>bhṛū</td>
<td>237</td>
<td></td>
</tr>
<tr>
<td>bhṛu</td>
<td>221</td>
<td></td>
</tr>
<tr>
<td>bhūdu</td>
<td>77, 79</td>
<td></td>
</tr>
<tr>
<td>bhūj</td>
<td>98, 99, 109, 346, 347</td>
<td></td>
</tr>
<tr>
<td>bhūk</td>
<td>109</td>
<td></td>
</tr>
<tr>
<td>bhūnakti</td>
<td>346, 347</td>
<td></td>
</tr>
<tr>
<td>bhūnāyi</td>
<td>98</td>
<td></td>
</tr>
<tr>
<td>bhūnāyati</td>
<td>98</td>
<td></td>
</tr>
<tr>
<td>bhūñ</td>
<td>21, 27, 80, 96, 98, 104, 107, 117, 121, 125, 141, 236, 347</td>
<td></td>
</tr>
<tr>
<td>bhūrya</td>
<td>348</td>
<td></td>
</tr>
<tr>
<td>bhūryā</td>
<td>348</td>
<td></td>
</tr>
<tr>
<td>bhūṭā</td>
<td>31, 117, 121, 262</td>
<td></td>
</tr>
<tr>
<td>bhūṭārtha</td>
<td>262</td>
<td></td>
</tr>
<tr>
<td>bhūṭārtha</td>
<td>31</td>
<td></td>
</tr>
<tr>
<td>bhūyate</td>
<td>125</td>
<td></td>
</tr>
<tr>
<td>bhuvam</td>
<td>21</td>
<td></td>
</tr>
<tr>
<td>bhūvāyaṇa</td>
<td>21</td>
<td></td>
</tr>
<tr>
<td>bi</td>
<td>319</td>
<td></td>
</tr>
<tr>
<td>biannual</td>
<td>319</td>
<td></td>
</tr>
<tr>
<td>bibbern</td>
<td>346</td>
<td></td>
</tr>
<tr>
<td>biber</td>
<td>342</td>
<td></td>
</tr>
<tr>
<td>bibharti</td>
<td>87, 348</td>
<td></td>
</tr>
<tr>
<td>bibhēsi</td>
<td>168, 169</td>
<td></td>
</tr>
</tbody>
</table>
Index

bibhêti, 87, 117, 167, 169, 346
bibhêti, 169
bibhêmas, 87
bibhêmas, 346
bibhêmas, 168, 169
bibhêtsu, 129
bibhêvas, 168
bibhrati, 311, 321
bibhrê, 167
bibhrêmas, 87
bibhrêvas, 169
bibhrêvas, 346
bibhrêvas, 168
bibhrêvas, 169
bibhrêmas, 87
bibhitas, 129
bibhivas, 129
bibhrêmas, 87
bibhrêmas, 168
bibhrêmas, 346
bibhrêmas, 169
bibhrêmas, 346
bibhrêmas, 168
Bibliothek, 322
Bicycle, 295
bid, 344
bieden, 344
bieter, 344
bieten, 344
bîhûta, 117
bîhûtas, 121
bilateral, 319
bin, 348
bind, 344
binden, 66, 342
biology, 301
biped, 318
bireh, 348
Birke, 348
bisexual, 319
Biss, 73, 346
bist, 348
bite, 316
bitter, 73, 346
bitumen, 299
blâmèr, 345
blâmieren, 345
blasphemy, 345
Blech, 346
blechen, 346
board, 12
bûbûdhi, 138
bûbûdhi, 138
bûbûdhiyê, 138
bûdhen, 344
bûdhâti, 343
bodhisattva, 265
bûhârûm, 346
bûyam, 107
bûs, 290
Bopp, Franz, 2
Bosphorus, 337
bôth, 274
bottom, 344
bôvis, 290
bôw, 347
bôman, 42
bôman, 342
Brâudgiram, 280
brâvìti, 162
breat, 71
bremeche, 71
Bremnissel, 71
Brett, 72
bûh, 344
bûhâspatì, 344
bûhant, 344
bûhati, 344
bûhati, 72, 349
bûhorn, 342
Bruder, 66, 72, 349
Brugmann, Karl, 2, 33
brû, 162
bûbhûksû, 129, 330
bûbhûksû, 129
bûbûdhe, 344
bûbûdhi, 344
bûbûdhi, 344
bûbûdhiyê, 344
bûbûdhi, 344
bûdhâna, 344
bûdhâyê, 123
Bug, 343
bûj, 107
burst, 349
### Index

<table>
<thead>
<tr>
<th>C</th>
<th>35, 295</th>
</tr>
</thead>
<tbody>
<tr>
<td>cága, 60, 63</td>
<td></td>
</tr>
<tr>
<td>câmata, 296</td>
<td></td>
</tr>
<tr>
<td>cárus, 66, 279</td>
<td></td>
</tr>
<tr>
<td>cadaver, 371</td>
<td></td>
</tr>
<tr>
<td>cakamē, 279</td>
<td></td>
</tr>
<tr>
<td>cakka, 63</td>
<td></td>
</tr>
<tr>
<td>cakva, 63, 295</td>
<td></td>
</tr>
<tr>
<td>cakaṣa, 224</td>
<td></td>
</tr>
<tr>
<td>cakaṣāṇa, 224</td>
<td></td>
</tr>
<tr>
<td>cakaṣvadhis, 224</td>
<td></td>
</tr>
<tr>
<td>cakaṣva(n)s, 223</td>
<td></td>
</tr>
<tr>
<td>cakaṣvas, 223, 225</td>
<td></td>
</tr>
<tr>
<td>caksya, 296</td>
<td></td>
</tr>
<tr>
<td>cakṣa, 296</td>
<td></td>
</tr>
<tr>
<td>cakṣaṇa, 296</td>
<td></td>
</tr>
<tr>
<td>cakṣas, 295</td>
<td></td>
</tr>
<tr>
<td>cakṣatē, 295</td>
<td></td>
</tr>
<tr>
<td>cakṣus, 295</td>
<td></td>
</tr>
<tr>
<td>cal, 140, 296</td>
<td></td>
</tr>
<tr>
<td>calāre, 284</td>
<td></td>
</tr>
<tr>
<td>calati, 46, 296</td>
<td></td>
</tr>
<tr>
<td>calender, 284</td>
<td></td>
</tr>
<tr>
<td>calvya, 281</td>
<td></td>
</tr>
<tr>
<td>calyx, 371</td>
<td></td>
</tr>
<tr>
<td>cam, 296</td>
<td></td>
</tr>
<tr>
<td>camā, 205</td>
<td></td>
</tr>
<tr>
<td>camati, 235, 296</td>
<td></td>
</tr>
<tr>
<td>canicalyātē, 140</td>
<td></td>
</tr>
<tr>
<td>cand, 296</td>
<td></td>
</tr>
<tr>
<td>candid, 296</td>
<td></td>
</tr>
<tr>
<td>candidate, 296</td>
<td></td>
</tr>
<tr>
<td>candle, 296, 298</td>
<td></td>
</tr>
<tr>
<td>candma, 296</td>
<td></td>
</tr>
<tr>
<td>candmaṇa, 296</td>
<td></td>
</tr>
<tr>
<td>candmakānta, 296</td>
<td></td>
</tr>
<tr>
<td>candravant, 296</td>
<td></td>
</tr>
<tr>
<td>canis, 375</td>
<td></td>
</tr>
<tr>
<td>canikramitī, 140</td>
<td></td>
</tr>
<tr>
<td>canikramyātē, 140</td>
<td></td>
</tr>
<tr>
<td>capable, 371</td>
<td></td>
</tr>
<tr>
<td>capsula, 371</td>
<td></td>
</tr>
<tr>
<td>capsule, 371</td>
<td></td>
</tr>
</tbody>
</table>

*caption*, 371
*captive*, 371
*captivus*, 73
*capture*, 271
*car*, 140, 296, 296
*carab*, 140, 296
*carcarhi*, 140
*cardiology*, 74, 392
*carman*, 297
*castrate*, 372
*cathedra*, 374
*cathedral*, 377
*catur*, 295
*caturās*, 295, 306
*causatives*, 106
*caution*, 281
*cave canem*, 281
*caya*, 297
*cayatē*, 297
*cayatī*, 297
*ced*, 295
*cephitē*, 297
*cell*, 372
*cella*, 372
*censorship*, 370
*censure*, 370
*census*, 370
*centipede*, 332, 370
*centum*, 33
*ceosan*, 301
*cephalic*, 288
*cephalogram*, 288
*cerebral*, 372
*cerebralization*, 40, 94, 95, 113
*laws*, 41, 42
*cerebrals*, 41
*cētas*, 100
*cētāti*, 297
*cēti*, 297
*chādayati*, 85
*chāyā*, 298
*chad*, 101, 102, 297
*chadati*, 297
Index

coscilare, 284
cocct, 331
confer, 348
confirm, 323
congratulation, 391
conjugation, 356
conscious, 298
consonants, 34, 35, 45, 68, 70, 72, 75
constellation, 382
constraint-based approach, 6
continue, 305
continuous, 305
convert, 288
convention, 288
converge, 369
convex, 366
cook, 71, 331
cor, 53, 392
corayati, 84
corayitum, 96
cordially, 74, 392
cordis, 392
corn, 302
corner, 373
corporation, 282
corps, 282
corpus, 282
correct, 358
cor gatê, 125
council, 284
cow, 290
cramp, 292
credible, 374, 379
credit, 374
credo, 374, 379
crepere, 283
croak, 285
crude, 284
cruel, 284
cruor, 284
crust, 284
crûdus, 284
crüsta, 284
crystal, 284
cuckoo, 283
cukṣobha, 291
cult, 296
culture, 296
cumb, 81, 107
cumbayati, 107
cumbita, 118
cumbitum, 96
cunctâri, 370
cupid, 281
cupidity, 281
cupio, 281
cur, 84, 125
Curius, Georg, 3
cûnae, 373
cycle, 295
cynic, 375

dâ, 48, 87, 96, 99, 103, 106, 108, 117, 121, 125, 141, 142, 170, 193, 311, 312

dâdäti, 141
dâham, 107
dânyati, 83, 310
dâmam, 92
dânta, 310
dâpayati, 106
dâru, 312
dâs, 313
dâsâyi, 311
dâtum, 96, 103, 311
dâyam, 108
dabh, 122, 309
dabhati, 309
dabhâti, 309
Dach, 66, 382
dâdâha, 311
dâdâti, 87, 96, 117, 311, 312
dadati, 311, 321
dadâu, 312
dadhâts, 88, 89, 96, 117
dadhâns, 320
dadhâts, 320, 322

404
<table>
<thead>
<tr>
<th>Term</th>
<th>Page(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>dadhāu</td>
<td>321</td>
</tr>
<tr>
<td>dadhmah</td>
<td>27</td>
</tr>
<tr>
<td>dadhmasya</td>
<td>57</td>
</tr>
<tr>
<td>dadma</td>
<td>87, 171</td>
</tr>
<tr>
<td>dadhrā</td>
<td>113</td>
</tr>
<tr>
<td>dadhmam</td>
<td>93, 105, 310</td>
</tr>
<tr>
<td>dah</td>
<td>80, 93, 105, 113, 310, 311</td>
</tr>
<tr>
<td>dahati</td>
<td>80, 93, 113, 310, 311</td>
</tr>
<tr>
<td>dākṣa</td>
<td>309</td>
</tr>
<tr>
<td>dākṣina</td>
<td>309</td>
</tr>
<tr>
<td>dam</td>
<td>83, 310</td>
</tr>
<tr>
<td>dam</td>
<td>310</td>
</tr>
<tr>
<td>damayati</td>
<td>107</td>
</tr>
<tr>
<td>damśyati</td>
<td>105</td>
</tr>
<tr>
<td>damś</td>
<td>94, 105, 113, 309</td>
</tr>
<tr>
<td>damśayati</td>
<td>309</td>
</tr>
<tr>
<td>damśtum</td>
<td>94, 105</td>
</tr>
<tr>
<td>danta</td>
<td>254</td>
</tr>
<tr>
<td>.dayda</td>
<td>309</td>
</tr>
<tr>
<td>dādahiti</td>
<td>140</td>
</tr>
<tr>
<td>dādahyate</td>
<td>140</td>
</tr>
<tr>
<td>danta</td>
<td>64, 65</td>
</tr>
<tr>
<td>dār</td>
<td>324</td>
</tr>
<tr>
<td>dārhati</td>
<td>317</td>
</tr>
<tr>
<td>Darlehen</td>
<td>358</td>
</tr>
<tr>
<td>dārśam</td>
<td>107</td>
</tr>
<tr>
<td>dārśana</td>
<td>317</td>
</tr>
<tr>
<td>das</td>
<td>72, 303</td>
</tr>
<tr>
<td>daśa</td>
<td>48, 310</td>
</tr>
<tr>
<td>daśārāva</td>
<td>289</td>
</tr>
<tr>
<td>daśati</td>
<td>94, 105</td>
</tr>
<tr>
<td>das</td>
<td>72</td>
</tr>
<tr>
<td>dāssa</td>
<td>62, 63</td>
</tr>
<tr>
<td>datā</td>
<td>312</td>
</tr>
<tr>
<td>date</td>
<td>312</td>
</tr>
<tr>
<td>datta</td>
<td>121, 136, 312</td>
</tr>
<tr>
<td>dattis</td>
<td>121</td>
</tr>
<tr>
<td>daughter</td>
<td>72, 316</td>
</tr>
<tr>
<td>Daumen</td>
<td>307</td>
</tr>
<tr>
<td>dāvyans</td>
<td>316</td>
</tr>
<tr>
<td>dāwistha</td>
<td>316</td>
</tr>
<tr>
<td>day</td>
<td>72, 74</td>
</tr>
<tr>
<td>de Sassure, Ferdinand</td>
<td>3, 19, 87, 88</td>
</tr>
<tr>
<td>dead</td>
<td>72</td>
</tr>
<tr>
<td>deaf</td>
<td>73</td>
</tr>
<tr>
<td>dean</td>
<td>310</td>
</tr>
<tr>
<td>dear</td>
<td>72</td>
</tr>
<tr>
<td>debility</td>
<td>342</td>
</tr>
<tr>
<td>decade</td>
<td>310</td>
</tr>
<tr>
<td>deceive</td>
<td>371</td>
</tr>
<tr>
<td>decem</td>
<td>310</td>
</tr>
<tr>
<td>deciuter</td>
<td>310</td>
</tr>
<tr>
<td>decimate</td>
<td>310</td>
</tr>
<tr>
<td>décipere</td>
<td>371</td>
</tr>
<tr>
<td>declaration</td>
<td>284</td>
</tr>
<tr>
<td>declination</td>
<td>374</td>
</tr>
<tr>
<td>decline</td>
<td>374</td>
</tr>
<tr>
<td>decor</td>
<td>313</td>
</tr>
<tr>
<td>dēdiyate</td>
<td>141</td>
</tr>
<tr>
<td>deed</td>
<td>323</td>
</tr>
<tr>
<td>deep</td>
<td>72</td>
</tr>
<tr>
<td>deer</td>
<td>72, 323</td>
</tr>
<tr>
<td>defend</td>
<td>388</td>
</tr>
<tr>
<td>deficit</td>
<td>322</td>
</tr>
<tr>
<td>deṣṭhi</td>
<td>85, 93, 113, 314</td>
</tr>
<tr>
<td>deṣṭhum</td>
<td>314</td>
</tr>
<tr>
<td>dehi</td>
<td>48</td>
</tr>
<tr>
<td>dehnen</td>
<td>305</td>
</tr>
<tr>
<td>deicere</td>
<td>65</td>
</tr>
<tr>
<td>deiknumi</td>
<td>313</td>
</tr>
<tr>
<td>deka</td>
<td>310</td>
</tr>
<tr>
<td>dēksyati</td>
<td>105</td>
</tr>
<tr>
<td>delinquent</td>
<td>358</td>
</tr>
<tr>
<td>demagogue</td>
<td>251</td>
</tr>
<tr>
<td>dementia</td>
<td>350</td>
</tr>
<tr>
<td>democracy</td>
<td>284</td>
</tr>
<tr>
<td>demonstration</td>
<td>350</td>
</tr>
<tr>
<td>dental</td>
<td>74, 254</td>
</tr>
<tr>
<td>dentals</td>
<td>72</td>
</tr>
<tr>
<td>deport</td>
<td>337</td>
</tr>
<tr>
<td>derivatives</td>
<td>137, 247</td>
</tr>
<tr>
<td>derkomai</td>
<td>317</td>
</tr>
<tr>
<td>dermatology</td>
<td>74, 317</td>
</tr>
<tr>
<td>dėmis</td>
<td>317</td>
</tr>
<tr>
<td>deśa</td>
<td>313</td>
</tr>
<tr>
<td>desaster</td>
<td>382</td>
</tr>
<tr>
<td>descend</td>
<td>381</td>
</tr>
<tr>
<td>Term</td>
<td>Page(s)</td>
</tr>
<tr>
<td>-----------------</td>
<td>---------</td>
</tr>
<tr>
<td>désas</td>
<td>97</td>
</tr>
<tr>
<td>dêştum</td>
<td>91-105</td>
</tr>
<tr>
<td>desiderative</td>
<td>126</td>
</tr>
<tr>
<td>desist</td>
<td>383</td>
</tr>
<tr>
<td>despot</td>
<td>310, 332</td>
</tr>
<tr>
<td>detension</td>
<td>305</td>
</tr>
<tr>
<td>dêva</td>
<td>11, 205, 207-209, 317</td>
</tr>
<tr>
<td>dêvâ</td>
<td>205</td>
</tr>
<tr>
<td>dêvânâmâm</td>
<td>209</td>
</tr>
<tr>
<td>dêvas</td>
<td>7, 210</td>
</tr>
<tr>
<td>dêvé</td>
<td>207</td>
</tr>
<tr>
<td>dêvévetu</td>
<td>208</td>
</tr>
<tr>
<td>devout</td>
<td>276</td>
</tr>
<tr>
<td>dexterity</td>
<td>309</td>
</tr>
<tr>
<td>dêya</td>
<td>142</td>
</tr>
<tr>
<td>dhâ</td>
<td>87, 96, 99, 103, 108, 117, 121-125, 133, 142, 193, 320-322</td>
</tr>
<tr>
<td>dhânam</td>
<td>99</td>
</tr>
<tr>
<td>dhâru</td>
<td>324</td>
</tr>
<tr>
<td>dhâṣayati</td>
<td>321</td>
</tr>
<tr>
<td>dhâṣya</td>
<td>324</td>
</tr>
<tr>
<td>dhâtar</td>
<td>320</td>
</tr>
<tr>
<td>dhâtri</td>
<td>324</td>
</tr>
<tr>
<td>dhâtum</td>
<td>96, 103, 321</td>
</tr>
<tr>
<td>dhâv</td>
<td>81</td>
</tr>
<tr>
<td>dhâyam</td>
<td>108</td>
</tr>
<tr>
<td>dhâṣayati</td>
<td>105</td>
</tr>
<tr>
<td>dhâṣyâma</td>
<td>63</td>
</tr>
<tr>
<td>dhân</td>
<td>320</td>
</tr>
<tr>
<td>dhânâya</td>
<td>320</td>
</tr>
<tr>
<td>dharati</td>
<td>325</td>
</tr>
<tr>
<td>dhârma</td>
<td>63, 323</td>
</tr>
<tr>
<td>dhârman</td>
<td>323, 344</td>
</tr>
<tr>
<td>dhâyati</td>
<td>324</td>
</tr>
<tr>
<td>dhâ</td>
<td>324</td>
</tr>
<tr>
<td>dhâksayati</td>
<td>105, 314</td>
</tr>
<tr>
<td>dhâna</td>
<td>324</td>
</tr>
<tr>
<td>dhânâva</td>
<td>208</td>
</tr>
<tr>
<td>dhânâva</td>
<td>205, 208, 324</td>
</tr>
<tr>
<td>dhânâmâm</td>
<td>208</td>
</tr>
<tr>
<td>dhâya</td>
<td>142</td>
</tr>
<tr>
<td>dhî</td>
<td>21, 122, 236, 323</td>
</tr>
<tr>
<td>dhîrâ</td>
<td>122, 323</td>
</tr>
<tr>
<td>dhûta</td>
<td>122</td>
</tr>
</tbody>
</table>

**Pronouns**

<table>
<thead>
<tr>
<th>Term</th>
<th>Page(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>dhîyatê</td>
<td>125</td>
</tr>
<tr>
<td>dhîpsati</td>
<td>132, 309</td>
</tr>
<tr>
<td>dhîtsati</td>
<td>132</td>
</tr>
<tr>
<td>dhîyam</td>
<td>21</td>
</tr>
<tr>
<td>dhêksî</td>
<td>156</td>
</tr>
<tr>
<td>dhêksyati</td>
<td>105</td>
</tr>
<tr>
<td>dhê</td>
<td>323</td>
</tr>
<tr>
<td>dhêṣ</td>
<td>324</td>
</tr>
<tr>
<td>dhêṣyâti</td>
<td>324</td>
</tr>
<tr>
<td>dhugdhêvê</td>
<td>156</td>
</tr>
<tr>
<td>dhê-nô-ti</td>
<td>323</td>
</tr>
<tr>
<td>dhê</td>
<td>323</td>
</tr>
<tr>
<td>dhêû</td>
<td>323</td>
</tr>
<tr>
<td>dhûna</td>
<td>323</td>
</tr>
<tr>
<td>dhûvats</td>
<td>323</td>
</tr>
<tr>
<td>dhûg</td>
<td>324</td>
</tr>
<tr>
<td>dhûyâ</td>
<td>108</td>
</tr>
<tr>
<td>dhûyâna</td>
<td>60, 64, 324</td>
</tr>
<tr>
<td>dhûyati</td>
<td>324</td>
</tr>
<tr>
<td>dhûyâyam</td>
<td>108</td>
</tr>
<tr>
<td>dhûyati</td>
<td>324</td>
</tr>
<tr>
<td>dhûyâ</td>
<td>324</td>
</tr>
<tr>
<td>di</td>
<td>319</td>
</tr>
<tr>
<td>dialectology</td>
<td>406</td>
</tr>
<tr>
<td>dictator</td>
<td>313</td>
</tr>
<tr>
<td>dictum</td>
<td>65</td>
</tr>
<tr>
<td>didâsati</td>
<td>312</td>
</tr>
<tr>
<td>di-dhê-tê</td>
<td>323</td>
</tr>
<tr>
<td>didhiṣati</td>
<td>321</td>
</tr>
<tr>
<td>didhe</td>
<td>314</td>
</tr>
<tr>
<td>didhirr</td>
<td>314</td>
</tr>
<tr>
<td>didirṣati</td>
<td>133, 317</td>
</tr>
<tr>
<td>didirṣu</td>
<td>133</td>
</tr>
<tr>
<td>didvê-ṣa</td>
<td>320</td>
</tr>
<tr>
<td>die</td>
<td>308</td>
</tr>
<tr>
<td>Dieb</td>
<td>72</td>
</tr>
<tr>
<td>differ</td>
<td>348</td>
</tr>
<tr>
<td>difficult</td>
<td>322</td>
</tr>
<tr>
<td>digdha</td>
<td>113, 314</td>
</tr>
<tr>
<td>dignity</td>
<td>313</td>
</tr>
<tr>
<td>dih</td>
<td>85, 93, 105, 113, 314, 315</td>
</tr>
<tr>
<td>dihmas</td>
<td>85</td>
</tr>
<tr>
<td>dîcere</td>
<td>65, 313</td>
</tr>
<tr>
<td>dîks</td>
<td>313</td>
</tr>
</tbody>
</table>
dikṣā, 132

dikṣatā, 313

dīrgha, 315

dīrṇa, 118 124

dīryātē, 124

dīv, 313

dīryāti, 119 313

dīyatē, 125

dīya, 62

dimensional, 351

diminish, 352

dīna, 313 317

Ding, 72

diphthongs, 22 65

dipons, 318 319

dipsati, 132

direct, 358

discord, 392

discrepancy, 283

dīs, 83 94 105 313

dīsati, 94 105 313

diṣṭa, 313

diṣṭyā, 313

Distel, 306

dita, 117 121 125 136 312

ditis, 121

ditsati, 312 321

ditsu, 131 312 321

dīṭhi, 62

div, 119

diva, 32

divākas, 32

diverge, 369

dividend, 323

divine, 317

divinity, 317

division, 323

dīvyā, 317

dō, 72 323

doce, 313

docile, 313

doctor, 313

document, 313

dōghr, 100

dōghdi, 85 93 113 155 315

dōghram, 101

dōghhum, 93 100 101 105 316

dōme, 310

domesticate, 310

dominate, 310

donnern, 381

dontology, 254

door, 72 319

doppelt, 318

Dorn, 72

dose, 312

dōsen, 323

Dosis, 312

Döskopp, 323

double, 318

doubt, 318

dough, 315

dove, 73

doze, 323

dozens, 318

drā, 318

Draht, 307

drakṣyati, 105

dram, 318

dramati, 318

draṣṭum, 43 94 105

dravati, 318

drīha, 317

drechen, 307

drei, 72 74 308

drī, 317

drink, 72

drīk, 45 109

drīṇāti, 118

drīṇāti, 317

dṛ, 118 124 133 317

dṛṇ, 317

dṛṣ, 67 94 105 107 109 114 120 123

dṛṣṭ, 317

dryastā, 317

dṛṣṭi, 62

dṛṣṭin, 120

dṛṣya, 62 63
Index

dryṣṭa, 123
drātā, 318
drū, 318
du, 74, 309
dualism, 318
dubbala, 62
duck, 71, 72
duddha, 61, 64
duet, 318
dugdha, 61, 64, 113, 316
dugdhas, 156
duh, 83, 93, 100, 101, 105, 113, 155, 156, 316, 343
duhati, 156
duhatā, 156
duhatā, 316
duhitar, 316
duhkha, 61, 315
duhmas, 89
duhlabhā, 63
Dun Laoghaire, 74
dünken, 72
dünn, 305
duo, 318
duodecim, 318
duopoly, 318
duphus, 318
duration, 316
durbala, 62, 315
durch, 72
durga, 315
dargā, 315
durlabhā, 63
Durst, 72, 307
duruktā, 315
dus, 315
duṣṭṛt, 315
Dutzend, 318
dūdh, 64
dūra, 316
dūrā, 315
dūraka, 357
dūre, 240
duva, 318
dvā, 318
dvādaśa, 318
dvār, 319
dvēṣati, 103
dvelum, 319
dvēṣti, 85, 94, 319, 320
dvēṣṭum, 94, 105, 319
dvēṣya, 141
dvī, 257, 318, 320
dvīhāya, 318
dvīdevata, 318
dvīdhā, 246, 320, 323
dvīdviṣus, 320
dvīpa, 257
dvīja, 62, 136, 318
dvījāni, 318
dvīpad, 257, 318
dvis, 320
dvis, 85, 94, 105, 114, 141, 319, 320
dvīnas, 85
dvīsta, 319
dvivacana, 257, 318
dyati, 312
dyāuspitar, 317
dyātate, 80
dyut, 80
dyūta, 60, 64, 119, 313

E
car, 268
earth, 72
cast, 270
Easter, 275
cat, 71, 254
economics, 69, 308
catha, 270
cēḍhi, 48, 154
cedict, 313
cedict, 312
cēdi, 59
cēśi, 29
efficient, 322
ejo, 70, 266
ehern, 260
<table>
<thead>
<tr>
<th>Log</th>
<th>Page Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>ein</td>
<td>278</td>
</tr>
<tr>
<td>eiscön</td>
<td>33, 44, 271</td>
</tr>
<tr>
<td>ej</td>
<td>278</td>
</tr>
<tr>
<td>éjate</td>
<td>278</td>
</tr>
<tr>
<td>éka</td>
<td>31, 52, 54, 251, 277</td>
</tr>
<tr>
<td>ékāgra</td>
<td>31, 261, 277</td>
</tr>
<tr>
<td>ékākin</td>
<td>277</td>
</tr>
<tr>
<td>ékākaśas</td>
<td>32, 246</td>
</tr>
<tr>
<td>ek</td>
<td>34</td>
</tr>
<tr>
<td>elbow</td>
<td>261, 347</td>
</tr>
<tr>
<td>elkos</td>
<td>262</td>
</tr>
<tr>
<td>Ellboegen</td>
<td>261</td>
</tr>
<tr>
<td>Elle</td>
<td>261</td>
</tr>
<tr>
<td>Ellenboegen</td>
<td>261, 347</td>
</tr>
<tr>
<td>eman</td>
<td>351</td>
</tr>
<tr>
<td>encyclical</td>
<td>293</td>
</tr>
<tr>
<td>encyclopædia</td>
<td>295</td>
</tr>
<tr>
<td>endings</td>
<td></td>
</tr>
<tr>
<td>neutral</td>
<td>206</td>
</tr>
<tr>
<td>eng</td>
<td>230</td>
</tr>
<tr>
<td>Engel</td>
<td>252</td>
</tr>
<tr>
<td>engrave</td>
<td>293</td>
</tr>
<tr>
<td>enzyme</td>
<td>356</td>
</tr>
<tr>
<td>eon</td>
<td>268</td>
</tr>
<tr>
<td>epic</td>
<td>69, 363</td>
</tr>
<tr>
<td>epidermis</td>
<td>258</td>
</tr>
<tr>
<td>equestrian</td>
<td>264</td>
</tr>
<tr>
<td>Erbe</td>
<td>262</td>
</tr>
<tr>
<td>Erde</td>
<td>72</td>
</tr>
<tr>
<td>erforschen</td>
<td>340</td>
</tr>
<tr>
<td>erkoren</td>
<td>301</td>
</tr>
<tr>
<td>erlaucht</td>
<td>359</td>
</tr>
<tr>
<td>erquicken</td>
<td>301</td>
</tr>
<tr>
<td>Erwin</td>
<td>304</td>
</tr>
<tr>
<td>ēsati</td>
<td>271</td>
</tr>
<tr>
<td>ēsītum</td>
<td>96</td>
</tr>
<tr>
<td>esperanza</td>
<td>383</td>
</tr>
<tr>
<td>Esse</td>
<td>269</td>
</tr>
<tr>
<td>essen</td>
<td>71, 254</td>
</tr>
<tr>
<td>est</td>
<td>25, 66, 265</td>
</tr>
<tr>
<td>esteem</td>
<td>270</td>
</tr>
<tr>
<td>et</td>
<td>253</td>
</tr>
<tr>
<td>eternal</td>
<td>208</td>
</tr>
<tr>
<td>ethics</td>
<td>322, 386</td>
</tr>
<tr>
<td>ēti</td>
<td>20, 58, 84, 92, 110, 269</td>
</tr>
<tr>
<td>ētum</td>
<td>92, 103</td>
</tr>
<tr>
<td>etymological dictionary</td>
<td>292</td>
</tr>
<tr>
<td>dental stops</td>
<td>329</td>
</tr>
<tr>
<td>half vowels</td>
<td>363</td>
</tr>
<tr>
<td>velar stops</td>
<td>279, 281, 283, 292</td>
</tr>
<tr>
<td>eucalyptus</td>
<td>371</td>
</tr>
<tr>
<td>Eule</td>
<td>275</td>
</tr>
<tr>
<td>euphemism</td>
<td>345, 380</td>
</tr>
<tr>
<td>euphoric</td>
<td>348</td>
</tr>
<tr>
<td>Euter</td>
<td>276</td>
</tr>
<tr>
<td>ēvam</td>
<td>35</td>
</tr>
<tr>
<td>evangelic</td>
<td>380</td>
</tr>
<tr>
<td>Evangelium</td>
<td>380</td>
</tr>
<tr>
<td>event</td>
<td>288</td>
</tr>
<tr>
<td>evil</td>
<td>73</td>
</tr>
<tr>
<td>ēvam</td>
<td>55</td>
</tr>
<tr>
<td>ewe</td>
<td>264</td>
</tr>
<tr>
<td>ewig</td>
<td>268</td>
</tr>
<tr>
<td>exanimate</td>
<td>255</td>
</tr>
<tr>
<td>exhibition</td>
<td>288</td>
</tr>
<tr>
<td>exitus</td>
<td>270</td>
</tr>
<tr>
<td>expedition</td>
<td>332</td>
</tr>
<tr>
<td>export</td>
<td>334</td>
</tr>
<tr>
<td>express</td>
<td>338</td>
</tr>
<tr>
<td>exspect</td>
<td>334</td>
</tr>
<tr>
<td>exuberant</td>
<td>276</td>
</tr>
<tr>
<td>eye</td>
<td>250</td>
</tr>
</tbody>
</table>

**F**

<table>
<thead>
<tr>
<th>Log</th>
<th>Page Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>fable</td>
<td>345</td>
</tr>
<tr>
<td>fabulous</td>
<td>345</td>
</tr>
<tr>
<td>facere</td>
<td>322</td>
</tr>
<tr>
<td>façon</td>
<td>323</td>
</tr>
<tr>
<td>faculty</td>
<td>322</td>
</tr>
<tr>
<td>fahren</td>
<td>338</td>
</tr>
<tr>
<td>fairy</td>
<td>345</td>
</tr>
<tr>
<td>faith</td>
<td>344</td>
</tr>
</tbody>
</table>
Index

faksimile, 322  
falten, 72  
fame, 345  
famous, 345  
fare, 338  
farewell, 338  
fart, 333  
fashion, 323  
fatal, 345  
fate, 345  
father, 336  
Faust, 330  
favour, 348  
feather, 332  
fechten, 73  
fecundity, 324  
Feder, 332  
Fee, 345  
fee, 70, 334  
féign, 315  
fém, 385  
felicity, 324  
fellatio, 324  
feminine, 324  
ferō, 33  
fertil, 318  
fetus, 324  
fewer, 311  
fiction, 315  
fūdes, 344  
fideĩ, 344  
fidelity, 344  
fifth class, 88  
fifty, 71  
fight, 73  
figure, 315  
filius, 324  
finger, 315  
fingieren, 315  
Finte, 315  
firm, 323  
firmament, 323  
first class, 79  
first consonant shift, 70  

fission, 346  
fissure, 346  
fist, 330  
füe, 74, 331  
flea, 341  
fliechten, 340  
Floh, 341  
foal, 337  
foam, 341  
Fohlen, 337  
fold, 72  
folk, 339  
folklore, 339  
fondue, 391  
foot, 70  
ford, 338  
former, 337  
forschen, 35  
for-titude, 344  
fortunate, 348  
forum, 319  
forward assimilation, 40  
fountain, 320  
four, 296  
fourth class, 82  
fräher, 66  
fraternity, 349  
fraternize, 349  
free, 340  
frei, 340  
freien, 340  
Freitag, 340  
Freund, 340  
fricative, 74  
Friday, 340  
Friede, 340  
friend, 340  
fünfzig, 71  
Fuge, 335  
fügen, 335  
fugitive, 347  
Fahre, 338  
fahren, 338  
full, 339

410
full grade, 23
full-grade root, 77, 80
fulminant, 346
fume, 323
fundament, 344
fünf, 331
furzen, 333
future, 102, 104, 348

G
gā, 87, 101, 221, 289, 290
gādhum, 105
gāh, 105
gāi, 108
gāma, 63
gārvan, 290
gāthā, 290
gāthā, 290
gāthaka, 290
gāti, 290
gātra, 289
gātrā, 101
gāta, 289
gātum, 101
gāyam, 108
gāyati, 290
Gabel, 288
gabha, 287
gabhasti, 287
gable, 288
gacchati, 35, 44, 92, 111, 133, 288, 289
gad, 287
gada, 59, 287
gadati, 287
gaha, 56
gāhnen, 74, 389
gāi, 290
gaja, 289
gal, 289
gala, 289
galadvāra, 289
galati, 289
gam, 33, 44, 92, 97, 99, 100, 104, 111, 120, 126, 132, 133, 140, 141, 288, 290
gamanam, 99
gamanīya, 141
gamya, 141
gam yatē, 126
gaya, 21
gandha, 287
gai gamiti, 140
gai gamyatē, 140
Gans, 74, 389
gantar, 101
gantavya, 141
gantum, 92, 100, 104
gar, 289
gara, 289
garbha, 289
garden, 292
gardha, 292
garh, 292
garīyans, 290
garīyas, 102
gar-īstha, 102, 290
garj, 289
garjati, 289
Garten, 292
garuda, 289
garuli, 289
garutmantri, 289
gata, 31, 59, 111, 135, 265
gatāsu, 31, 265
gatis, 120
gava, 22
gavis, 270
gaya, 289, 301
Gebärde, 349
gebären, 349
geben, 268, 288
gebenedeit, 313
geborgen, 68
<table>
<thead>
<tr>
<th>Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>gefeit, 345</td>
</tr>
<tr>
<td>geholfen, 68</td>
</tr>
<tr>
<td>Geiß, 71</td>
</tr>
<tr>
<td>gelangen, 357, 361</td>
</tr>
<tr>
<td>gelb, 74, 389</td>
</tr>
<tr>
<td>gelingen, 357, 361</td>
</tr>
<tr>
<td>gena, 33</td>
</tr>
<tr>
<td>genealogy, 299</td>
</tr>
<tr>
<td>general, 299</td>
</tr>
<tr>
<td>genera, 300</td>
</tr>
<tr>
<td>genesis, 299</td>
</tr>
<tr>
<td>genitive plural, 209</td>
</tr>
<tr>
<td>genuferction, 300</td>
</tr>
<tr>
<td>genus, 300</td>
</tr>
<tr>
<td>geometry, 350</td>
</tr>
<tr>
<td>germane, 300</td>
</tr>
<tr>
<td>gern, 389</td>
</tr>
<tr>
<td>gerundives, 141</td>
</tr>
<tr>
<td>gestern, 392</td>
</tr>
<tr>
<td>gestorben, 68</td>
</tr>
<tr>
<td>gewesen, 365</td>
</tr>
<tr>
<td>Gewicht, 73</td>
</tr>
<tr>
<td>gewinnen, 364</td>
</tr>
<tr>
<td>gewiss, 367</td>
</tr>
<tr>
<td>geworben, 68</td>
</tr>
<tr>
<td>geworfen, 68</td>
</tr>
<tr>
<td>gha kṣayatā, 105</td>
</tr>
<tr>
<td>gharma, 294</td>
</tr>
<tr>
<td>ghas, 132</td>
</tr>
<tr>
<td>ghna, 387</td>
</tr>
<tr>
<td>ghnānti, 161</td>
</tr>
<tr>
<td>ghōṣayatā, 125</td>
</tr>
<tr>
<td>ghr, 78</td>
</tr>
<tr>
<td>ghrā, 78, 295</td>
</tr>
<tr>
<td>ghrāti, 295</td>
</tr>
<tr>
<td>ghur, 125</td>
</tr>
<tr>
<td>ghus, 125</td>
</tr>
<tr>
<td>ghūṣṭa, 125</td>
</tr>
<tr>
<td>Giebel, 288</td>
</tr>
<tr>
<td>gießen, 391</td>
</tr>
<tr>
<td>gitā, 290</td>
</tr>
<tr>
<td>gird, 292</td>
</tr>
<tr>
<td>girdle, 292</td>
</tr>
<tr>
<td>give, 268, 288</td>
</tr>
<tr>
<td>grateful, 293</td>
</tr>
<tr>
<td>grathnāth, 124, 292, 293</td>
</tr>
</tbody>
</table>
gratuitous, 292
grave, 293
gravity, 291
gṛbhāṭi, 293
gṛddha, 122, 292
gṛdhra, 122, 292
gṛdhgā, 292
gṛdhyaṭi, 292
greifen, 293
Greemium, 294
greemium, 294
gṛha, 56, 292
grḥāna, 188
grḥastha, 136
grḥ-pu-tī, 188, 293
griva, 289
gṛpāti, 291
grope, 293
gr, 291
ghrāti, 78
Grube, 293
grubeln, 293
guh, 93, 116, 291
guna, 24
gup, 290
gurāu, 207
Gurt, 292
guru, 67, 102, 205, 207, 209, 290
gurus, 208
gurūnām, 209
gut, 72
gūhāti, 93, 291
gūrīti, 291
gūstus, 301
gymnastics, 326
gymnns, 325
gynecology, 300

H
ha, 270, 387
hä, 57, 125
hāta, 125
haben, 13
habere, 288
habilitation, 288
habit, 288
habitāre, 288
habitātion, 288
Haft, 73, 311
hagiography, 355
half, 68
half vowels, 20, 21
Hall, 284
Halle, 372
haima, 69, 381
Hals, 297
hamsa, 388
ham-sy-a-ti, 388
han, 83, 92, 103, 111, 120, 126, 161, 191, 387, 388
hang, 370
hängen, 370
Hängepartie, 370
haniṣyati, 388
hanīma, 55
bantī, 85, 92, 111, 161, 387
bantum, 92, 103
hau, 53, 389
hanyatē, 126
harati, 21, 91, 109, 124, 391
hard, 282, 284
hare, 372
hari, 389
harisa, 55
harṣa, 56
harṣati, 392
hart, 282, 284
hartum, 91
hary, 389
haryatē, 389
has, 389
hasati, 389
Hase, 372
hasta, 38, 389
hastin, 207, 209
hastinām, 209
hastini, 207

Histon
Index

hastishi, 208
hata, 388
hatas, 161
hatis, 120
hattha, 58
Haufen, 71
have, 73
havis, 41 100
havissadda, 61
heap, 71
heart, 74 392
heave, 371
heben, 371
hedonic, 387
hehlen, 372
Hehler, 372
Heim, 373
Heinrich, 358
heischen, 39 44 271
heis, 71
hekaton, 33
helfen, 65
helio-centric, 386
hell, 284
Helm, 372
helmet, 372
Helmut, 372
helvus, 389
hemisphere, 69 379
hepta, 69
heptagon, 69 378
Hera, 337
Herbst, 297
herpes, 69 381
Hers, 74 392
hêtu, 390
hex, 69
hexagon, 69 370
hi, 390
hia, 59
hibernate, 390
hida, 59
hina, 123
hiyâtê, 125

hima, 390
Himalaya, 390
hîns, 122 182 183
hînsâ, 135
hi-m-s, 177
hînsâ, 387
hînsita, 122
hînsmas, 177
hînsra, 122
hinasti, 177
hindî, 183
hinôti, 390
hip, 71
hippo, 264
hippodrome, 264
Hirn, 372
Hirsch, 373
hita, 32 69 117 121 125 135 321
hitis, 121
hitôpadêsa, 32
Hittite, 3
hive, 282
hohl, 281 378
hoî, 61
hole, 281
holen, 284
hollow, 281
holocaust, 379
hologram, 379
home, 373
hominis, 285
homo, 285
homosexual, 69 378
homunculus, 285
Horn, 373
horn, 373
horridic, 392
horror, 392
horticulture, 292
hortus, 292
hot, 71
hoti, 61
hôtar, 101
hôtram, 101

414
<table>
<thead>
<tr>
<th>Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>hüfte, 71</td>
</tr>
<tr>
<td>hülle, 372</td>
</tr>
<tr>
<td>human, 285</td>
</tr>
<tr>
<td>humble, 285</td>
</tr>
<tr>
<td>humility, 285</td>
</tr>
<tr>
<td>humus, 285</td>
</tr>
<tr>
<td>Hund, 73, 375</td>
</tr>
<tr>
<td>hund, 35</td>
</tr>
<tr>
<td>hundert, 371</td>
</tr>
<tr>
<td>hundred, 371</td>
</tr>
<tr>
<td>hurch, 391</td>
</tr>
<tr>
<td>Hure, 66, 279</td>
</tr>
<tr>
<td>husten, 250</td>
</tr>
<tr>
<td>huta, 110, 125, 390</td>
</tr>
<tr>
<td>hû, 37</td>
</tr>
<tr>
<td>hûrchna, 391</td>
</tr>
<tr>
<td>hûrchati, 391</td>
</tr>
<tr>
<td>hûyâtê, 125</td>
</tr>
<tr>
<td>hûvaras, 391</td>
</tr>
<tr>
<td>hûgas, 392</td>
</tr>
<tr>
<td>hydrate, 273</td>
</tr>
<tr>
<td>hygiene, 380</td>
</tr>
<tr>
<td>hyperactive, 274</td>
</tr>
<tr>
<td>hyperbola, 274</td>
</tr>
<tr>
<td>hypertension, 274</td>
</tr>
<tr>
<td>hypnosis, 386</td>
</tr>
<tr>
<td>hypocrite, 273</td>
</tr>
<tr>
<td>hypothesis, 273</td>
</tr>
<tr>
<td>hysteria, 273</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>I</th>
</tr>
</thead>
<tbody>
<tr>
<td>i, 26, 78, 84, 85, 92, 103, 110, 120, 154</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>ianuš, 355</td>
</tr>
<tr>
<td>ibi, 271</td>
</tr>
<tr>
<td>icchâ, 271</td>
</tr>
<tr>
<td>icchati, 35, 44, 84, 270</td>
</tr>
<tr>
<td>icchytê, 123</td>
</tr>
<tr>
<td>ich, 260</td>
</tr>
<tr>
<td>icke, 70, 266</td>
</tr>
<tr>
<td>idhâ, 270</td>
</tr>
<tr>
<td>idea, 367</td>
</tr>
<tr>
<td>ideology, 367</td>
</tr>
<tr>
<td>idh, 270</td>
</tr>
<tr>
<td>idha, 271</td>
</tr>
<tr>
<td>in, 154</td>
</tr>
<tr>
<td>ignis, 251</td>
</tr>
<tr>
<td>ignite, 251</td>
</tr>
<tr>
<td>iha, 32, 271</td>
</tr>
<tr>
<td>ithi, 138, 155</td>
</tr>
<tr>
<td>idrksa, 317</td>
</tr>
<tr>
<td>idyâ, 317</td>
</tr>
<tr>
<td>iks, 250, 271</td>
</tr>
<tr>
<td>iksâ, 131</td>
</tr>
<tr>
<td>ikṣate, 250, 271</td>
</tr>
<tr>
<td>iṣu, 131</td>
</tr>
<tr>
<td>ina, 271</td>
</tr>
<tr>
<td>irma, 271</td>
</tr>
<tr>
<td>iṣ, 250, 272</td>
</tr>
<tr>
<td>iṣat, 245, 265, 271</td>
</tr>
<tr>
<td>iṣte, 272</td>
</tr>
<tr>
<td>iṣvara, 272</td>
</tr>
<tr>
<td>iṣvâre, 263</td>
</tr>
<tr>
<td>ijjatê, 123</td>
</tr>
<tr>
<td>imas, 85</td>
</tr>
<tr>
<td>immense, 350</td>
</tr>
<tr>
<td>impediment, 332</td>
</tr>
<tr>
<td>imperfect, 86</td>
</tr>
<tr>
<td>impetus, 331</td>
</tr>
<tr>
<td>implication, 340</td>
</tr>
<tr>
<td>impossible, 250</td>
</tr>
<tr>
<td>impression, 338</td>
</tr>
<tr>
<td>in, 250</td>
</tr>
<tr>
<td>ina, 66</td>
</tr>
<tr>
<td>inakṣu, 327</td>
</tr>
<tr>
<td>incendere, 296</td>
</tr>
</tbody>
</table>
Index

incense, 296, 298
inclined, 374
incunable, 373
indhatê, 270
indigenous, 300
Indo-European, 3
Indogermanisch, 3
Indrajit, 136
indrata, 263
indulgent, 317
ineffective, 66
ineffective, 250
inert, 268
infallible, 343
infant, 343
infantryman, 345
infinitive, 91-96
infrastructure, 254
infusion, 391
ingenious, 299
inhibition, 288
initial, 270
innocence, 327
innovate, 296
innuendo, 330
instigation, 306
intercept, 371
international, 255
internal, 327
interregnum, 358
intervention, 288
intestines, 255
invest, 364
in vestiture, 364
irate, 271
irritation, 358
is, 65, 44, 84, 114, 119, 120, 123, 270
isäti, 271
isäti, 355
isäti, 56
isvara, 63
isyati, 271
ita, 32, 110, 270
iteration, 270
iteration, 270
itinerary, 270
itihasi, 270
ivinile, 357
iva, 31, 253, 270
iyarti, 276

J
jämatar, 300
jändati, 302
jānu, 330, 300, 303
jāta, 118, 121, 156
jātas, 28
jātis, 121
jātu, 299
jāyā, 137, 300
jāyate, 82, 361, 365
jāyate, 28
jagat, 221
jagati, 221
jahati, 87
jahī, 132, 162
jahānas, 87
jaks, 208
jakṣiti, 208
jala, 31
jalāṣaya, 31, 373
Index

jan, 28 82 96 102 104 107 118 121
   299 300 303
jana, 299 300
janaka, 299
janayati, 107
jâni, 300
jâni, 300
janitar, 299
janitr, 28
janitum, 96 102 104
janjapiti, 140
janjapayatê, 140
janman, 102
january, 355
jap, 140
jarâ, 301
jârati, 301
jârâtê, 278
jâthâ, 60
jatu, 298
jâya, 137
jâyas, 97
jâyatî, 78 92 110 300
jâyya, 141 142
jêjûryatê, 141
jêtar, 100
jêtavaya, 141
jêtum, 92 100 103
jêya, 141 142
jîhâna, 60 64
ji, 78 92 97 100 103 110 134 136
   141 300
jîgâti, 87 221 289
jîgamiṣâ, 132
jîgamiṣati, 132
jîgamiṣu, 132
jîghãnsâ, 135
jîghânti, 78
jîghatâ, 132
jîghatsâ, 132
jîghatsati, 132
jîghatsu, 132 294
jîghryksu, 130
jîghûnas, 87
jîghûsâ, 134
jîguṣati, 134
jîguṣu, 134
jîgranthiṣâti, 132
jîheva, 301
jînâ, 118 124 301
jîryate, 124
jîryatî, 118
jîva, 301
jîvana, 42
jîvati, 301
jîvâsâ, 128 302
jîvâsananam, 302
jîvâsate, 128
jîvâsu, 128
jîta, 110 136
jû, 106 128 142 193 300 302 303
jûpayati, 106
jûcya, 142
Joch, 356
Jones, William, 1
jûr, 60
jûsa, 301
jûsvana, 35
jû, 118 121 124 301
juddha, 60
ju-hô-si, 169
juhôtî, 87 92 110 169 390
juhâdhi, 169
juhumas, 87
juhû, 390
juhû, 235
juhûvas, 169
juhvati, 169
junction, 355 356
jung, 357
Junggrammatiker, 3 4
jûnta, 356
jurisdiction, 268
jus, 301
juśate, 301
just, 268
jûta, 60 64
jûvalî, 139
Index

jvājvalyātē, 139
jval, 139
jyā, 78, 300
jyāti, 78, 300
jyōtis, 104
jyut, 100

K
kāla, 280
kālāntaka, 280
kāma, 279
kāmadhuk, 38
kāmadhu, 216, 217
kānē, 81, 279, 280
kānkātati, 280
kānta, 178, 121, 279
kāram, 107
kārayati, 106
kārśman, 283
kārya, 141
kāś, 280
kāsa, 280
kāśā, 280
kāsate, 280
kāś, 81, 280
kāsate, 280
kad, 279
kadācid, 279
kadham, 60
kaham, 60
kalpa, 62
kalpatī, 80
kam, 118, 121, 279
kamp, 80
kampa, 64, 65
kampatē, 80
kanā, 278
kanī, 278
kāṇya, 63
kānn jan, 303
kānṭha, 137
kānyā, 278
kapivat, 246
kappa, 62
kara, 282
karaṇya, 141
karaṇā, 186
Karitas, 279
karkṣyati, 105
karṇabhis, 229
karman, 102, 228, 229
karṇa, 63
karōti, 91, 109, 124, 282
karṣa, 40
karṣati, 80, 283
karṣṭum, 94, 105
karṣa, 283
kartar, 100, 231
kartavya, 141
kartitum, 96
kartram, 101
kartum, 91, 100, 102, 104
kas, 279
kas, 283
kaśati, 283
kaścid, 279
kaśta, 283
kata, 282
katham, 60
kathayitum, 96
Katheder, 377
kāuti, 281
kāṇṭhyā, 281
kavatē, 281
kavi, 281
kaviṭi, 281
keck, 301
Keller, 372
Kellner, 372
kennen, 303
kephalē, 288
Kern, 302
ketu, 283
kha, 287
kha, 101
khād, 81, 287
khādā, 287
khāta, 118, 121, 123, 287
Index

khātar, 101
khātis, 121
khāyatē, 125
khāqa, 135, 287
khajala, 287
khan, 86, 118, 121, 125, 287
khanatī, 96, 118, 287
khanatī, 96
khanatīt, 101
khanitra, 287
khanitum, 96
khatat, 58
khatata, 58, 64
khayā, 58
khēdas, 97
khēttā, 58
khēttum, 92
khid, 92, 97, 110
khītyati, 92, 110
khīla, 287
khīlī kr, 287
khinnā, 110
khitta, 58
kṣud, 122
kṣip, 92, 102, 103, 110, 119, 121, 123
kṣipatī, 123
kṣud, 102
khujjā, 58
khuyā, 86
khuyāmas, 86
khuyātī, 86
kida, 56, 99
kiesen, 74, 301
kīḍā, 57
kīri, 283
kīrṇa, 118, 123, 283
kīryatē, 124
kīṃna, 55
kim, 280
kini, 36
Kind, 300
Kinn, 53, 74, 389
kinship, 300
kinship nouns, 231-233

kinatī, 118, 283
Kirche, 74
kitchen, 331
kiyanmātra, 279
kiyat, 279
klāmyatī, 285
klam, 285
klēda, 285
kleidsam, 378
klid, 285
klidyatī, 285
klína, 55, 285
khā, 123, 188
khāna, 188
khāsāti, 188
khāyatē, 123
klōman, 285
klāp, 30
Knecht, 73
knee, 300
Knie, 300
knight, 73
know, 303
Koch, 71, 331
kōka, 283
kōkila, 283
Köln, 296
kommen, 289
Konvikt, 301
köpa, 281
köpas, 97
köpayatī, 106
köpitum, 96
Korn, 302
Körper, 282
kosten, 301
kōvida, 284
kr, 90, 91, 97, 109-102, 104, 106, 107
109, 119, 124, 132, 141, 184, 185
280, 282
krāmatis, 81
krāmyatī, 285
krānta, 285
knichzen, 285

419
Index

krakara, 285
kram, 81, 118, 140, 285
Kramp, 292
krand, 284
krandati, 284
krank, 292
Kranz, 292
kraśyāṇa, 283
kraśīthā, 283
kraśṭuṇa, 94, 105
krat, 282
kṛta, 56, 59, 109, 119
kṛtis, 120
kṛtyatē, 123
kṛta, 94, 100, 285
Krute, 284
kṛūm, 121, 284
kṣaṃ, 44, 285
kṣātra, 285
kṣātriya, 58, 64, 285
kṣatta, 88
kṣema, 286
kṣeṇa, 286
kṣēpa, 286
kṣēpam, 101
kṣēpiyam, 286
kṣēpiyās, 102
kṣēpiṣṭha, 102, 286
kṣēpiyā, 286
kṣēptum, 92, 103
kṣētra, 58, 286
kṣetra, 286
ki, 286
kṣi, 286
kṣiṭi, 286
kṣiṭi, 286
kṣip, 32, 83, 107, 286
kṣipati, 92, 110, 286
kṣipra, 102, 121, 286
kṣipita, 58, 110, 119, 121, 286
kṣipīta, 119
kṣipata, 123
kṣipati, 286
kṣipoṭ, 93
ksābh, 286
kṣābhottā, 286
kṣābhottā, 286
kṣottā, 286
kṣodhatē, 286
kṣodhatē, 286
kṣodhartē, 286
kṣodhatē, 286
kṣodhatē, 286
kṣodhatē, 286
kṣoḍīyān, 223
kṣoḍīyān, 223
kṣoḍīyam, 222, 286
kṣoḍīyam, 222, 286
kṣoḍīyam, 102
ksōdīyasā, 223
ksōdīyōbas, 223
ksōdīṣṭha, 102, 286
kṣubdha, 112, 286
kṣuh, 93, 112, 286
kṣubhyati, 286
kṣubhyati, 93, 112
kṣud, 286
kṣudh, 286
kṣudhā, 286
kṣudhita, 286
kṣudhyati, 286
kṣudra, 102, 122, 286
kṣunna, 286
kṣup, 82
ku, 279
kubja, 58
Küche, 331
Kuckuck, 283
kudāna, 286
Kuh, 290
kula, 281
kulā, 281
kulālacakram, 281
kula, 281
kumbhakāra, 97
kup, 21, 82, 97, 106, 281
kupati, 21, 281
Kūr, 301
Kurfürst, 301
kurnas, 91
kuru, 148, 185
kurutē, 186
kurvanti, 185
kurvas, 185
kurvate, 186
kurvē, 186
Kuryłowicz, Jerzy, 3
kusaha, 279
kuśrutam, 279
kusida, 279
kutas, 289
kuṭi, 281
kuṭila, 281
kutumā, 57
kuṭuḥala, 279
ku, 280, 281
kuḍid, 279, 280
kuḍa, 282
kuvid, 280
kva, 280
kvacid, 279
L
laā, 59
labdha, 37, 61, 112, 126
labdhām, 93, 103
labh, 93, 103, 112, 126
labbate, 93, 112
labhyate, 126
labio-welars, 18
ladā, 59
ladder, 72, 374
laddha, 61
lady, 315
laghīyas, 360
laghīṣṭha, 360
laghīṣṭha, 374
lagha, 360
Laib, 73, 315
lament, 360
lang, 315
language tree, 3
languid, 375
laryngeal theory, 3, 19, 28, 29
laryngeals, 19, 28, 29, 96
lassen, 71
lata, 59, 208, 209
latānām, 209
latāsu, 208
latāyūm, 208
Laub, 73
laufjen, 71
lauschen, 375
laut, 375
lauten, 375
law of morae, 54
laz, 375
Index

lead, 72
leaf, 73
lean, 374
leap, 71
leather, 72
leben, 73
lecken, 362
Leder, 72
lèdhi, 85 158 361 362
lèdhun, 95
lehnen, 374
Lehnwort, 358
Leib, 73
leicht, 357 361
leihen, 358
Leipzig school, 3
leiten, 72
Leiter, 72 374
lèkha, 360
lèkhâ, 46
lèkhitum, 96 104
lèksi, 158
lèlêhïthï, 138
lèlêhyatê, 138
Lenden, 358
lengthened e-grade, 23
lengthened grade, 106 137
causatives, 106
derivatives, 137
lengthened o-grade, 23
Leskien, August, 2
let, 71
leukemia, 359
Leumund, 375
levelling, 6
levitaten, 361
levity, 357 361
libido, 362
Licht, 359
lichterloh, 359
lick, 362
lie, 74
lieben, 73 362
liegen, 74
life, 73
light, 357 359 361
lîh, 85 113 138 157 159 361 362
lîhâti, 95
lîhmas, 85
lî, 117
lîdha, 115
lîdhas, 159
lîdhe, 159
lîdhuve, 159
lîta, 117
lî-ya-tê, 117
lîkh, 83 104 360
lîkhati, 46 360
lîliksâti, 130
lîmpatî, 83
lîp, 83
litigation, 251
live, 73
loaf, 73 313
loan, 358
loan word, 358
lôbhas, 97
locative
plural, 208
singular, 207 208
Loch, 71
lock, 71
loga, 59
lohita, 359
loins, 358
loka, 59 363
long, 315
longitude, 315
lôa, 59
loud, 375
love, 73 362
lubh, 97 362
lubh ënati, 362
Luchs, 359
Lucifer, 348 359
Ludwig, 375
lügen, 74
lumhus, 368
Index

lumpati, 83
lunati, 117
lup, 83
lupus, 369
I, 117, 362
luna, 117
lunati, 362
lynx, 359

M
mā, 78
mā, 86, 108, 193, 350
Māghadhī, 53
Māhārāṣṭrī, 53
mānas, 86
mānsa, 351
māna, 26
mānsa, 137
mārga, 63
mās, 351
mātara, 205, 233, 351
māti, 86
māyam, 108
mad, 207, 209
madhu, 19, 241, 243, 349
madhūti, 49
madhunī, 244
madhuṇī, 244
madhīga, 20, 349
madonna, 310
magga, 63
magister, 350
magna, 111
magnate, 350
magnitude, 350
mahān, 219
mahant, 102, 219, 350
mahāti, 219
mahattama, 102
mahattara, 102
math, 350
mahnen, 66
mahyam, 354
majesty, 350
maju, 111, 349
majjati, 349
mama, 354
man, 78, 82, 92, 100, 103, 104, 111, 120
manas, 26, 100, 137, 207–209, 350
manasām, 209
manasi, 207
manassu, 208
mandate, 312
manipulation, 339
manniṣ-faltīq, 74
manta, 64
manth, 124
mantra, 64
mantum, 92, 103, 104
many, 74
manyatē, 78, 82, 92, 111, 126, 350, 354
marana, 12
marati, 353
mardanam, 99, 102
mardati, 354
martum, 91
marut, 203, 207–209, 211, 212
maruṭam, 209
marutam, 210
maruti, 207
marutsu, 208
master, 350
mata, 26
matāu, 207, 208
maternity, 351
mathnāti, 124
mathyatē, 124
mati, 203, 207–209, 210, 212, 243, 350
mati, 26
mati, 210, 243
matinām, 209
mati, 241
matimant, 261
mati, 120
matiṣu, 208
matyām, 208
Maus, 353

423
mayi, 207
me, 354
mead, 349
measure, 350
media, 350
mediaacre, 264, 350
medium, 350
meed, 352
mēha, 60
mēns, 350
megabyte, 350
megafon, 350
megawatt, 350
mēgha, 60, 352
mēghas, 98
mēhati, 80, 98, 352
mēla, 352
mēlā, 352
mēlaka, 352
mēlana, 352
member, 331
memini, 350
memory, 349
menstruation, 351
menti, 26
mentis, 350
mentor, 231
merge, 349
Mesopotamia, 20, 350
Met., 349
metaphor, 348
meter, 350
methane, 19, 349
mēthati, 351
mid., 350
middle, 350
Middle Indian, 53-63
anaptyxis, 55
consonants, 34, 66, 54
diphthongs, 54-56
law of morae, 54
svarabhakti, 55
vocalic r, 55, 56
vowels, 54-56
Miete, 352
mih, 80, 98, 109, 352, 353
mī, 352
mīgha, 41, 352
mīnāṁśa, 134
mīv, 353
mīvati, 353
mīkṣ, 352
mū, 352
mūlāti, 352
mūmāṭi, 350
mīmikṣa, 128, 352
mi-nā-ti, 352
mind, 350
minister, 352
minus, 352
minute, 352
mischen, 352
mīś, 122, 128, 352
mīśra, 122, 352
mīšta, 122
missile, 351
mīt, 109
mīth, 351
mitra, 351
Mitte, 350
mix, 352
mixture, 352
mnā, 78
mnākt, 78
mobility, 353
mōḍati, 123
mōi, 354
mōktum, 92, 104
Moll, 354
mollig, 354
Monat, 351
Mond, 351
monere, 66
monkey, 4
monstrance, 350
month, 351
Monday, 351
Mond, 351
monere, 66
monkey, 4
monstrance, 350
month, 351
Index

mood, 72
moon, 351
mora, 354
morbid, 354
Mord, 354
morsche, 354
Mörser, 354
mortal, 354
mortar, 354
Mörtel, 354
mother, 351
mouse, 353
move, 353
mr., 21, 91, 106, 109, 119, 124, 353
mriyatê, 21, 91, 109, 124, 353
muc, 83, 92, 104, 110, 119, 128
much, 350
mucus, 353
mud, 123
mudyatê, 123
muha, 60
mukha, 60
mukta, 110, 119
muktis, 119
multifarious, 322
munukṣa, 128
munukṣāt, 128
munukṣu, 128
munūrṣa, 134
munūrṣati, 134
munūrṣu, 134
munū, 201
munīcati, 83, 92, 110
munīcati, 353
muni, 205, 207, 209, 240, 242, 243, 353
munī, 240, 243
munīn, 240
munīnāṁ, 209
munīṣu, 208
mūrbe, 354
murder, 354
mus, 188
muṣ-āṇa, 188
muṣṭāti, 188
Mut, 72
mute, 353
Mutter, 351
müka, 353
mūrchatā, 354
mūrchati, 391
mūṣa, 353

N
na, 324
nādh, 122, 267, 328
nādhātē, 267, 328
nāma, 245
nāman, 227, 228, 328
nāṇa, 57
nārāyaṇa, 326
nāth, 267
nāthatē, 267
nāv, 234
Nabel, 326
nabh, 326
nabhas, 326
nabhatē, 326
nabhya, 326
naca, 325
Nacht, 73, 325
naddha, 118, 325
naddhi, 325
nad, 325
nadi, 205, 208, 209, 235
nadināṁ, 209
nadiṣu, 208
nadyāṁ, 208

425
Index

nagara, 99
Nagel, 74
nagna, 325
nab, 113
naba, 60
nähr, 327
nail, 74
naked, 325
nakha, 53, 60
nakha, 55
nakta, 324, 325
nakula, 59
nam, 92, 100, 111, 120, 126, 326
namas, 100, 326
namati, 92, 111, 326
Name, 328
name, 328
namra, 326
namstum, 94, 105, 327
namyatê, 126
nand, 100, 325
nandanaś, 100
nandati, 325
nantum, 92
napta, 232, 325
nara, 326
narapati, 241
nariniyatê, 141
Narten verbs, 164
nas, 327, 328
nasal infix classes, 87-89
nasatê, 327
Nase, 327
nas, 94, 105, 327
naśta, 327
naśyatê, 94, 327
naṭa, 330
nation, 300
natis, 120
nature, 300
nā, 330
nāula, 59
nāuti, 86
nautical, 330
Nautilus, 330
nava, 326, 327
navatê, 330
nave, 326
navigation, 251, 330
nayana, 57
nayananam, 99
nayara, 59
nayati, 22, 96, 117, 135, 329
nayitum, 96
ne, 325
Nebe, 325
nepal, 326
nepal, 326
nebulous, 326
need, 72
neffe, 325
negate, 325
negative, 325
neglect, 325
negrology, 327
neoliberal, 69, 326
Nekhâ, 69, 326
nepotism, 325
negue, 325
Nerâ, 326
nervous, 384
nest, 329, 330
Nestor, 327
nētā, 232
nētar, 205, 231, 232
nētari, 232
nētā, 22, 101
nētara, 232
nētram, 101
nēṭybris, 232
nētir, 232
nettle, 71
nētum, 101
neu, 327
neun, 327
neurology, 384
neuron, 384
neuter action nouns, 99
neuter r-stems, 244
neutral endings, 206
new, 65 327
New Indian, 64 65
ni, 257 328
Nichte, 325
nie, 325
nice, 325
night, 73 325
n, 96 99 101 111 121 125 135 225 329

nīda, 329
nīpa, 257
nīta, 117 139
nīsīt, 121
nīyatē, 125
nikasa, 283
nine, 327
ninth class, 87 88 91 186
nir, 328
nirbharam, 245
nirvāna, 369
nis, 328
nisci, 297
niscita, 297
niscitam, 297
nitya, 381
nīśa, 384
nīśāta, 384
nītarām, 328
nobility, 303
nocturnal, 325
nominal, 328
nōmen, 328
normal grade, 91 96
normal-grade root, 77
nose, 327
Not, 72
note, 303
notion, 303
nottum, 92
nouns, 203 205 212 213 218 221 223 229 238 241 242 244
"athematic nouns, 203
comparative lengthening, 206

endings, 205 206
genitive plural, 209
locative plural, 208
locative singular, 203 208
strong form, 203 210 212 215 225
231 233 235 237 241 242 244
233 235 237 241 242 244
231 233 235 237 241 242 244
231 233 235 237 241 242 244

word-final consonants, 215 216
d novelty, 326
November, 327
novice, 65 326
novus, 65 326
now, 330
nīpa, 130
nrt, 82 141 330
nītya, 330
nu, 86 164
udu, 83 89 110 123
nudate, 123
nudati, 92 110 111
nude, 325
nudatē, 123
numas, 86 164
nun, 330
nūn, 330
nunna, 110
nuwanti, 164
nyāi, 98
nyūyus, 98
nuc, 328
nagrodhapāda, 328
nyak bhā, 328
nyak kr, 328

O
oath, 72
obedient, 268
obnoxious, 327
obsession, 377
occasion, 371
Ochse, 272
Ochsenfurt, 338
Index

octave, 265
October, 265
octopus, 265
ocular, 265
ocular, 250
Odem, 267
ödman, 273, 278
of, 258
off, 258
official, 258
officium, 258
o-grade, 23
óhátë, 276
Ohr, 268
óínya, 63
ójas, 32, 272, 276, 278, 363
óijman, 278, 363
ókas, 32
occult, 372
óman, 263, 278
one, 278
onerate, 254
onerous, 254
onomastic, 328
onus, 254
onweg, 366
óóia, 68
opera, 258
opeñem, 258
optimus, 258
option, 258
opulent, 258
opus, 258
orbit, 262
orbe, 260
orient, 277
origin, 277
orphan, 262
osculation, 268
ósatë, 275
osseous, 266
ossify, 266
Ost, 275
osteoporosis, 266
Ostern, 275
other, 275
out, 271, 273
over, 274
ovine, 263
ovis, 263
owl, 275
own, 272
ox, 272
Oxford, 338

P
på, 78, 328
på, 81, 98, 99, 101, 103, 108, 117, 121, 125, 126, 136, 141, 142, 193, 334, 335
påcaka, 137
påda, 328, 332, 335
pådaja, 322
pådapa, 136, 332
pådarajas, 332
påmas, 86
påna, 136
pånam, 99
påpåti, 139
påpacitâ, 139
påpacitâ, 139
påra, 337
påsa, 335
påstör, 334
påspåti, 335
påtar, 101
påtaya, 106
påti, 86, 334
påtrim, 101
påtum, 86, 101, 103, 335
påyam, 108
påc, 92, 139, 331
påcåti, 92, 331
påct, 333
påd, 111, 332

428
<table>
<thead>
<tr>
<th>Term</th>
<th>Page Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>padhama</td>
<td>57</td>
</tr>
<tr>
<td>padida</td>
<td>57</td>
</tr>
<tr>
<td>padma</td>
<td>55</td>
</tr>
<tr>
<td>paduma</td>
<td>55</td>
</tr>
<tr>
<td>padyê</td>
<td>111, 332</td>
</tr>
<tr>
<td>pakka</td>
<td>62</td>
</tr>
<tr>
<td>paktim</td>
<td>92</td>
</tr>
<tr>
<td>pakva</td>
<td>62</td>
</tr>
<tr>
<td>pal</td>
<td>349</td>
</tr>
<tr>
<td>palay</td>
<td>269, 333</td>
</tr>
<tr>
<td>palâyate</td>
<td>269, 333</td>
</tr>
<tr>
<td>palatalization</td>
<td>40</td>
</tr>
<tr>
<td>palatalbs</td>
<td>18, 35, 44</td>
</tr>
<tr>
<td>Pali</td>
<td>33</td>
</tr>
<tr>
<td>patça</td>
<td>64, 65, 331</td>
</tr>
<tr>
<td>pañcāšat</td>
<td>331</td>
</tr>
<tr>
<td>paññita</td>
<td>331</td>
</tr>
<tr>
<td>pañkti</td>
<td>330</td>
</tr>
<tr>
<td>panna</td>
<td>111</td>
</tr>
<tr>
<td>panth</td>
<td>332</td>
</tr>
<tr>
<td>papīta</td>
<td>304</td>
</tr>
<tr>
<td>papus</td>
<td>335</td>
</tr>
<tr>
<td>parā</td>
<td>333</td>
</tr>
<tr>
<td>paradigm</td>
<td>313</td>
</tr>
<tr>
<td>parasnaippaḍa</td>
<td>143, 144, 147, 148</td>
</tr>
<tr>
<td>parī</td>
<td>333</td>
</tr>
<tr>
<td>parītē</td>
<td>333</td>
</tr>
<tr>
<td>parjumē</td>
<td>323</td>
</tr>
<tr>
<td>pari</td>
<td>31, 333</td>
</tr>
<tr>
<td>parivrddha</td>
<td>344</td>
</tr>
<tr>
<td>parivād</td>
<td>109</td>
</tr>
<tr>
<td>parivåt</td>
<td>109</td>
</tr>
<tr>
<td>participation</td>
<td>371</td>
</tr>
<tr>
<td>participle</td>
<td>371</td>
</tr>
<tr>
<td>paśu</td>
<td>333</td>
</tr>
<tr>
<td>paśyati</td>
<td>334</td>
</tr>
<tr>
<td>passive voice</td>
<td>126</td>
</tr>
<tr>
<td>past participle</td>
<td>112, 113</td>
</tr>
<tr>
<td>pastor</td>
<td>344</td>
</tr>
<tr>
<td>pat</td>
<td>77, 101, 106, 107, 119, 125, 331</td>
</tr>
<tr>
<td>patati</td>
<td>119, 392</td>
</tr>
<tr>
<td>paternoster</td>
<td>328</td>
</tr>
<tr>
<td>path</td>
<td>71, 72, 119, 125, 333</td>
</tr>
<tr>
<td>pathati</td>
<td>119</td>
</tr>
<tr>
<td>pathita</td>
<td>118, 119, 125</td>
</tr>
<tr>
<td>pathitum</td>
<td>96</td>
</tr>
<tr>
<td>pathyate</td>
<td>125</td>
</tr>
<tr>
<td>patt</td>
<td>207, 209, 241, 332</td>
</tr>
<tr>
<td>pathnam</td>
<td>209</td>
</tr>
<tr>
<td>patiṣu</td>
<td>208</td>
</tr>
<tr>
<td>patha</td>
<td>57, 119, 125</td>
</tr>
<tr>
<td>patitum</td>
<td>96, 101</td>
</tr>
<tr>
<td>patni</td>
<td>135</td>
</tr>
<tr>
<td>patram</td>
<td>101</td>
</tr>
<tr>
<td>patriarch</td>
<td>336</td>
</tr>
<tr>
<td>patrician</td>
<td>336</td>
</tr>
<tr>
<td>patriot</td>
<td>336</td>
</tr>
<tr>
<td>patron</td>
<td>336</td>
</tr>
<tr>
<td>Patrone</td>
<td>336</td>
</tr>
<tr>
<td>pattram</td>
<td>101, 331</td>
</tr>
<tr>
<td>patyate</td>
<td>125</td>
</tr>
<tr>
<td>patyau</td>
<td>207, 241</td>
</tr>
<tr>
<td>patyus</td>
<td>241</td>
</tr>
<tr>
<td>paśīma</td>
<td>55</td>
</tr>
<tr>
<td>paśisati</td>
<td>57</td>
</tr>
<tr>
<td>paṇanas</td>
<td>100</td>
</tr>
<tr>
<td>paś</td>
<td>335</td>
</tr>
<tr>
<td>paśas</td>
<td>336</td>
</tr>
<tr>
<td>paśas</td>
<td>336</td>
</tr>
<tr>
<td>pay-per-view</td>
<td>333</td>
</tr>
<tr>
<td>paś</td>
<td>336</td>
</tr>
<tr>
<td>pecular</td>
<td>334</td>
</tr>
<tr>
<td>peculiun</td>
<td>334</td>
</tr>
<tr>
<td>pecúnia</td>
<td>334</td>
</tr>
<tr>
<td>pecuniary</td>
<td>70, 334</td>
</tr>
<tr>
<td>pecus</td>
<td>334</td>
</tr>
<tr>
<td>pedagogue</td>
<td>251, 336</td>
</tr>
<tr>
<td>pedal</td>
<td>70</td>
</tr>
<tr>
<td>pedal</td>
<td>332</td>
</tr>
<tr>
<td>pedestrian</td>
<td>332</td>
</tr>
<tr>
<td>pedicurist</td>
<td>332</td>
</tr>
<tr>
<td>penna</td>
<td>331</td>
</tr>
<tr>
<td>Pennːker</td>
<td>331</td>
</tr>
<tr>
<td>pentagon</td>
<td>331</td>
</tr>
<tr>
<td>pé-pi-y-a-tê</td>
<td>141</td>
</tr>
<tr>
<td>pepper</td>
<td>72</td>
</tr>
<tr>
<td>per</td>
<td>333</td>
</tr>
<tr>
<td>per se</td>
<td>333</td>
</tr>
<tr>
<td>percent</td>
<td>370</td>
</tr>
</tbody>
</table>
Index

perfect, 322
perfume, 323
perimeter, 333 334
periphery, 333 334 348
permit, 351
pernicious, 327
petere, 331
petition, 331
pétus, 304
pêya, 142
Pfad, 71 72 833
Pfeffer, 72
Pflanze, 72
Pflicht, 73
phala, 265 266
phalâśm, 266
phena, 341
phenomenon, 346
pherô, 33
Philadelphia, 289
phone, 345
phoneme, 345
phonetics, 345
phosphor, 346 348
photo, 346
phugoid, 347
phusât, 58
phusat, 58
physics, 348
pia, 61 63
piBATI, 81 117 834 835
picture, 336
pigment, 336
pîthum, 336
pîtha, 117 136 835
pîvan, 336
piyatê, 126
pika, 335
piyśat, 336
piyśmas, 90
piyśti, 90 336
pîpâśâ, 128
pîpâsât, 128
pîpâsu, 128
pîparâsat, 133
pîparîsat, 133
piyarti, 337
piyâ, 336
pîtâ, 233
pîtar, 201 232 233 335
pît-ar-î, 233
pîtis, 121
pît-r-â, 233
pît-r-hhis, 233
pîtrya, 336
pîtrya, 336
pîtsu, 132
plant, 72
plate, 338
plâva, 338
plavatê, 338
plêbs, 339
plêdus, 339
plenum, 339
plenary, 339
plenitude, 339
plenty, 339
plëtan, 340
plôman, 285
pîu, 338
plus, 339
pluś, 341
pluvial, 339
podium, 332
Pokal, 335
pokyatâ, 105
polygamy, 338
polygyn, 332 338
polyphon, 338
polyphous, 338
pomegranate, 302
pontifez, 322 333
pontiff, 322
pôscere, 344
porcelain, 339
porcellus, 339
porcus, 339
rāmāyanam, 99
ramatē, 92, 111
ramyatē, 126
randhra, 358
raṇj, 82
rantum, 92, 103
rasa, 263, 277, 358
ratha, 357
rathena, 42
ratis, 126
ratti, 62, 64
rāuti, 86, 359
rava, 359
ravus, 359
raw, 284
rcchat, 276, 277
react, 251
real, 360
realtor, 360
receive, 371
recent, 278
recession, 379
recht, 358
recipere, 371
recognize, 303
recycle, 295
red, 72, 359
reduplicated roots, 80
reduplicative perfect, 188-193, 195
   strong forms, 189-192
   weak forms, 193, 195
rēgīna, 358
rēgula, 357
rēs, 360
Regel, 358
Regen, 74
regere, 357
regieren, 358
regime, 358
Regina, 358
region, 438
Regisseur, 358
regularity principle, 4-6
Reich, 358
reich, 358
Reihe, 360
reiten, 72
rekha, 360
rekā, 46, 360
relie, 358
renovate, 65, 326
repeat, 331
report, 337
residing, 377
resist, 383
resolve, 362
resonance, 386
resonant, 359
restoration, 384
restore, 384
retort, 306
reus, 360
ric, 358
Richard, 358
richtig, 358
ride, 72
ri, 358
rīvus, 359
rīṇāti, 358
rīṇakti, 358
rīnnen, 359
rīs, 358
rīsati, 358
rival, 359
rōs, 277
root aorist, 198, 199
root nouns, 108, 109
sandhi rules, 20, 31, 32, 39
sane, 263
sanguine, 266
sanna, 111, 126
sanóti, 377
santi, 25
sap, 378
sapa, 216
saptam, 61, 64, 378
saratī, 21, 55, 124, 381
sargas, 98
sarpa, 64
sarpātī, 381
sarpis, 378
sava, 379
savarajña, 136
sasa, 57
Sassure, Ferdinand, 3, 87, 88
sat, 265
satkavi, 265
satta, 61, 64
sattum, 92, 103
sattva, 265
sattvastha, 136
sātvaram, 309
satya, 265
Sau, 381
savana, 380
savarnam, 99
savati, 63
savitar, 101, 380
savitum, 101
say, 74
Schaf, 71
scharf, 297
Schaukel, 286
Schiebe, 298
scheinen, 298
scheifen, 298
Schere, 297
scheren, 282
scheu, 281
scheuchen, 281
Scheusal, 281
schieben, 286
Schiefer, 298
schießen, 71
Schippe, 286
Schirm, 291
schism, 298
schleifen, 71
schlecken, 362
Schlegel, Friedrich, 1
Schleicher, August, 2
Schmied, 72
Schnee, 384
Schub, 286
Schulte, 72
Schwager, 375
Schwäger, 375
Schweiß, 387
Schwestern, 386
schwören, 386
science, 298
scope, 334
Sebastian, 308
sechs, 376
second, 377
Index

class, 84, 86, 150, 151
consonant shift, 71
secondary endings, 142
palatalization, 35, 44
sedentary, 377
sedhati, 379
see, 377
seed, 72
seek, 71
sēt, 32
Sekunde, 377
sem, 378
semi-final, 69, 379
semper, 378
sempiternal, 378
sēnānī, 329
sēnāni, 135
sēnānis, 235
sēnanyas, 329
sēnanyē, 329
senate, 378
senator, 378
sinister, 378
septem, 69, 378
secular, 378
sequence, 377
sequi, 377
serpent, 69, 381
serum, 381
session, 377
set, 29
seven, 73, 378
seventh class, 87, 88, 90, 91, 177, 183
sex, 69, 376
sexet, 376
sādhi, 169
sālā, 371
sānyati, 83
sās, 96, 101, 147, 163, 164, 372
sāsthi, 96, 372
sāstra, 372
sāstram, 101
sāstratas, 246
sāstum, 96, 101
sāya, 373
sābha, 61
sād, 374
sāk, 87, 90, 173, 174
sāknoti, 62, 87, 90
sāknuhi, 173
sāknumas, 87, 90
sām, 83
sāms, 370
sāmsati, 370
sānk, 370
sānkatē, 370
sāp, 371
sāpata, 371
sārana, 371
sārman, 371
sās, 101, 372
sās, 376
sāsā, 12, 97, 372
sāsāda, 371
sāstī, 372
sāstra, 372
sāstrabhya, 136
sāstram, 101
sāstam, 101
sāt, 376
sātām, 35, 370
sātasas, 246
sātrughna, 387
sātsyati, 371
sāuca, 59
sāurasenī, 53
sāyā, 373
sāyatē, 373
sāyu, 373
sāyō, 373
sāyōra, 373
shear, 282
sheep, 71
sētē, 373
sī, 373
sīghra, 123
sīkṣa, 131
Index

shine, 298
śiras, 372
śīrya, 51
shit, 298
śīhīra, 56
śīva, 372
śākṣaṇa, 373
śloka, 374
śōbhāyatā, 106
śōcāte, 373
śōcāti, 80, 98
śōdāsa, 48
śōkas, 98
shoot, 71
śōśubhūti, 138
śōśubhyatē, 138
śōśucūti, 138
śōśucyate, 138
shoulder, 72
shove, 286
shovel, 286
show, 281
śrāmyati, 83, 374
śrānta, 374
śrāvan, 109
śrāvayaṭi, 106
śraddhā, 320, 373
śrām, 283, 314
śrāvanam, 99
śrāvas, 374
śrēyaṁ, 374
śrī, 374
śrī, 236, 374
śṛṇa, 373
śṛṇṭi, 88, 92, 110, 374
śrōmatam, 374
śrōtar, 101
śrōtāram, 101
śrōtām, 92, 100, 104
śru, 88, 92, 99, 101, 104, 106, 107, 110, 119, 134, 179, 374
śruṇu, 175
śṛutā, 110, 119, 129
śṛutis, 119
śṛṣṭi, 376
śṛṣṭati, 376
śubh, 138
śuc, 80, 98, 109, 138, 373
śuk, 109
śuṣ, 373
śuṣrūṣā, 131
śuṣrūṣatē, 134
śuṣrūṣu, 134
śuṣyati, 373
śūnya, 373
śūṇa, 375
śūna, 375
śūna, 375
śūnas, 55
śūnas, 379
śūṣrā, 375
śūṣūra, 122, 375
śūṣūti, 375
śvēta, 379
śvitra, 122, 375
shy, 281
śyāma, 63
sibilants, 39, 46
sich, 385
Sichel, 71
sicher, 71
siddha, 122
sīd, 82, 122, 379
sīdra, 122, 379
sīdhyaṭi, 82, 379
sieben, 73, 378
sigmatic aorist, 199-202
sīdati, 88, 89, 92, 111, 377
sīdēra, 377
sīvyati, 379
similar, 378
simple, 378
siśīryatē, 134
sīsa, 57
sister, 386
sisterē, 386
Sitte, 386
siv, 379
sixth class, 83
skand, 381
skandati, 381
skepticism, 334
slack, 375
sleep, 71
snāram, 107
snāṣmāriti, 139
snāṣmāryātē, 139
smarati, 55, 80, 91, 109, 385
smartum, 91, 104
smar yātē, 126
snas, 85
smayatē, 384
smena, 384
smith, 72
smera, 80, 91, 104, 107, 109, 119, 126, 139, 384, 385
smṛta, 109, 119, 126
smṛtyis, 119
snā, 106, 384
snāpāyatī, 106
snāta, 384
snāti, 384
snāvan, 384
snēg dhām, 93
sneha, 384
snigīthā, 113, 384
snih, 82, 93, 113, 384
snihyati, 93, 113, 384
snow, 384
social, 376
sociolinguistics, 6
sodara, 273, 376
sōḍha, 116
Sohn, 381
sōlvēre, 362
sōma, 380
sōmāpa, 136
sōmmambulānt, 386
sōmmiferous, 386
sōmnus, 386
son, 381
sonata, 386
sonic, 386
sōṇa, 59
sōl, 386
sōrā, 386
sōrōty, 386
sōsymptē, 138
souterrain, 307
sow, 381
spade, 72
spāhen, 334
sparksyati, 38, 105
spargum, 43, 94, 105
Spalen, 72
Specht, 335
spectrum, 334
Speiche, 71
spew, 376
spāhy, 122, 385
spāhyatē, 385
spāic, 385
spīhīva, 122, 385
spīla, 341
spoke, 71
sprakṣyati, 43
spratgum, 43, 94, 105
sprīhī, 385
sprīhīyātī, 385
sprīlien, 71
spring, 385
springen, 385
sprout, 71
sprīs, 43, 94, 105
sprīṣati, 58, 94
spume, 341
spūtum, 376
spūtum, 376
spy, 334
sr, 21, 124, 134, 381
sraṭum, 94
sraṭati, 63
sugrīva, 289
sukara, 282
sukha, 287, 380
sukham, 245
sulphur, 378
sumaradi, 55
sündhaft, 371
sunūti, 90, 380
sunt, 25
suna, 148 175 184
sunamas, 90
sunuvaz, 175
sunvas, 175
super, 274
superb, 348
superficial, 274
superlative, 102
superman, 274
supervision, 274
sura, 263 380
suras, 7
sūsthā, 380
sūf, 387
sustain, 305
sustenance, 305
su-sthā, 382
susvaram, 380
suta, 380
sū, 99 101 380
sūkata, 32 363 380
sūnu, 381
sūrya, 386
sva, 383
svās, 385
svātā, 380
svātē, 380
swavo, 355
sva, 385
svāda, 387
svāmin, 387
svad, 387
svadatē, 387
svadhā, 320 385
svan, 386
svanati, 386
svanna, 380
svap, 381 388 390 386
svapanti, 165
svapimas, 85
svapati, 85 163 386
svar, 386
svara, 24 386
svarabhakti, 55
svarātī, 386
svas, 386
svaśrū, 380
svasimas, 85
svāsī, 85
svatas, 246
svēdatē, 387
svid, 387
swear, 386
sweet, 387
syl-la-bic
liquids, 66 67
nasals, 66 67
symposium, 335
syndicate, 313
syūta, 379
s-z laws, 39
T
tādam, 107
tāpasā, 137
taco, 62
tad, 107 209 303 308
Tag, 72 74
tāsīlā, 54 55 306
taṅk, 303
taṅkan, 303
taṅkāti, 303
taṅkṣotī, 303
tāma, 303
tamas, 303
tame, 310
tamisra, 41 305

440
Index

tan, 81, 92, 104, 111, 120, 126, 183, 184, 303, 305

tanavai, 184

tanmas, 91, 184

tanoti, 87, 91, 92, 111, 303

tantra, 303

tantum, 92, 104

tanu, 184, 303

tanumas, 87, 184

tanute, 184

tanu, 303

tanvanti, 304

tanvate, 184

tanve, 184

tanyate, 126

tap, 100, 305

tapas, 100, 131, 230, 305

tapasum, 230

tapati, 305

tapaja, 305

taras, 245

tarat, 78, 118, 307

tarena, 245

tark, 305

tarka, 305

tarkayati, 305

tarka, 305

Tat, 323

tata, 111

tatana, 304

tatis, 120

taub, 73

Taube, 73

tauchen, 71, 72

tauti, 307

tava, 307

te, 295, 307, 308

tear, 71, 74, 264, 317

techni, 303

tegula, 382

tela, 51, 306

Teig, 315

tejati, 309

tella, 31, 55, 306

temperity, 305

ten, 71, 310

tenacious, 305

tenebrae, 305

tension, 305
	enth class, 84

tenus, 304

tepid, 305

term, 307, 357

terrarium, 307

terrible, 308

territory, 307

terror, 308

tesam, 209

tetrahedron, 296

tuer, 72

textile, 305

that, 72, 303

thatcher, 382

Theke, 322

thematic

aorist, 197, 198

classes, 80, 83, 84

nouns, 203, 205

verbs, 143-145

endings, 145-148

thematic classes, 82

thematic verbs, 142

endings, 144

theme, 322

thermic, 294

thesis, 322

thief, 72

thin, 305

thing, 72

think, 72

third class, 86, 165, 167-172

thirst, 72, 307

thistle, 306

thorn, 72

thou, 74, 309

thread, 307

tree, 72, 74, 308

through, 72
Index

<table>
<thead>
<tr>
<th>Term</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>throw</td>
<td>307</td>
</tr>
<tr>
<td>thumb</td>
<td>307</td>
</tr>
<tr>
<td>thunder</td>
<td>381</td>
</tr>
<tr>
<td>thyme</td>
<td>323</td>
</tr>
<tr>
<td>tide</td>
<td>71, 72</td>
</tr>
<tr>
<td>tief</td>
<td>72</td>
</tr>
<tr>
<td>Tier</td>
<td>72, 323</td>
</tr>
<tr>
<td>tigma</td>
<td>306</td>
</tr>
<tr>
<td>tik</td>
<td>81</td>
</tr>
<tr>
<td>tikšya</td>
<td>306</td>
</tr>
<tr>
<td>tira</td>
<td>307</td>
</tr>
<tr>
<td>tīrīna</td>
<td>118, 124, 307</td>
</tr>
<tr>
<td>tīrītha</td>
<td>307</td>
</tr>
<tr>
<td>tīrīyatē</td>
<td>124</td>
</tr>
<tr>
<td>tīrva</td>
<td>123</td>
</tr>
<tr>
<td>tij</td>
<td>306</td>
</tr>
<tr>
<td>till</td>
<td>71</td>
</tr>
<tr>
<td>tilōa</td>
<td>62</td>
</tr>
<tr>
<td>timber</td>
<td>71, 310</td>
</tr>
<tr>
<td>Tīr na nŌg</td>
<td>357</td>
</tr>
<tr>
<td>tirac</td>
<td>306</td>
</tr>
<tr>
<td>tiras</td>
<td>306</td>
</tr>
<tr>
<td>tiratī</td>
<td>307</td>
</tr>
<tr>
<td>tiresome</td>
<td>378</td>
</tr>
<tr>
<td>tīrītha</td>
<td>307</td>
</tr>
<tr>
<td>tīrīyač</td>
<td>306</td>
</tr>
<tr>
<td>tiṣṭhāti</td>
<td>38, 80, 96, 117, 382</td>
</tr>
<tr>
<td>tithēmi</td>
<td>322</td>
</tr>
<tr>
<td>tithi</td>
<td>253</td>
</tr>
<tr>
<td>tītīvaśati</td>
<td>133, 307</td>
</tr>
<tr>
<td>tītīpuša</td>
<td>133</td>
</tr>
<tr>
<td>tītikṣa</td>
<td>128, 308</td>
</tr>
<tr>
<td>tītyakṣati</td>
<td>128</td>
</tr>
<tr>
<td>toast</td>
<td>307</td>
</tr>
<tr>
<td>Tochter</td>
<td>72, 316</td>
</tr>
<tr>
<td>toe</td>
<td>314</td>
</tr>
<tr>
<td>toga</td>
<td>66, 382</td>
</tr>
<tr>
<td>toi</td>
<td>308</td>
</tr>
<tr>
<td>token</td>
<td>314</td>
</tr>
<tr>
<td>tōksyaṭi</td>
<td>43, 105</td>
</tr>
<tr>
<td>tone</td>
<td>305</td>
</tr>
<tr>
<td>tongue</td>
<td>71, 301</td>
</tr>
<tr>
<td>tooth</td>
<td>74, 254</td>
</tr>
<tr>
<td>Tor</td>
<td>319, 323</td>
</tr>
<tr>
<td>tor stems</td>
<td>231</td>
</tr>
<tr>
<td>torcum</td>
<td>306</td>
</tr>
<tr>
<td>torkeln</td>
<td>306</td>
</tr>
<tr>
<td>torquere</td>
<td>306</td>
</tr>
<tr>
<td>torture</td>
<td>306</td>
</tr>
<tr>
<td>tōṣṭum</td>
<td>43, 94, 105</td>
</tr>
<tr>
<td>tostus</td>
<td>307</td>
</tr>
<tr>
<td>tol</td>
<td>72</td>
</tr>
<tr>
<td>tōttum</td>
<td>92</td>
</tr>
<tr>
<td>tourist</td>
<td>307</td>
</tr>
<tr>
<td>turner</td>
<td>307</td>
</tr>
<tr>
<td>town</td>
<td>71, 74</td>
</tr>
<tr>
<td>trā</td>
<td>308</td>
</tr>
<tr>
<td>trā(i)</td>
<td>78, 108</td>
</tr>
<tr>
<td>trāns</td>
<td>307</td>
</tr>
<tr>
<td>trāhi</td>
<td>78, 308</td>
</tr>
<tr>
<td>trāyam</td>
<td>108</td>
</tr>
<tr>
<td>tradition</td>
<td>312</td>
</tr>
<tr>
<td>Trāne</td>
<td>264</td>
</tr>
<tr>
<td>transcend</td>
<td>381</td>
</tr>
<tr>
<td>transfer</td>
<td>348</td>
</tr>
<tr>
<td>transition</td>
<td>270</td>
</tr>
<tr>
<td>transmut</td>
<td>351</td>
</tr>
<tr>
<td>tras</td>
<td>308</td>
</tr>
<tr>
<td>trasati</td>
<td>308</td>
</tr>
<tr>
<td>trauen</td>
<td>313</td>
</tr>
<tr>
<td>trayas</td>
<td>48, 308</td>
</tr>
<tr>
<td>trayodāśa</td>
<td>48</td>
</tr>
<tr>
<td>tree</td>
<td>73, 312</td>
</tr>
<tr>
<td>trēs</td>
<td>74</td>
</tr>
<tr>
<td>Trese</td>
<td>313</td>
</tr>
<tr>
<td>triad</td>
<td>308</td>
</tr>
<tr>
<td>tridhā</td>
<td>320</td>
</tr>
<tr>
<td>triloka</td>
<td>62</td>
</tr>
<tr>
<td>trinken</td>
<td>72</td>
</tr>
<tr>
<td>triumvirate</td>
<td>308, 308</td>
</tr>
<tr>
<td>Trost</td>
<td>313</td>
</tr>
<tr>
<td>typ</td>
<td>82</td>
</tr>
<tr>
<td>tṛ</td>
<td>63, 78, 118, 124, 133, 307</td>
</tr>
<tr>
<td>tṛyaṭi</td>
<td>307</td>
</tr>
<tr>
<td>true</td>
<td>74, 312</td>
</tr>
<tr>
<td>tū</td>
<td>74</td>
</tr>
</tbody>
</table>
Index

tubhyam, 307
tud, 83 92 110 306
tudati, 83 92 110 306
tumid, 306
tumour, 306
tumra, 306
tumult, 306
tun, 72 323
tunna, 110
Tür, 72 319
tuviña, 296 306
Turn, 301
Turnier, 307
Turnus, 307
tus, 43 82 94 105
tusyatana, 94
tutelage, 307
tutor, 307
ût, 307
türna, 309
tûrta, 309
tvaca, 62
tvad, 207 209
tvam, 308
tvar, 309
tvarate, 309
tvarita, 309
tvaya, 207
twifete, 318
twig, 318
two, 318
tyaga, 60 63
tyajayati, 106
tyajya, 141
tyaj, 80 92 110 126 128 141 308
tyajati, 80 92 308
tyajgati, 126
tyakta, 126
tyaktum, 92

ubha, 274
üblich, 258
uccaih, 245
ucyatè, 123
ud, 32 273
udana, 255
udac, 273
udak, 252 273
udaka, 273
udan, 273
udara, 273
udayamam, 99
udayas, 98
udder, 276
udghi, 161
ud-i, 98 99 120 269
udita, 120 269
uditis, 120 269
udgatè, 123
ugra, 121 272
uhyatè, 123
ukkamati, 61
uks, 121 272
uksan, 272
uksati, 272
ukta, 32 110 119 363
uktis, 119
uker, 262
ulcus, 262
ulika, 275
ululare, 275
ulika, 274
umbilicus, 326
unatti, 273
unbelievable, 66 250
unction, 252
und, 273
unda, 273
undati, 273
under, 72 254
uneffektiv, 67
ungläubig, 66 250
unhappy, 66
unity, 277

U
übel, 73
üben, 258
über, 274

443
Index

unmārya, 273
unna, 273
uns, 328
unter, 273, 274, 254, 255
untrue, 250
upa, 32, 273, 274
upāyanam, 99
upāyas, 98
upadēśa, 32, 273
upa-i, 98, 99, 111, 120, 269
upanisad, 108, 273, 377
upaniṣat, 108
upari, 274
upas, 274
upastha, 274
upasti, 274
upēkha, 54
upēkka, 54
upēkṣa, 54
upēta, 110, 120, 269
upētis, 120, 269
upta, 110, 119
uptis, 119
uras, 274
urine, 367
Urs, 277
Ursula, 277
ursus, 277
uru, 102, 274
urvarā, 273
urvasti, 274
urvi, 274
urviḥati, 274
urviḥala, 274
us, 141, 328
us, 275
uṣas, 275
uṣita, 115, 365
uṣmas, 86
uṣna, 275
uṣta, 365
uṣṭhas, 140
uṣyatē, 123
uṣra, 275
uterus, 273
utkramata, 61
utsa, 380
uttama, 32, 273
uttamānapas, 32
uttara, 273
utthāya, 382
ūdha, 19, 115, 276
ūdhar, 275
ū-dhis, 120
ūh, 276
ūhati, 276
ūna, 32, 369
ūnus, 277
ūrdha, 276
ūrdhwam, 276
ūrnā, 276
ūru, 274
ūta, 263
ūti, 263
ūtis, 275
uvāca, 191

V
vā, 78
vā, 32, 86, 366
vāc, 40, 216, 363
vācayati, 106
vāham, 107
vāja, 363
vākpatirāja, 61
vāmas, 86
vāṅch, 366
vāṅchati, 366
vār, 367
vāta, 269, 366
vāṭāyana, 31, 269
vāta, 31
vāti, 86, 366
vāvadūti, 139
vāvadyaṭe, 139
vāyati, 369
vāyu, 366
<table>
<thead>
<tr>
<th>Word</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>vacanam</td>
<td>99</td>
</tr>
<tr>
<td>vacanti</td>
<td>152</td>
</tr>
<tr>
<td>vacas</td>
<td>104</td>
</tr>
<tr>
<td>vacnas</td>
<td>83</td>
</tr>
<tr>
<td>vad</td>
<td>99, 104, 123, 139</td>
</tr>
<tr>
<td>vâja</td>
<td>57</td>
</tr>
<tr>
<td>vadanam</td>
<td>99</td>
</tr>
<tr>
<td>vadati</td>
<td>123</td>
</tr>
<tr>
<td>vadhu</td>
<td>60, 208, 209, 233, 363</td>
</tr>
<tr>
<td>vadhânu</td>
<td>209</td>
</tr>
<tr>
<td>vadhãstu</td>
<td>208</td>
</tr>
<tr>
<td>vadhvám</td>
<td>208</td>
</tr>
<tr>
<td>vaditum</td>
<td>104</td>
</tr>
<tr>
<td>vagdhii</td>
<td>152</td>
</tr>
<tr>
<td>vagga</td>
<td>63</td>
</tr>
<tr>
<td>vah</td>
<td>49, 95, 101, 107, 115, 120, 123, 365</td>
</tr>
<tr>
<td>vahati</td>
<td>99, 123, 365</td>
</tr>
<tr>
<td>vahã</td>
<td>60</td>
</tr>
<tr>
<td>vãi</td>
<td>369</td>
</tr>
<tr>
<td>vaj</td>
<td>122, 363</td>
</tr>
<tr>
<td>vajati</td>
<td>363</td>
</tr>
<tr>
<td>vaija</td>
<td>63</td>
</tr>
<tr>
<td>vajra</td>
<td>63, 122, 363</td>
</tr>
<tr>
<td>vak</td>
<td>122</td>
</tr>
<tr>
<td>vakra</td>
<td>122</td>
</tr>
<tr>
<td>vaksi</td>
<td>151</td>
</tr>
<tr>
<td>vãk-syati</td>
<td>43</td>
</tr>
<tr>
<td>vaktar</td>
<td>101</td>
</tr>
<tr>
<td>vakti</td>
<td>55, 92, 110, 123, 363</td>
</tr>
<tr>
<td>vaktam</td>
<td>101</td>
</tr>
<tr>
<td>vaktum</td>
<td>43, 92, 101, 103</td>
</tr>
<tr>
<td>vam</td>
<td>364</td>
</tr>
<tr>
<td>vamti</td>
<td>364</td>
</tr>
<tr>
<td>van</td>
<td>364</td>
</tr>
<tr>
<td>vanam</td>
<td>32, 207, 209, 364</td>
</tr>
<tr>
<td>vanãmãm</td>
<td>209</td>
</tr>
<tr>
<td>vanãkas</td>
<td>261</td>
</tr>
<tr>
<td>vanaspati</td>
<td>241, 364</td>
</tr>
<tr>
<td>vanãkãs</td>
<td>32</td>
</tr>
<tr>
<td>vandhar</td>
<td>364</td>
</tr>
<tr>
<td>vãne</td>
<td>207, 370</td>
</tr>
<tr>
<td>vanêšû</td>
<td>208</td>
</tr>
<tr>
<td>vanity</td>
<td>370</td>
</tr>
<tr>
<td>vanôti</td>
<td>364</td>
</tr>
<tr>
<td>vãp</td>
<td>110, 119</td>
</tr>
<tr>
<td>vãpati</td>
<td>110</td>
</tr>
<tr>
<td>vãpâãnã</td>
<td>61</td>
</tr>
<tr>
<td>vara</td>
<td>368</td>
</tr>
<tr>
<td>varada</td>
<td>136</td>
</tr>
<tr>
<td>varas</td>
<td>97, 274</td>
</tr>
<tr>
<td>vardhatê</td>
<td>112</td>
</tr>
<tr>
<td>vardhâte</td>
<td>26</td>
</tr>
<tr>
<td>vardhitum</td>
<td>103, 104</td>
</tr>
<tr>
<td>varga</td>
<td>63, 369</td>
</tr>
<tr>
<td>varãvti</td>
<td>141</td>
</tr>
<tr>
<td>varãvti</td>
<td>ate</td>
</tr>
<tr>
<td>varîyans</td>
<td>274</td>
</tr>
<tr>
<td>varîyas</td>
<td>102</td>
</tr>
<tr>
<td>varisa</td>
<td>55</td>
</tr>
<tr>
<td>varîstäha</td>
<td>274</td>
</tr>
<tr>
<td>varosa</td>
<td>55, 63</td>
</tr>
<tr>
<td>vartâte</td>
<td>369</td>
</tr>
<tr>
<td>vartitum</td>
<td>103, 104</td>
</tr>
<tr>
<td>vas</td>
<td>13, 77, 80, 82, 91, 101, 106, 123, 250, 364, 365</td>
</tr>
<tr>
<td>vasati</td>
<td>80, 91, 365</td>
</tr>
<tr>
<td>vãs</td>
<td>11, 89, 160, 364</td>
</tr>
<tr>
<td>vãśti</td>
<td>83, 160, 364</td>
</tr>
<tr>
<td>vãśtu</td>
<td>100</td>
</tr>
<tr>
<td>vãsita</td>
<td>365</td>
</tr>
<tr>
<td>vasmãhe</td>
<td>85</td>
</tr>
<tr>
<td>vassa</td>
<td>63</td>
</tr>
<tr>
<td>vaste</td>
<td>85, 364</td>
</tr>
<tr>
<td>vastam</td>
<td>101</td>
</tr>
<tr>
<td>vastum</td>
<td>43, 91, 106</td>
</tr>
<tr>
<td>vâta</td>
<td>57, 98</td>
</tr>
<tr>
<td>Vater</td>
<td>336</td>
</tr>
<tr>
<td>vatsyati</td>
<td>13, 106, 365</td>
</tr>
<tr>
<td>vrcdhê</td>
<td>24</td>
</tr>
<tr>
<td>vdh</td>
<td>20</td>
</tr>
<tr>
<td>vectore</td>
<td>366</td>
</tr>
<tr>
<td>vêda</td>
<td>31, 367</td>
</tr>
<tr>
<td>vêdãnta</td>
<td>91, 255, 367</td>
</tr>
<tr>
<td>êas</td>
<td>97</td>
</tr>
<tr>
<td>êavit</td>
<td>135</td>
</tr>
<tr>
<td>vêç</td>
<td>32</td>
</tr>
</tbody>
</table>
Index

vegetation, 363
vehicle, 366
velocity, 366
ventilare, 288
ventilate, 366
Venus, 364
vēpana, 368
vēpatē, 368
verb, 370
verbal classes, 79-83, 85-89, 142
athematic classes, 84-89
class signs, 89
eighth class, 89
fifth class, 88, 89
first class, 79-81
fourth class, 82
nasal infix classes, 87-89
ninth class, 87, 88, 91
second class, 84-86
seventh class, 87, 88, 90, 91
sixth class, 83
tenth class, 84
thematic classes, 80, 82-84
third class, 86
verbal system, 77, 79-83, 85-89, 91-94
athematic classes, 84-89
96, 103, 107, 113, 127, 135, 136
142, 148, 150, 153, 156-162, 164
165, 167-170, 173, 174, 177-180
182-192, 194, 195, 197-202

verdict, 313
verge, 369
vergelen, 292
Verhāngnis, 370
verheilen, 372
verhüllen, 372
verlaufen, 333, 339
vernaked, 313
Verner’s law, 74
verse, 369
versus, 369
vertical, 369
verzeihen, 313
vetenskap, 367
vētsi, 153
vētī, 83, 135, 367
vi, 20, 31, 367
vi-as, 99
vibrant, 368
vicinity, 69, 308
vid, 83, 85, 97, 135, 153, 367
viddha, 370
viddhī, 148, 153
video, 367
vidhā, 320
vidhāvā, 367
vidhēya, 142, 320
vidhi, 320
vidhyāti, 370
vidīta, 135
vidnas, 85
vidvān(s), 224
vidvas, 224
vidyut, 108
vier, 296
vigilant, 363
vigorōus, 363
vi-i, 98, 110
vićus, 368
vīhi, 63
vīra, 368
vīta, 110
vīvus, 35
vikṛ, 284
Viktualienmarkt, 301
viṣṇati, 367
vind, 367
vindati, 83, 367
vioa, 81
vip, 122, 368
viparīta, 31
vippa, 63
vipra, 63, 122, 368
vipravājya, 368
vipravīra, 308
virile, 368
virulent, 368
virus, 368
Index

viś, 83, 109, 114, 120, 123, 368
viṣa, 368
viśāda, 137, 377
viṣati, 123, 368
viṣyatē, 120
vistara, 382
vistaraṇa, 245, 382
viṣṭis, 120
vit, 15, 109
vitāl, 301
vitamin, 301
vitta, 135
vivakṣā, 128
vivakṣati, 128
vivakṣu, 128
vivardhagiṣati, 128
vivardhagīṣu, 128
vivartisati, 128
vivekas, 98
vivec, 98
vi-vi-na-k-ti, 98
viertatsi, 128
viyoga, 61
vocative, 363
vō-dhr, 101
vōdhun, 48, 95, 101, 365
Voigt, 363
voice, 363
voisín, 368
Volk, 339
voll, 339
voluntary, 369
vomt, 364
von Schlegel, Friedrich, 1
vocutum, 276
vowel, 363
vowels, 19, 65
   gradation, 23, 26
   sandhi rules, 20, 31, 32
vr, 91, 97, 124, 368, 369
vrama, 370
vyādha, 124, 120
vyādhis, 120
vyādh, 103, 104, 112, 120, 128
vrīhi, 63
vrīyatē, 124
vṛj, 369
vṛka, 369
vṛnāti, 91, 124
vṛṇakti, 369
vṛṇīmas, 91
vṛṇīte, 368
vṛṇīti, 369
vṛṣ, 91, 114, 120
vṛṣati, 91
vṛṣīs, 120
vṛt, 103, 114, 128, 141, 369
vṛṭṛhan, 387
vyādha, 370
vyādh, 370
vyādhita, 371
vyāna, 255
vyādh, 370
vyagra, 63
vyartham, 20
vyasanam, 99
vyayas, 98

W
wachen, 363
wachsen, 272
wacker, 363
wägen, 366
Wahl, 369
wahrhaftig, 371
wake, 363
Wand, 364
warb, 68
warf, 68
warm, 293
was, 71, 279, 280, 365
Wasser, 273
water, 273
Waterloo, 363
wax, 272
way, 74
weak, 71
Index

weak form, 24, 146, 147, 193, 195, 210-212, 215-225, 231-233, 235-237, 241, 242, 244
agent nouns, 231-233
kinship nouns, 231-233
neuter r-stems, 244
weak verbs, 67, 68
wear, 364
wecken, 363
wed, 364
Weg, 74, 366
weg, 360
wehen, 366
weich, 71
weight, 73
weise, 364
weiss, 71
weit, 72
wer, 280
werden, 369
werewolf, 368
werfen, 68
Wergeld, 368
Werewolf, 368
Weste, 364
wetten, 364
what, 71, 279, 280
white, 71, 376
who, 280
wholesome, 378
whom, 66, 279
wide, 72
widow, 72, 367
Wiege, 366
wiegen, 366
Wilhelm, 372
will, 369
Wille, 369
Wilkür, 369
win, 364
winden, 364
Winfred, 364
wise, 367
wish, 74, 367
Wissenschaft, 367
Witwe, 72, 367
Woge, 366
wohnen, 364
Wolf, 67, 369
wolf, 369
Wolle, 276
wollen, 369
Wonne, 364
wool, 276
word, 370
word-final consonants, 45, 215, 216
Wort, 370
wünschen, 74
wühlen, 283
Warm, 369

Y
yä, 78
yäh, 86, 132, 355
yämä, 88
yathäkämä, 245
yäti, 86, 355
yäyaciti, 139
yäyacyate, 139
yac, 139
yacchati, 92, 111, 355
yaj, 39, 41, 43, 94, 103, 114, 115, 120, 123, 277, 355
yajatê, 41
yajati, 128, 355
yajja, 82
yajja, 82
yak-syati, 48
yam, 92, 101, 111, 120, 126, 355
yama, 355
yamala, 355
yampletê, 126
yanti, 26
yantram, 101
yantum, 92, 101
yantum, 94, 106
yata, 355
<table>
<thead>
<tr>
<th>Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>yathā, 60</td>
</tr>
<tr>
<td>yatis, 120</td>
</tr>
<tr>
<td>yāuti, 356</td>
</tr>
<tr>
<td>yāwana, 55</td>
</tr>
<tr>
<td>yava, 355</td>
</tr>
<tr>
<td>yavīyana, 356</td>
</tr>
<tr>
<td>yavīthā, 356</td>
</tr>
<tr>
<td>yawn, 74, 389</td>
</tr>
<tr>
<td>yellow, 74, 389</td>
</tr>
<tr>
<td>yesterday, 392</td>
</tr>
<tr>
<td>yoddham, 93</td>
</tr>
<tr>
<td>yoga, 356</td>
</tr>
<tr>
<td>yōgas, 98</td>
</tr>
<tr>
<td>yōgā, 92</td>
</tr>
<tr>
<td>yōjī, 60, 230</td>
</tr>
<tr>
<td>yōgīn, 203, 229</td>
</tr>
<tr>
<td>yōgīya, 92</td>
</tr>
<tr>
<td>yoke, 356</td>
</tr>
<tr>
<td>yōktum, 92, 104</td>
</tr>
<tr>
<td>young, 357</td>
</tr>
<tr>
<td>yu, 355, 356</td>
</tr>
<tr>
<td>yuccchati, 355, 356</td>
</tr>
<tr>
<td>yuddha, 60, 112</td>
</tr>
<tr>
<td>yudh, 45, 93, 108, 112, 356</td>
</tr>
<tr>
<td>yudhisthira, 356, 382</td>
</tr>
<tr>
<td>yudhyatē, 93, 112, 356</td>
</tr>
<tr>
<td>yug, 87</td>
</tr>
<tr>
<td>yuqa, 356</td>
</tr>
<tr>
<td>yuj, 90, 92, 98, 104, 110, 119, 127, 177, 178, 181, 182, 356</td>
</tr>
<tr>
<td>yu-j-a-tē, 98</td>
</tr>
<tr>
<td>yuktā, 110, 119</td>
</tr>
<tr>
<td>yuktis, 119</td>
</tr>
<tr>
<td>yunāti, 356</td>
</tr>
<tr>
<td>yunakti, 87, 90, 92, 110, 177, 356</td>
</tr>
<tr>
<td>yunijanti, 178</td>
</tr>
<tr>
<td>yunijate, 178</td>
</tr>
<tr>
<td>yuṇijñas, 90, 177</td>
</tr>
<tr>
<td>yusmaēkam, 209</td>
</tr>
<tr>
<td>yusmaēsu, 208</td>
</tr>
<tr>
<td>yut, 118</td>
</tr>
<tr>
<td>yūṣa, 356</td>
</tr>
<tr>
<td>yuvaṇ, 208, 356</td>
</tr>
<tr>
<td>yuvāsa, 356</td>
</tr>
<tr>
<td>yuvat, 356</td>
</tr>
<tr>
<td>yuyōja, 191</td>
</tr>
<tr>
<td>yuyōti, 355</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Z</th>
</tr>
</thead>
<tbody>
<tr>
<td>zahm, 310</td>
</tr>
<tr>
<td>Zahn, 74, 254</td>
</tr>
<tr>
<td>Zaan, 71, 74</td>
</tr>
<tr>
<td>Zehe, 314</td>
</tr>
<tr>
<td>zehn, 71, 310</td>
</tr>
<tr>
<td>Zeichen, 314</td>
</tr>
<tr>
<td>Zeigefinger, 313</td>
</tr>
<tr>
<td>zeigen, 313</td>
</tr>
<tr>
<td>Zeit, 71, 72</td>
</tr>
<tr>
<td>Zelle, 372</td>
</tr>
<tr>
<td>Zen, 324</td>
</tr>
<tr>
<td>zero grade, 23, 108</td>
</tr>
<tr>
<td>zero-grade root, 79</td>
</tr>
<tr>
<td>zerrin, 71, 74, 317</td>
</tr>
<tr>
<td>Zeus, 317, 337</td>
</tr>
<tr>
<td>Ziegel, 382</td>
</tr>
<tr>
<td>Ziel, 71</td>
</tr>
<tr>
<td>ziemlich, 310</td>
</tr>
<tr>
<td>Zimmer, 71</td>
</tr>
<tr>
<td>Zimmermann, 310</td>
</tr>
<tr>
<td>Zuber, 349</td>
</tr>
<tr>
<td>Zunge, 71, 301</td>
</tr>
<tr>
<td>zwei, 318</td>
</tr>
<tr>
<td>Zweig, 318</td>
</tr>
<tr>
<td>Zueibeck, 319</td>
</tr>
<tr>
<td>Zweisprache, 319</td>
</tr>
<tr>
<td>Zwilling, 319</td>
</tr>
<tr>
<td>Zwirn, 319</td>
</tr>
<tr>
<td>zwischen, 319</td>
</tr>
<tr>
<td>Zwitter, 319</td>
</tr>
</tbody>
</table>

449
Bibliography


Bibliography


Bibliography


